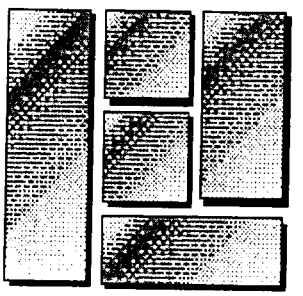
IMPACT OF THE OPPORTUNITY TO SUCCEED (OPTS) AFTERCARE PROGRAM FOR SUBSTANCE-ABUSING FELONS: COMPREHENSIVE FINAL REPORT



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Overview

The Opportunity to Succeed (OPTS) program was designed to reduce substance abuse relapse and criminal recidivism by providing comprehensive aftercare services to felony offenders who have alcohol and drug offense histories. Enrollment in OPTS was anticipated to improve access to, and utilization of, needed community-based services by eligible probationers/parolees. In addition to supporting sobriety and reducing criminal activity, OPTS services were expected to promote pro-social attitudes and behaviors among participants, resulting in such desirable outcomes as gainful employment and responsible family/domestic arrangements.

The Opportunity to Succeed Mission

Opportunity to Succeed programs were intended to deliver community-based services that promote sobriety, law-abiding, and other pro-social behavior in adult, substance-abusing felons. The program rationale was that such offenders would be less likely to relapse and engage in future crimes if they were exposed to a comprehensive suite of aftercare services (including substance abuse treatment, counseling, and skills-building activities), as well as graduated sanctions that included incentives for positive behavior and penalties for failure to comply with program requirements. Service delivery was structured around case management, involving collaborative partnerships between a lead service agency and the local probation/parole office in each demonstration site.

OPTS programs were initiated in 1994 as three-year demonstrations in five communities -- Kansas City, MO; New York City, NY; Oakland, CA; St. Louis, MO; and Tampa, FL. The program model was developed by The National Center on Addiction and Substance Abuse (CASA) at Columbia University; both program implementation and evaluation occurred under CASA's administrative oversight. The demonstration programs were funded by the Robert Wood Johnson Foundation (RWJ) and the Bureau of Justice Assistance at the U.S. Department of Justice. OPTS programs continued in three of the original sites beyond the demonstration phase, which concluded in Summer, 1997. The National Institute of Justice (NIJ) and RWJ funded The Urban Institute's evaluation of OPTS implementation and impact in three communities -- Kansas City, MO; St. Louis, MO; and Tampa, FL.

OPTS paired local probation/parole departments -- offices of the Missouri Department of Corrections in Kansas City and St. Louis, and the Florida Department of Corrections in Tampa -- with lead service agencies that provided case management and other social services. The primary service providers -- The National Council on Alcoholism and Drug Dependence (Kansas City), the Drug Abuse Comprehensive Coordinating Office (Tampa), and Lutheran Family and

Children's Services (St. Louis) -- directly delivered some treatment and supportive services to adult probationer/parolees (as well as provided limited assistance to their family or domestic networks), in addition to referring OPTS clients to other service providers with whom the sites had established MOUs or close working relations.

OPTS Core Services

- **Substance abuse treatment**, ranging from 12-step programs through intensive residential placements, is a key component of the OPTS model.
- **Employment services** that assist clients in finding and maintaining legitimate employment.
- **Housing**, including adequate, drug-free supportive living situations, such as halfway houses, group houses, and apartments to share, to assist clients in avoiding relapse.
- **Family strengthening services**, such as parenting classes, family counseling, anger management, and domestic violence counseling.
- **Health and mental health services**, ranging from regular check-ups to specialized care when needed, are envisioned since substance abusers often have a wide variety of physical and mental health problems.

Although the model called for the provision of these core services, it did not expect that each OPTS client would require the full spectrum of support. Rather, services were to be provided on an as-needed basis. The exception to this was the substance abuse treatment, which was a mandatory requirement for all participants.

The impact evaluation of the OPTS demonstration program was based on multiple sources of information, using an experimental design. Analyses heavily rely on baseline and follow-up self-report surveys with treatment and control group members. The research sample consists of 398 participants. This includes 55 treatment and 49 control group members in Kansas City, 85 treatment and 89 control group members in St. Louis, and 55 treatment and 65 control group members in Tampa. Interviews were performed by Urban Institute field staff trained specifically for this program. The majority of baseline interviews were conducted shortly after offenders were released from incarceration or court-ordered residential treatment in lieu of incarceration. Follow-up interviews were conducted roughly one year after individuals began participating in OPTS or, alternatively, began serving their routine probation/parole sentences. The response rate was 86% at baseline, and 72% at follow up.

Official criminal justice records also were collected for the impact evaluation. Overall, official records of arrest were obtained for 84% of the sample, as were official records pertaining to technical violations. In addition to these sources, the OPTS evaluation had access to client information from the OPTS Management Information System (for the treatment group only), and

relied on observations and secondary data from field visits performed throughout the course of the three-year demonstration period.

The process evaluation of the OPTS program similarly relied on multiple sources. Two to three site visits per year were conducted in each of the three sites from the inception of the initiative to the end of the demonstration period. During these visits, interviews were conducted with key staff in lead service agencies, probation/parole offices, and other service delivery organizations. Interviews and small-group discussions also were conducted with OPTS clients. Periodic telephone interviews were conducted between site visits with key OPTS staff, such as OPTS coordinators, case managers, and probation officers or probation officer supervisors. Written materials were reviewed, including project descriptive materials provided by CASA, information provided by the sites or obtained during field visits, and regular reports prepared by CASA site monitors. Interviews also were conducted with CASA staff who had been involved in development of the initiative.

Key Findings

The key findings of the process and impact evaluations associated with the primary research hypotheses are summarized here. Impact evaluation findings are detailed in this report; findings related to the process and cost-benefit evaluations also are briefly included here, and covered in greater detail in Rossman et al. (1999), Morley et al. (1998), and Jorgensen (1998).

Research hypotheses: Probationers and parolees receiving OPTS services will: 1) present fewer long-term problems with substance abuse relapse than offenders under routine probation/parole supervision; 2) exhibit less criminal recidivism than offenders under routine probation/parole supervision; and 3) demonstrate more pro-social attitudes and behaviors (and have greater involvement in positive social networks) than other offenders under supervision.

Substance use declined for both OPTS clients and the control group, comparing the period prior to incarceration (i.e., the baseline) to the first year of probation/parole under OPTS or routine supervision (i.e., the follow-up period). At follow up, significantly fewer OPTS clients reported alcohol use than did control group members across a range of measures. OPTS clients also were significantly less likely than the control group to report marijuana use; however, controlling for baseline covariates and attrition reduced the size of these effects. Statistically significant effects were not obtained for hard drug use. Also, treatment group effects were not consistent across the sites.

Both OPTS clients and the control group reported considerably less criminal activity[1] during their first year of supervision than in the year prior to the incarceration that qualified them for inclusion in the study. However, there is very little evidence supporting the effectiveness of OPTS in reducing criminal behavior based on data from either the self-report surveys or official records. The only statistically significant differences between OPTS clients and the control group were with respect to the self-reported:

- Average number of robberies of persons during the follow-up period.
- Average number of disorderly conduct incidents during the follow-up period.
- Percentage of street time spent dealing drugs.

However, each of these was only significant at the 0.10 level.

Further, analysis of official records found that the mean numbers of technical violations was higher for the OPTS treatment group. One explanation is that increased contact among case managers, probation officers, and OPTS clients may have resulted in increased detection of technical violations or otherwise encouraged use of sanctions; anecdotal evidence suggested that in at least a few cases, OPTS clients were technically violated for failure to comply with a service plan requirement (e.g., attend counseling, take prescribed medication). In any case, there is little evidence to argue that OPTS was effective in reducing criminal behaviors.

Both full- and part-time employment increased for OPTS clients and the control group, comparing their work histories during the follow-up year to their employment in the year prior to pre-OPTS incarceration. The differences between the percentages of the two groups who were employed generally were not significant statistically. However, at follow up, OPTS clients demonstrated significantly longer periods of full-time employment (in terms of numbers of months of employment and percentage of months with employment) than did the controls.

In general, OPTS clients, as compared to controls, were more likely to report they received assistance to promote family strengthening, positive social environments, and improved health and mental health. In terms of family issues, OPTS clients were significantly more likely than control group members to say:

- Their situations improved with respect to: re-establishing contact with adult family members and re-establishing contact with their children because of assistance they received from their case manager, PO, or other service provider to whom they had been referred as part of the program.

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[1] Measures of criminal activity included commission of burglaries; robberies of businesses, and of persons; assaults; thefts; vehicular thefts; forgeries; frauds; and drug dealing; as well as incidents of disorderly conduct and driving while intoxicated (DWI/DUI).

- They were enjoying being together with their families; and were getting along better with their spouse/partner, family members, and their children, at follow up, because of assistance received through the program.

- Their situation improved with respect to controlling their anger or expressing anger in non-violent ways because of assistance they received through OPTS.

- They had learned about parental rights through participation in OPTS/partner programs.

Also, at follow-up, OPTS clients were significantly more likely to report that they did not drink beer or alcohol while spending time with their family members, and that they avoided hanging out with family and friends who committed crimes.

With respect to general social functioning, OPTS clients also were somewhat more likely than controls to report that they had not had physical fights with their spouses/partners or with other people. In addition, because of assistance they received through the program, OPTS clients more often reported their situations had improved with respect to:

- Getting food for self and family, and having clothes for different weather conditions, family members, and appropriate to work requirements.

- Finding recreational and leisure activities.

Nearly twice as many treatment group members reported their situation improved with respect to: finding housing, having enough money for a rent deposit, keeping existing housing, and paying rent, because of assistance provided by their case manager, probation officer, or service providers to whom they were referred through OPTS.

Structural equation modeling (SEM) provided both a simplified picture of the complex nature of the linkages associated with criminal behaviors in the year after incarceration, and broad support for the OPTS program model. OPTS clients did receive extra services. Membership in OPTS was one of many factors associated with changes in criminal behavior during that time frame. Other important factors include: hard drug use, full- and part-time employment, months in AA/NA, and months in outpatient treatment.

Multi-level modeling showed that full-time employment is strongly related to reductions in criminal behaviors, both at the baseline and the follow up. Part-time jobs, on the other hand, have a more complicated relationship with criminal behaviors: months in which individuals had part-time jobs were associated with increased levels of drug dealing, both at the baseline and during the follow-up period. However, at the follow up, months in which individuals had part-time jobs were associated with reductions in crimes against property. Thus, the multi-level model offered strong support for the effectiveness of full-time jobs in reducing criminal behaviors, but

mixed support for the effectiveness of part-time employment. This finding is particularly germane to the OPTS program, which demonstrated some level of success in helping clients attach to full-time employment.

Research hypothesis: OPTS clients will have higher rates of service utilization than probationers or parolees under routine supervision.

Achievement of OPTS objectives was dependant, at least in part, on carrying out the model's objective of increasing probationer/parolee involvement in social service programs -- particularly substance abuse treatment. OPTS clients can be characterized as having vulnerabilities in multiple domains. Many faced severe problems, some of which had not been diagnosed or treated previously, while others had comparatively few issues to address. Some clients posed greater challenges than others -- because of special needs (such as dual diagnosis), personal characteristics, or resistance to services. Despite the challenges associated with identifying and securing services for OPTS clients (discussed in Chapter 4 and detailed in Rossman et al., 1999), a considerable range of service providers and services in the core domains was evidenced across sites. The lead agencies also functioned as service providers in all sites, providing one or more core services in addition to counseling or therapeutic interventions associated with case management.

- Overall, OPTS clients received more services in each of the core domains than controls. In addition, OPTS clients tended to receive services across more domains -- that is, to receive a more comprehensive suite of services -- than controls. Approximately two-thirds of OPTS participants (66%) were referred to services in three or more domains, compared to only 17% of control group members, and 15.6% of OPTS clients received services in all five domains, compared to fewer than 1% of controls. At the other extreme, approximately 10% of controls reported they received referrals to *no* services, while only 4.8% of OPTS clients reported receiving no services.

- Substance abuse treatment provided to OPTS clients and controls was intended to be *aftercare* treatment; eligibility criteria included receipt of at least some treatment while incarcerated. Recent research (Martin et al., 1998) indicates that the most effective approach for a population of substance-abusing offenders in Delaware involved: participation in a prison-based therapeutic community for 12 months; a community work release transitional program for six months, the first two of which were spent in residential treatment; followed by aftercare treatment for six months. Unfortunately, exposure to treatment and length of time in treatment -- both prior to and after release -- were considerably less than this for both OPTS clients and controls. Approximately 75% of respondents reported receiving less than 12 months of treatment in the preceding five years.

- The most widely used form of treatment by far for both OPTS clients and controls was self-help groups (AA/NA), followed by outpatient treatment. The majority of the sample received more than one type of treatment. Overall, OPTS clients were referred to a greater number and variety of substance abuse treatment services than control group members (e.g., 23.5% of OPTS clients reported receiving AA/NA services plus two or more other services, compared with 12.2% of controls); and were less likely to receive *no* substance abuse treatment than controls (only 14.3% of OPTS clients did not report receiving treatment services, versus 21.3% of controls).

Research hypothesis: OPTS programs will facilitate increased interagency information sharing; joint case planning, cross-agency referral, and enhanced services integration; an expanded array of service options for OPTS clients; increased rates of client access to services identified in customized needs assessments; and improved monitoring of client compliance with service plans, and tracking of client progress.

Although this research did not amass quantitative evidence of outcomes of such changes, the process analysis indicates that the anticipated increases occurred in most of these areas. There was a high degree of variation among the sites in terms of program implementation, consistent with the model's intent to allow flexibility and autonomy in local decision making and practices. For example, sites were expected to use existing community-based resources, in preference to developing their own services. Thus, it is not surprising that the suites of services and mix of providers varied dramatically across the three programs, as these reflected the extant service networks and capacities in Kansas City, St. Louis, and Tampa. Other site variations likely resulted from the visions, internal organizational structures, and decision making of the lead agencies and/or the partnering probation and parole agencies regarding the roles and responsibilities of their respective staffs.

- It appears that an adequate continuum of community-based services was developed in the three sites. Substance abuse treatment represents the service component most widely and consistently implemented across sites, followed by the employment and job training component, housing, and health and mental health components. Parenting skills was the least fully implemented component. Availability of drug-free housing, transportation, health care, and dual diagnosis services were the most frequently reported gaps in the continuum of services.

- On-going resource development on the part of case managers was critical to adequately supplement service deficits that developed because of the dynamic nature of local service environments.

- The OPTS program implicitly linked two separate systems at its inception -- social services and criminal justice. Although local partnerships were developed during the OPTS planning phase, such partnerships typically engaged the lead

service agency and the cognizant probation/parole department. To some extent, the potential for success of OPTS programs may have been curtailed by the relative absence of the courts (particularly judges) and correctional facility administrators during planning and implementation periods, and on advisory boards. OPTS programs were sometimes constrained in their abilities to carry out service placement and supervision, or to implement graduated sanctions, in part due to the actions of judges who ordered offenders to other kinds of programs or supervision outside of the OPTS network. Similarly, coordination with correctional facilities is critical to enable advance service planning to help facilitate a smooth transition to community-based aftercare.

- The strongest collaboration was demonstrated at a site that employed various mechanisms designed to promote information sharing, joint decision making, and buy-in among staff at both the systems level (top administrators) and service delivery level (including supervisory and line staff). Practices implemented included: co-location of key staff (including core service providers), routinized report structures, regular meetings, and shared responsibility for executing program tasks (e.g., joint home visits, meetings with clients).

- Given the pivotal roles of the lead service agencies and lead probation/parole departments, it is important to take steps to clearly identify and institutionalize the roles and responsibilities of these organizations and, by extension, of case managers and POs.

- Frequent contact with the case manager, combined with standard levels of contact with the probation/parole officer, was expected to result in the more intensive supervision envisioned by the OPTS model. Overall, OPTS clients received more frequent supervision -- in the form of case manager and probation officer contact and home visits -- than controls during the first year of aftercare.

- Ideally, case managers should have expertise in a variety of areas, including the ability to: develop resources, make clinical assessments or at least understand them across disciplines (i.e., medical, mental health, substance abuse treatment, etc.), and deliver direct services. In practice, case managers had various professional backgrounds and levels of expertise; some were new to the local area, or new to the field, and were unfamiliar with local resources and how to access them. As a result, sites encountered several case management challenges that have to be addressed, including the need for staff to: 1) be consistent and ensure appropriate service planning as a basis for brokering or directly delivering individualized suites of services; 2) become familiar with services across multiple, key domains; and 3) balance the intense demands of crisis management, with the responsibility to perform routine case management and service provision.

- Sites generally did not institutionalize or formalize procedures for case management and related functions, resulting in some inconsistency of practices across case managers, particularly when staff turnover occurred. It is important to develop guidelines outlining case management responsibilities and how these are to be performed, and identifying those activities and decisions (e.g., ordering urinalysis, imposing sanctions, meeting with clients) to be performed individually by case managers, and those to be performed in conjunction with POs. This ensures consistency of practice across staff, facilitates training of new staff, and helps ease transitions. Similarly, establishing standard procedures/mechanisms for recording information in client case files is desirable, to enable other staff to readily understand a client's status in case of the need to "pinch hit" for the regular case manager, or to ease transitions when there is staff turnover.

- Although local programs were provided with management information systems (MIS) as part of the demonstration, these were not used as extensively as optimally desired to record client and service information, and they were *not* used as a tool for such case management purposes as updating service plans and making decisions regarding when to graduate or terminate clients. Use of the MIS for such purposes could facilitate decision making and contribute to greater consistency in treatment of clients.

- Case management could be strengthened by involving a broader range of professionals and para-professionals in service planning -- perhaps through use of team case management, which might take a form similar to the St. Louis approach. A team approach may diffuse the burdens of decision making, and the stresses associated with high-maintenance clients, and enhance decisions by drawing on the insights and skills of other staff. Having clinicians or other skilled diagnosticians as part of the OPTS team would be useful, given some of the challenges encountered. In addition, a team approach creates a form of back-up system for case managers. By participating in team meetings, case managers and other involved professionals develop sufficient familiarity with each others' cases to enable a client's needs to be met by a back-up case manager, when the assigned case manager has limited availability due to crises or emergency situations with other clients.

- Frequent urinalysis testing was intended to be a key element of intensive supervision under the OPTS strategy. In practice, urinalysis testing did not occur as often as anticipated -- in part because the programs did not follow a regular protocol or schedule that ensured frequent testing of all clients. Neither OPTS clients, nor members of the control group, were tested as frequently as probationers involved in drug court programs. Across the three sites, 14% of clients (i.e., 4 clients each in Kansas City and St. Louis, and 12 clients in Tampa)

and 21% of controls (i.e., 6 in Kansas City, 20 in St. Louis, and 30 in Tampa) reported never having been tested during this time frame.

- Another important element of the OPTS model was use of sanctions and incentives -- intended to "give teeth" to the increased supervision. However, use of sanctions and incentives under OPTS was largely idiosyncratic, rather than the systemized approach envisioned by the model. Sanctions and incentives were not always spelled out in advance, and they were not always consistently applied, limiting their effectiveness. Recent research on drug courts (Harrell et al., 1999) indicates that successful programs forge an understanding with program participants of behavioral requirements and consequences -- perhaps in the form of a contract that specifies the consequences for particular infractions. Consistency in application of incentives and sanctions (underscoring the certainty of consequences), immediacy of the penalty or reward, and salience of sanctions to the offender also have been found to be key elements of successful programs.

- It is vital for programs to provide services that mitigate situations that may be critical barriers to client success. Lead agencies went beyond the core services to address such needs as: transportation assistance (e.g., bus passes) to permit clients to access services, or to facilitate job-hunting and steady employment; clothing for job interviews or employment; emergency services, such as food and clothing; and funding to facilitate acquisition or retention of stable housing (e.g., rental deposits, utility costs). Similarly, they performed an advocacy role in clients' interactions with criminal justice or social service systems, or an interventive role to address various emergency situations (e.g., domestic or housing crisis).

In general, the sites were satisfied with their efforts in mounting this demonstration; however, both line staff and administrators acknowledged areas of weakness as their programs evolved. To their credit, individuals and organizations were often quite proactive in defining weak or troublesome elements and introducing refinements that could strengthen their local efforts.

Research hypothesis: OPTS programs will reduce costs to the criminal justice system, and to society as a whole, that are associated with substance abuse relapse and criminal recidivism.

As part of the evaluation of OPTS, a cost-benefit analysis was performed, using information only from the St. Louis program, for calendar year 1996 (see Jorgensen, 1998). Based on the best estimates of program costs and benefits, the sum of program costs was $292,375, and the sum of monetized program benefits was $105,339. It is important to interpret these results carefully.

First, sensitivity analysis suggests that changing some of the assumptions that support the central estimate might change the result. For example, the reported victim cost savings value is simply the best estimate over a wide range of possible savings values. If the assumptions supporting the highest estimates in this range were true, program benefits would exceed program costs by $4,657. If assumptions supporting the low estimates of service provision costs also were true, the St. Louis OPTS program would have the sizable positive net benefit of $51,308. Thus, while it is not likely that program benefits outweigh costs, it is not impossible that they do.

Second, this analysis encompassed a relatively short time frame. Many benefits, particularly those from better health care, accrue over a longer time horizon. It is possible that benefits coming on line in the future night be large enough to create a positive net present value for the program.

Additionally, the survey responses used for this analysis may have decreased the likelihood of finding a net program benefit, because the follow-up survey may have over-sampled from clients with "bad" program outcomes -- follow-up interviewers almost always found study participants who were re-incarcerated, but had somewhat more difficulty locating individuals who remained in the community. If the fact that they were not re-incarcerated is a good indicator of other life circumstances, these study group members may have had better life outcomes than their recidivist colleagues and including them in the study might have increased estimates of program benefits.

Perhaps more importantly, there are a number of probable program benefits that this analysis could *not* value. These include the psychic benefits of: self-esteem from holding a full-time job, improvements in family life, and team members' job satisfaction; cost savings associated with improvements in family members' health, increased family stability, and less redundant/unnecessary service provision; and improvements in other household members' productivity. These benefits should be kept in mind despite the negative cost minus benefit balance. In addition, some potential benefits did not materialize as actual benefits because the program was relatively small in size. In a larger implementation, for example, reduced crime would not only reduce corrections expenditures (counted here), but also arrest, prosecution, and court costs (which, in a small program, have a marginal cost of zero).

While the central conclusion of this analysis is that the benefits of the St. Louis OPTS program did not outweigh program costs, an analysis that incorporated an even more comprehensive survey, tracked participants over a longer time period, was capable of tracking more members of the study pool, and/or assessed a larger program might yield a different result.

Was OPTS successful?

Clearly, OPTS had some successes: there was evidence of reductions in alcohol and marijuana use, as well as increases in full-time employment and improvement in family

strengthening. However, OPTS did not have discernible effects on such key outcomes as hard drug use or criminal behaviors.

Programs such as OPTS can be strengthened by placing additional emphasis on reducing hard drug use through more intensive substance abuse treatment and careful monitoring (including frequent urinalysis testing and consistent application of sanctions and incentives). Since hard drug use was associated with increases in criminal behaviors in the follow up, reducing hard drug use would likely yield positive results in terms of reducing recidivism.

Aftercare programs should also place greater emphasis on employment services, since full-time employment was associated with criminal desistance. Possible avenues to explore include: intensive life skills training, vocational and technical skills building, placement in supported work opportunities, and strategies that focus on placing probationers/parolees in non-subsidized jobs that pay salaries higher than minimum wages.

Do the successes of OPTS outweigh the lack of positive evidence in these key problem domains?

At least two considerations should be factored into answering such a question. First, it must be emphasized that outcomes were being observed *while* the treatment was being administered. This may partially explain the major drops in hard drug use and criminal behaviors that occurred for both the treatment and control groups at follow up. One limitation of the recently completed research is that although the second OPTS survey was called a follow up, in reality, the follow-up interview was conducted at the end of the first year of supervision or OPTS program participation:

- All of the participants were under supervision at that time.
- Since individuals were eligible to receive services for up to two years under the auspices of OPTS, some were still receiving services, while others had only recently completed treatment or services to which they had been referred.

Criminal behaviors under close scrutiny in the year after incarceration probably are not a sufficient indicator of long-term problem behaviors. Also, results of treatment and services might not have peaked, given that some of these interventions were still being delivered to respective respondents at the time they participated in the follow-up survey. The literature suggests that many substance abusers use some illicit substances at very low levels during and after treatment; thus, it is not unexpected that some clients (or controls, for that matter) reported hard drug use during the treatment period. However, longer term study would discern whether such incidents constituted transient relapse or failure to gain and sustain sobriety.

A second issue that affects inferences and generalizability of the effectiveness of OPTS is the nature of the probation departments in the study: How typical are the probation departments

in Kansas City, St. Louis, and Tampa of probation departments across the country? The "success" of OPTS is defined relative to the effectiveness of the control probation group. To the extent that such departments are exemplary, it might be difficult to see additional changes in key problem domains.

Recommendations for future evaluations of programs such as OPTS

Perhaps the key recommendation is to have a longer time span to examine the effectiveness of OPTS since the *long-term effects* of programs such as OPTS are of primary importance. A second recommendation, given the positive finding of the relationship between full-time employment and reductions in criminal behavior, is to further explore the nature of employment services and clients' relationship to them. Thirdly, program planners should consider using a larger sample size than was available in the OPTS study. Ultimately OPTS was a fairly complex program with a wide range of services. Clearly, it is of some relevance to understand who is likely to benefit from what sets of services. Answering such a question requires a sufficiently large sample size. Finally, although the OPTS evaluation used a rigorous experimental design, it also might have been useful to have incorporated a quasi-experimental comparison group, which would have permitted the research to address the question of whether the program effects were diluted by placement in innovative probation/parole organizations, whose routine practices were not too dissimilar from the OPTS model of service delivery.

CHAPTER 1
INTRODUCTION

The Opportunity to Succeed (OPTS) program was designed to reduce substance abuse relapse and criminal recidivism by providing comprehensive aftercare services to felony offenders who have alcohol and drug offense histories. Additionally, these services were expected to promote pro-social attitudes and behaviors among participants, resulting in such desirable outcomes as gainful employment and responsible family/domestic arrangements. This, in turn, should reduce costs to the criminal justice system and to society as a whole.

OPTS programs began in 1994 as three-year demonstrations in five communities -- Kansas City, MO; New York City, NY; Oakland, CA; St. Louis, MO; and Tampa, FL. The program model was developed by The National Center on Addiction and Substance Abuse (CASA) at Columbia University; both program implementation and evaluation occurred under CASA's administrative oversight. The demonstration programs were funded by the Robert Wood Johnson Foundation (RWJ) and the Bureau of Justice Assistance at the U.S. Department of Justice. OPTS programs continued in three of the original sites beyond the demonstration phase, which concluded in Summer, 1997. The National Institute of Justice (NIJ) and RWJ funded The Urban Institute's evaluation of OPTS implementation and impact in three communities -- Kansas City, MO; St. Louis, MO; and Tampa, FL.

Local probation/parole departments -- offices of the Missouri Department of Corrections in Kansas City and St. Louis, and the Florida Department of Corrections in Tampa -- formed partnerships with community-based service agencies that provide case management and other social services. The primary service providers -- The National Council on Alcoholism and Drug Dependence (Kansas City), Lutheran Family and Children's Services (St. Louis), and the Drug Abuse Comprehensive Coordinating Office (Tampa) -- directly delivered some treatment and supportive services to OPTS clients (as well as provided limited assistance to their family or domestic networks), in addition to referring them to other service organizations with whom the lead service providers had established MOUs or close working relations.

There was a high degree of variation among the sites in terms of program implementation, consistent with the model's intent to allow flexibility and autonomy in local decision making and practices. Each site used existing community-based resources, where feasible; thus, the suites of services and mix of providers varied across the three programs, as these reflected the extant service networks and capacities in Kansas City, St. Louis, and Tampa. Other site variations likely resulted from the visions, internal organizational structures, and decision making of the lead agencies or the partnering probation and parole agencies regarding the roles and responsibilities of their respective staffs. Variations aside, the local programs demonstrated common themes, such as:

- Collaboration among probation/parole agencies and service providers.

- Case management and supervision that included frequent contact (e.g., office and home visits), drug testing, and sanctions and incentives.

- Delivery of services in five domains.

OPTS Core Services

Substance abuse treatment, ranging from 12-step programs through intensive residential placements, is a key component of the OPTS model.

Employment services that assist clients in finding and maintaining legitimate employment.

Housing, including adequate, drug-free supportive living situations, such as halfway houses, group houses, and apartments to share, to assist clients in avoiding relapse.

Family strengthening services, such as parenting classes, family counseling, anger management, and domestic violence counseling.

Health and mental health services, ranging from regular check-ups to specialized care when needed, are envisioned since substance abusers often have a wide variety of physical and mental health problems.

Although the model called for the provision of these core services, it did not expect that each OPTS client would require the full spectrum of support. Rather, services were to be provided on an as-needed basis. The exception to this was substance abuse treatment, which was a mandatory requirement for all participants.

The evaluation of OPTS was guided by the following research questions:

- Do OPTS programs facilitate increased interagency information sharing; joint case planning; enhanced cross-agency referral; increased rates of client access to services identified in needs assessments; an expanded array of service options for OPTS clients; and improved tracking of client progress and service utilization?

- Do OPTS clients have higher rates of service utilization than probationers/parolees under routine supervision?

- Do probationers/parolees receiving OPTS services present fewer long-term problems with substance abuse relapse than offenders under routine probation/parole supervision?

- Do probationers/parolees receiving OPTS services demonstrate less criminal recidivism than ex-offenders under routine probation/parole supervision?

- Do OPTS clients demonstrate more pro-social attitudes and behaviors (and have greater involvement in positive social networks) than other ex-offenders?

- Do OPTS programs reduce costs to the criminal justice system, and to society as a whole, that are associated with substance abuse relapse and criminal recidivism?

This report presents findings on the impact of the program on offenders one year after their entry into the OPTS study -- a period that corresponds with their first year of community-based supervision after they had received substance abuse treatment while incarcerated or in court-ordered residential treatment facilities. Chapter 2 describes the OPTS model and its relationship to theories and research on interventions for substance-abusing offenders. The evaluation framework and methodology are discussed in Chapter 3. Chapter 4 presents findings from both the process analyses of OPTS. Findings on the impact of OPTS in terms of the three main effects -- substance abuse, crime, and employment outcomes -- are presented in Chapters 5, 6, and 7, respectively. Chapter 8 focuses on analyses of OPTS' risk reduction with respect to family, peers, and other social factors. Chapters 9 and 10 present more comprehensive models: the former uses Structural Equation modeling to examine the relationship between intervention services, substances abuse, and crime; while the latter carries out a more detailed look at the relationship between employment, hard drug use, and criminal behaviors. The summary in Chapter 11 provides an overview of key findings.

CHAPTER 2
THE OPPORTUNITY TO SUCCEED MODEL

The following sections describe the OPTS initiative and salient research that shaped the selection of the targeted population, the types of services offered within each of the designated service areas, and the strategies for coordinating service delivery and monitoring program participation. Program efforts primarily focused on reducing substance abuse relapse and criminal recidivism. Key elements of the initiative paired case-managed treatment and supportive services with probation/parole supervision to meet the diverse needs of substance-abusing adult felons, as well as those of their family or domestic networks. Additionally, the approach balanced the intended systematic delivery of core services against the need for flexibility and autonomy in shaping service partnerships that reflected local contexts.

At the individual level, the OPTS intervention was designed to: 1) increase offender involvement in treatment, social service programs, and primary health care; 2) reduce the prevalence and frequency of substance abuse and associated criminal behavior; and 3) strengthen the pro-social ties that probationers and parolees have to work, family, and the community. At the systems level, OPTS programs were intended to enhance coordination and integration of activities among parole/probation agencies and social service providers.

The Program Rationale: Community-Based Aftercare for Substance-Abusing Felons

The OPTS initiative was designed to deliver aftercare services to substance-abusing felons, who were returning to the community after a period of incarceration that included treatment for alcohol or drug abuse. The rationale was that such offenders would be more likely to avoid relapse and future criminality if they were exposed to a suite of aftercare services, and were subjected to supervision that included monitoring, penalties for improper behavior, and incentives for positive behavior.

A key supposition underlying the OPTS intervention is that alcohol and drug abuse are disorganizing factors that increase the likelihood offenders will continue to engage in criminal activity. This is consistent with research that documents both 1) the disproportionate amount of crime perpetrated by substance-abusing individuals and 2) the linkage between frequency of substance abuse and severity of criminal behavior (Anglin and Hser, 1990, 1992; Anglin and Maugh, 1992; Chaiken, 1989; Field, 1989; Innes, 1986; Leukefeld, 1985; Tonry and Wilson, 1990; Vito, 1989). Gropper (1985), for example, documented that drug-abusing offenders commit a high percentage of reported violent crimes (e.g., 75% of robberies), and that substance abusers commit more crimes while they are addicted -- some four to six times higher -- than when they are not using narcotics. Similarly, the National Institute of Justice's Drug Use

Forecasting (DUF) efforts provide strong evidence on the link between criminality and substance abuse, establishing that 50% to 80% of arrestees in more than 24 locations nationwide have illicit drugs in their urine (NIJ, 1992).

Since a significant amount of U.S. crime during the past three decades has been directly related to substance abuse, criminal justice officials have implemented numerous programs -- extending as far back as the 1966 Narcotic Addict Rehabilitation Act (NARA) -- designed to mitigate the problems associated with drug-abusing offenders. Such efforts, which have generated mixed results in terms of effectiveness, have included special drug courts, deferred prosecution programs, supervised pre-trial release with a treatment requirement, drug-testing programs, Treatment Alternatives to Street Crime (TASC) diversionary programs, Intensive Supervision Programs (ISPs), therapeutic communities (TCs), and halfway houses for probationers or parolees (Anglin and Maugh, 1992; Falkin and Natarajan, 1993; Field, 1989; Hayes and Schimmel, 1993; Inciardi et al., 1993a; Leukefeld, 1985; McCartt and Mangogna, 1976; Minor and Hartmann, 1992; Pearson and Harper, 1990; Petersilia and Turner, 1990, 1993; Van Stelle et al., 1994).

The OPTS strategy focusing on community-based aftercare is consistent with numerous studies that demonstrate: 1) drug dependence may be a chronic, relapsing condition that requires extended treatment and staged recovery efforts (Hser et al., 1998; Martin et al., 1998); 2) length of time in substance abuse treatment directly relates to positive treatment outcomes (DeLeon, 1991; Hser et al., 1997; Leukefeld et al., 1992; Martin and Scarpitti, 1993); and 3) the criminal justice system has an important role to play in inducing drug users to participate in, and complete, treatment (Anglin and Maugh, 1992; Hubbard et al., 1989; Leukefeld and Tims, 1990).

Risk-Focused Intervention: Comprehensive Services

Increasingly, researchers and practitioners have recognized that substance abuse tends to be one of a constellation of dysfunctional circumstances, rather than occurring in isolation. Many substance-abusing offenders lead disadvantaged lives, characterized by multiple problems that include inadequate job and interpersonal skills; educational deficiencies; inappropriate housing; and poor health, sometimes related to low income and lack of access to health care resources, but sometimes directly related to drug-induced illness and disease (e.g., hepatitis, tuberculosis, HIV/AIDS) (Martin and Scarpitti, 1993). Consequently, believing that holistic, rather than single-solution, approaches will increase the likelihood of achieving successful resolution of clients' issues, some contemporary programs have incorporated multi-disciplinary sets of services to simultaneously address problems that clients experience in different domains.

The OPTS model falls within this vein. The program strategy aimed to achieve reductions in substance abuse relapse and criminal recidivism, as well as increases in other pro-social behavior, through the provision of aftercare services in five core areas:

- **Substance abuse treatment aimed at relapse prevention** was a mandatory component of the OPTS model. Treatment modalities ranged from 12-step programs through intensive residential placement; services also included drug use monitoring and support groups. DUF data, for example, have been used not only to demonstrate that the majority of arrestees are drug-involved, but also to conservatively estimate that 45% to 75% of arrestees who tested positively for drugs were, in fact, drug-dependent and in need of treatment. These rates varied by type of drug and method of drug use, with arrestees who inject cocaine, opiates, or amphetamines showing the highest rates of dependency (Prendergast et al., 1992).

- **Employability training and employment services** included various interventions that assisted clients in finding and maintaining legitimate employment. For some individuals, suitability for employment may be related to educational deficits that can be mitigated by GED completion or vocational training; for others, employment services may be more limited (e.g., assistance in preparing resumes and identifying job openings).

- **Housing** is a central concern of probation/parole supervision since incarcerated offenders cannot be released without a home plan indicating that satisfactory living arrangements have been designated. Housing services included placement in drug-free, supportive environments (e.g., halfway houses, group houses, and apartments to share), as well as other related emergency services such as crisis assistance if a domestic situation suddenly deteriorated and required immediate relocation, or provision of emergency funds to cover unexpected expenses (e.g., unusually high utility bills).

- **Family strengthening services** included parenting training, family counseling, anger management and domestic violence counseling to help clients end violent or destructive behaviors, or other family interventions that assisted clients in assuming responsibility for their children and generally strengthening their family relationships.

- **Health and mental health services**, ranging from routine examinations to specialized care when needed, since substance abusers often have a wide range of physical and mental health problems. These problems may or may not be directly related to substance abuse, but either way may have an influence on treatment outcomes. For example, some clients may be dually diagnosed or may enter the program with serious illnesses (e.g., HIV/AIDS or tuberculosis), requiring substantial medical support.

Having identified this spectrum of service domains, the model mandated only that OPTS participants receive substance abuse treatment. Services envisioned in the other four domains

were called into play on an as-needed basis, given the particular strengths and limitations of each client's circumstances -- an approach that is consonant with research findings that suggest more successful programs are characterized by flexible policies and personalized care (Inciardi et al., 1993). Although not expressly stated, the model subtly anticipated that, after substance abuse treatment, employment services might be next the most needed area of support. The potential demand for such services is related to the fact that gainful employment is a requirement of probation/parole supervision.

Prior research indicates that substance abuse treatment can be effective in reducing substance use and crime, despite the fact that it does not work for everyone. However, it should be understood that not all drug intervention programs are effective -- a program's impact likely depends to some extent on how it is implemented. Nevertheless, the evidence indicates that legally coerced treatment seems to be as effective as more voluntary treatment (Leukefeld and Tims, 1990). Further, a number of studies conclude that regardless of treatment modality, individuals whose duration of treatment was three or more months report greater reduction in substance use than those with less time in treatment (GAO, July 22, 1998). Other research also underscores the benefits of treatment, for example:

- The Drug Treatment Outcome Study (DATOS) found that for users receiving long-term residential care, the percentage involved in regular cocaine use dropped from 66% in the year prior to treatment to 22% in the year after treatment; further, the percentage reporting predatory illegal activity dropped from 41% to 16% (Mueller and Wyman, 1997).

- Similarly, the five-year National Treatment Improvement Evaluation Study (NTIES) of more than 4,000 drug treatment clients found that 40% to 50% of regular cocaine and heroin users who spent at least three months in treatment, regardless of treatment modality, were nearly drug free in the year after treatment. Additionally, the study found large and significant decreases in alcohol and drug use, crime, AIDS risk, and homelessness, together with increases in employment, income, and physical and mental health one year after discharge (CSAT, 1997).

- Study of Intensive Supervision Probation (ISP) in California resulted in recommendations that treatment be included as part of efforts to reduce criminal activity among felony drug offenders based on findings that combining treatment with intensive supervision reduced recidivism by as much as 15% more than for surveillance-oriented probation alone (Petersilia and Turner, 1993; Petersilia et al., 1992).

While drug treatment is critical to reducing substance abuse, policy makers and practitioners often have suggested that treatment, alone, may not be sufficient, particularly for clients who have problems in addition to their addictions. The implication is that failure to provide ancillary services (e.g., employment, health, and housing) may: compromise addicts'

abilities to engage in treatment, impede their recovery, and increase their risk of relapse. Fiorentine (1997) distills numerous studies that suggest distal needs (i.e., unmet problems) in other domains can affect treatment outcomes; for example, the research shows: 1) family, marital, and employment problems are associated with less favorable treatment outcomes, while being married and having a job relates to retention in treatment; 2) stress in interpersonal relationships can undermine recovery; 3) clients who receive more services have better outcomes during and following treatment; and 4) adding psychotherapy and psychotropic medications to counseling seems to improve treatment effectiveness for those who are dually diagnosed.

Despite these findings, straightforward conclusions about the effect of ancillary problems on substance abuse treatment outcomes are elusive because some studies fail to confirm these connections. For example, Fiorentine concluded based on his own preliminary research that substance abusers with distal needs (i.e., unmet, unresolved or emergent problems) in other domains were neither less likely to engage in treatment, nor more likely to use drugs.

Regardless of whether provision of other services favorably affects substance abuse treatment outcomes, providing services that reduce clients' difficulties in other domains is probably justified both on humanistic grounds and in terms of reducing or eliminating the ancillary problems, themselves. Thus, while the effectiveness of other services can be expected to vary based on several dimensions (e.g., specificity, duration, intensity), Fiorentine (1997), for example, found that 75% of drug treatment clients reporting that their medical problems had been resolved had received services for their medical needs.

Services Integration and the Role of Case Management

The need for coordination at the systems level is closely related to holistic treatment at the individual level: increasingly practitioners across various domains seek to coordinate their efforts to forge a comprehensive continuum of services, while minimizing the potential for unnecessary duplication. Cognizant of the multiple problems faced by substance-abusing offenders, and anticipating the potential benefits of an integrated service network, criminal justice and substance abuse treatment agencies began coordinating their efforts to deliver comprehensive services to this population (Falkin et al., 1993; Field, 1989).

OPTS programs were an outgrowth of this movement. Designed to facilitate comprehensive intervention, they were built around primary partnerships of probation/parole departments and human service organizations that jointly oversee supervision and service delivery to eligible offenders. Probation/parole departments were

> A strong partnership of service and supervision was anticipated based on keeping caseloads small for both case managers and probation/parole officers (POs); designating only a single PO in each demonstration site as the dedicated OPTS PO; and co-locating service and supervision staff, where feasible.

expected to assign dedicated officers to work closely with case managers from the lead service agency.

The model underscored that local OPTS programs were intended to build upon and coordinate -- but not supplant -- existing service strategies in their communities. The primary partner agencies (i.e., probation/parole and lead service organizations) were expected to collaborate with one another, as well as coordinate their efforts with local networks of community-based service providers, leveraging existing services and filling gaps in service provision, as needed. Thus, although each site had to provide the core services envisioned by the model, some autonomy was retained to permit local administrators and line staff to shape their programs in concert with the resources of the surrounding community and in keeping with the needs of their specific clientele.

OPTS program planners selected case management as a vehicle to facilitate service coordination to meet the diverse needs of individual clients and to promote systems integration across service domains. Case management has been used as a method to coordinate and link service delivery within institutions and communities for a range of at-risk groups, including individuals who are mentally ill, high-risk youth and juvenile offenders, the elderly, and individuals in need of public welfare. Various models of case management have been tried; the models differ along such dimensions as (Ashery, 1992; Chafetz et al., 1987; Clark and Fox, 1993; Godley et al., 1994; Longshore et al., 1998; Modrcin et al., 1985; Rapp, 1998; Schmidt-Posner and Jerrell, 1998; Siegal et al., 1995):

- The emphasis they place on client empowerment, as compared to the extent to which staff enforce client compliance with treatment plans.
- Organizational structures that stipulate whether staff operate with formal work procedures and hours of availability, or are more flexibile in meeting clients' needs regardless of time and place.
- The mix of services included in the model, and the extent to which services are brokered or directly delivered by case managers.
- Staffing characteristics, particularly in terms of professional credentials and levels of training.
- Whether the program relies primarily on individuals serving as case managers or uses a team approach.
- Caseload size.

Although case management is delivered in different forms, it typically includes four or five core elements, such as needs assessment, development of a case plan, service coordination,

monitoring to oversee client's receipt of services, and advocacy (Ashery, 1992; Modrcin et al., 1985). For clients under the community-based supervision of the criminal justice system, case management also may include more surveillance-oriented monitoring and reporting functions, such as when noncompliance is detected by urinalysis testing, and reported to POs for decision making regarding sanctions and supervision (Longshore et al., 1998).

Studies of the effects of case management for substance-abusing offenders are quite mixed:

- Rhodes and Gross (1995) found that clients of case-managed services were more likely to have accessed drug treatment and less likely to have committed crimes than controls who had received only referrals or referrals and a single counseling session.

- Among the more widely-known case management interventions are the few hundred TASC programs for drug users on pretrial release, probation, or parole. Although these community-based programs differ somewhat in scope and intensity of services depending on their location, programmatic and operational elements include formal links with criminal justice agencies and services providers, explicit criteria for participants' eligibility, drug testing, and mandated schedules for reporting to criminal justice authorities. Clients who violate treatment agreements are returned to the criminal justice system for further legal proceedings. Research on TASC has shown that the programs are successful in engaging and keeping drug users in treatment (Collins et al., 1982; Tyon, 1988), and that TASC case management reduces drug use and drug-related crime (Anglin el al., 1996). However, Anglin et al. (1996) did not find positive outcomes relating TASC case management to reduction in property crime, new arrests, or technical violations.

- Research conducted on Wisconsin's TAP program, a variation of TASC, examined recidivism over an 18-month period and found that those individuals who completed TAP were significantly less likely to be rearrested than those who did not complete the program (Van Stelle et al., 1994).

- Evaluation of an intensive case management program for parolees in Delaware found very limited benefits for the case-managed offenders as compared to a comparison group. Assignment to Assertive Community Treatment (ACT) did not directly reduce the frequency of drug use, but reduced drug use through intermediate outcomes, such as retention in treatment, reduction in alcohol intoxication, and improved self-esteem (Martin and Scarpitti, 1996).

Supervision and Monitoring

Under OPTS, offenders were supervised by POs as part of probation/parole, and also were monitored, to some extent, by case managers, whose function included ascertaining that clients referred to services complied with their case plans. In addition to these two aspects, the model anticipated: 1) drug testing and 2) the use of graduated sanctions, developed by the lead service agency and the probation/parole office at each site, for non-compliance or program violations (such as "dirty" tests).

Although random drug testing is a feature of probation and parole supervision in most jurisdictions, the OPTS strategy intended that more frequent urinalysis monitoring be incorporated into the oversight of program participants. Urinalysis plays a central role in the supervision of drug-involved offenders. It can provide objective information on drug problems for use in treatment placement decisions and in monitoring drug abstinence. Also, the presence of positive tests undermines denial on the part of the offenders. Increasing the frequency of testing was designed to detect any relapses at an early stage, so that clients could receive the appropriate treatment and sanctions to avoid more serious relapse and possible re-incarceration.

Research has shown that treatment combined with urinalysis and court monitoring with sanctions is more likely to be successful than treatment alone (Falkin, 1993). However, systemwide drug testing that was not linked to systematic monitoring, sanctions, or treatment was found to have no impact on recidivism in a Multnomah County study (Cavanagh and Harrell, 1995).

Since program planners envisioned closer oversight of OPTS clients than would ordinarily accompany routine supervision of probationers/parolees, the model called for the use of graduated sanctions to offset offenders' increased risk of detection and punishment for relatively minor infractions (e.g., failure to keep appointments, non-compliance with treatment plans) or initial instances of more serious infractions, such as "dirty" urine tests. In addition to various penalties, OPTS programs also were expected to use incentives, or rewards, to recognize clients' accomplishments, and to encourage or motivate them to continue making progress in the program.

The use of a system of graduated sanctions was intended to enable programs to impose consequences without unduly terminating clients. This approach was an outgrowth of lessons learned in earlier demonstration programs that increased offenders' supervision. Thus, for example, some ISP programs found that the heightened surveillance that was part of that program model actually led to offenders in ISP having higher rates of technical violations and reincarceration than were exhibited by offenders receiving regular probation, despite that fact there were no differences between the two groups in new criminal arrests (Pearson, 1988; Petersilia and Turner, 1990; Petersilia et al., 1992). Such findings led to the conjecture that, for intensively-supervised offenders, a structured hierarchy of sanctions was needed to have a more balanced response to non-compliance with probation conditions. Sanctions recommended for

consideration included increased community service, curfew restrictions and home confinement, and the use of halfway houses or other types of residential corrections that would be a step away from revocation (Pearson and Harper, 1990).

CHAPTER 3
THE EVALUATION DESIGN AND METHODS

The OPTS initiative was planned and implemented at a time when many urban areas were inundated with drugs, crime, and related difficulties such as harms resulting from actual victimization or residents' fears of adverse conditions. The OPTS evaluation, which includes documentation, outcome/impact, and cost and benefit analyses, was intended to provide guidance to cities across the country on: 1) strategies for reducing substance abuse relapse and criminal recidivism, and 2) mechanisms for enhancing the social and economic stability of addicted offenders so that they can become productive, contributing members of society. This report focuses on impact analyses that assess the effects of the OPTS intervention using an experimental model that compares OPTS clients (the treatment group) to offenders receiving routine probation/parole supervision (the control group).

The general causal model guiding the impact evaluation is that the OPTS strategy facilitates substance abuse aftercare, together with interventions designed to strengthen offenders' pro-social bonds and reduce risks (such as unemployment, educational deficits, poverty, family instability, housing deficits, and impaired physical or mental health), which will diminish the clients' use of alcohol and drugs, and hence their propensity to engage in criminal behaviors. This, in turn, should reduce costs to the criminal justice system and to society as a whole by reducing the incidence of substance relapse and criminal recidivism attributable to these clients.

Key research hypotheses include:

- OPTS clients will have higher rates of service utilization than probationers or parolees under routine supervision.
- Probationers and parolees receiving OPTS services will present fewer long-term problems with substance abuse relapse than offenders under routine probation/parole supervision.
- Probationers and parolees receiving OPTS services will demonstrate less criminal recidivism than offenders under routine probation/parole supervision.
- OPTS clients will demonstrate more pro-social attitudes and behaviors (and have greater involvement in positive social networks) than other offenders under supervision.
- Reductions in substance abuse relapse and criminal recidivism associated with OPTS programming will result in reduced costs for the criminal justice system and society in general.

- OPTS programs will facilitate increased interagency information sharing; joint case planning, cross-agency referral, and enhanced services integration; an expanded array of service options for OPTS clients; increased rates of client access to services identified in customized needs assessments; and improved monitoring of client compliance with service plans, and tracking of client progress.

The conceptual framework underlying the impact evaluation is presented in Figure 3-1. The antecedent factors OPTS was designed to mitigate -- involvement with illegal substances, criminal behavior, economic instability, family instability, social disorganization, and compromised health or mental health -- are shown in the first column. The key components of the OPTS model, comprised of five core service areas, together with case management and enhanced supervision, are identified in the middle column. Finally, the third column identifies the outcomes expected to result from the OPTS intervention. For example, substance abuse indicators include reductions in alcohol and drug use, as well as decreased associations/involvement with substance-using peers and social networks. Reductions in criminal recidivism includes such measures as: 1) technical violations while on probation/parole, 2) involvement in criminal activities, 3) arrests, and 4) periods of incarceration.

Taken together, the antecedent factors, intervention activities, and expected program outcomes guided the development of the baseline and follow-up self-report surveys, the OPTS MIS, and the plan for records data collection, each of which is described briefly below.

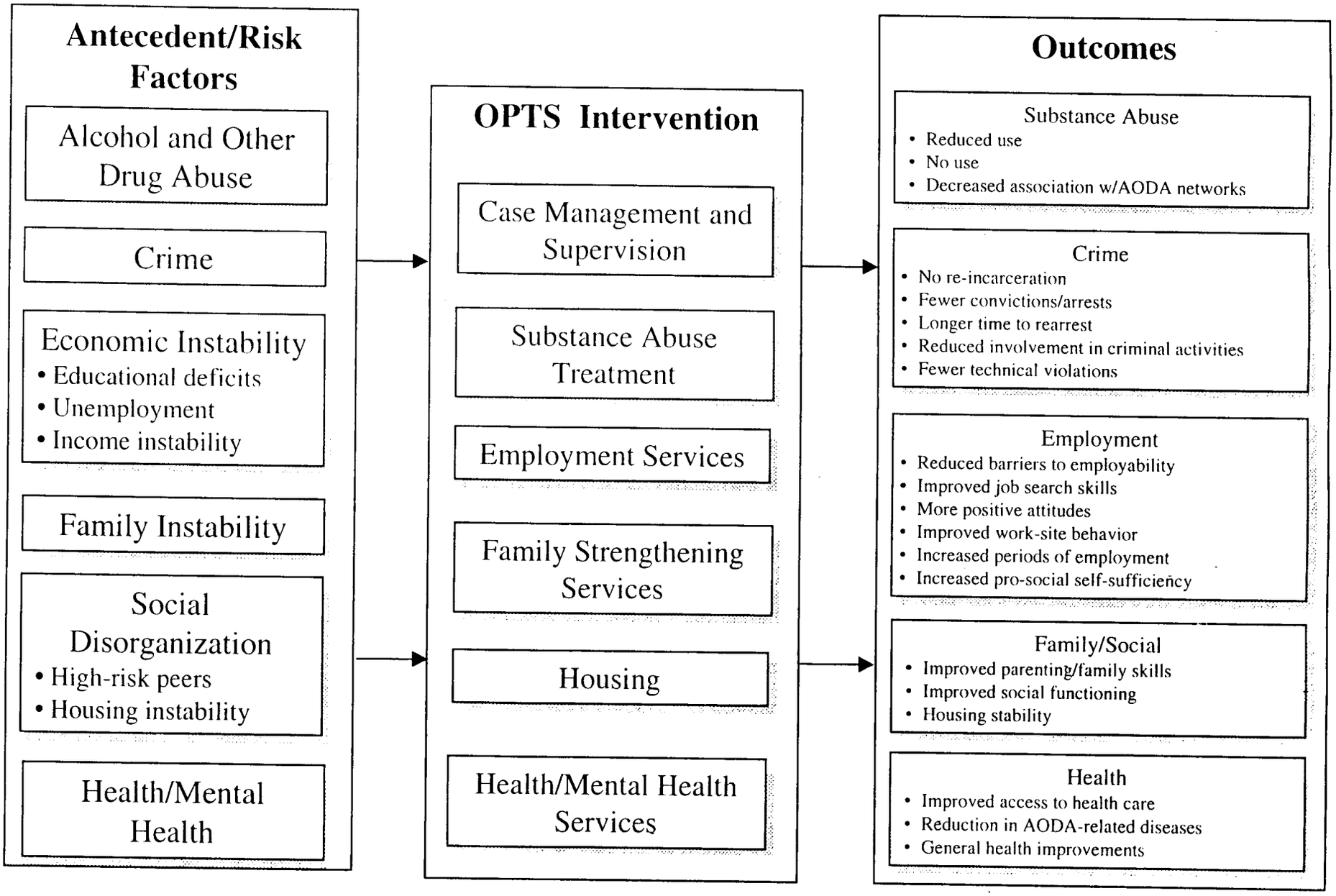
Participating Programs

In 1992, The National Center on Addiction and Substance Abuse (CASA) at Columbia University used development grants from Robert Wood Johnson Foundation and The Commonwealth Fund to continue program design efforts that had begun earlier, and to identify and work with potential demonstration sites to develop the model. CASA staff identified key community leaders and justice system officials in at least 17 communities, and met with them, or held telephone discussions, to explain the objectives of OPTS (then called Fresh Start) and to encourage formation of planning partnerships among local service agencies and probation/parole agencies to begin developing the collaboration upon which the model depends (see Morley et al.,1995, for discussion of program evolution).

By February, 1993, CASA winnowed the field to eight sites in four states, which were invited to submit proposals. Considerations in selecting this group of candidates included a desire to have: geographic diversity; diversity in the prison system from which the offender population would be drawn (i.e., federal, state, or county facilities); a sufficiently large target population to support case flow for programmatic and research purposes; and apparent ability and willingness to mount the demonstration.

FIGURE 3-1

The OPTS Evaluation Model



Final site selection began in January, 1994, by which time, CASA had decided to fund five programs[1] (Morley et al., 1995). In August, 1994, contracts were signed with four sites: 1) Tampa, FL, which would draw its participants primarily from a county jail facility; 2) two sites in Missouri -- Kansas City and St. Louis -- each of which would recruit program participants from the Institutional Treatment Centers (ITCs) that are part of the state's prison system; and 3) Oakland, CA, which would serve offenders re-integrating into the community after a stint in federal prison. In December, 1994, agreements were finalized with the fifth site -- West Harlem, NY -- which also planned to serve federal offenders. Once agreements were in place, staff were hired or re-deployed, although clients did not start to flow into the programs until several months after they officially began.

Client flow was lower than anticipated in all five communities, and none of the sites operated at projected caseload capacity during their first program year. Consequently, during the second year, the decision was made to concentrate evaluation activities on the three sites that had become the most viable. As a result, the impact evaluation, and final process analyses, reflect the experiences of OPTS programs in Kansas City and St. Louis, MO, and Tampa, FL.

Eligibility for the OPTS Study

Eligibility for participation in the OPTS program was defined jointly during the planning phase by CASA and the primary organizations participating in the program in the five original demonstration sites. Offenders returning to targeted neighborhoods were eligible for participation in the study if they: 1) were required to serve a minimum of one year of probation/parole; 2) had a history of substance abuse; 3) had completed a substance abuse treatment program while incarcerated or in a court-ordered residential facility in lieu of jail; 4) had felony convictions, excluding violent crimes or sex offenses; and 5) were 18 years of age or older.

Time Served on Felony Convictions in a Federal or State Prison, or County Jail

The original five sites identified specific federal and state prisons, as well as county jail facilities (sometimes specifying the incarceration treatment programs) from which their populations would be drawn. However, as the delay in program implementation narrowed the field of sites participating in the evaluation studies to Kansas City, St. Louis, and Tampa, federal

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[1] Initially, CASA planned to have each of four programs accommodate 40 clients at one time, and the fifth program would serve only 25 clients. During the first year of implementation, caseload sizes were adjusted so that all five sites would have 40-person caseloads. Subsequently other adjustments were made, reflecting the fact that some sites encountered difficulties in achieving the optimum caseload size, while others could exceed it.

offenders were eliminated from the OPTS research sample since none of these sites recruited participants from federal prisons.

Tampa's primary target population was state inmates from the Hillsborough County Jail's (also known as Orient Road Jail) Substance Abuse Program. New drug treatment centers at Brooksville and Gainesville were mentioned as potential locations for recruiting target populations if case flow from Hillsborough County Jail was insufficient; although this contingency plan was activated in Spring, 1995, few participants entered the study from these facilities. Ultimately, beginning in July, 1995, the target population was expanded to include offenders sentenced to DACCO's residential drug treatment facilities or the Crossroads facilities for men and women in lieu of Hillsborough County Jail. OPTS research participants in Tampa can be under either probation *or* parole supervision.

Kansas City and St. Louis both targeted offenders from the Missouri state prison system; specifically those incarcerated in Institutional Treatment Centers (ITCs) and returning to probation *or* parole supervision. Both sites initially drew offenders from the Farmington ITC. Late in the first program year, St. Louis expanded its target population to include an ITC serving female offenders (the Cramer facility), in accordance with this site's intent to have about 10% of its caseload made up of female offenders. Kansas City expanded its target population (in Spring, 1995) to include offenders from a recently-operational ITC located in St. Joseph, MO (which is in closer proximity to Kansas City than the Farmington ITC).

Substance Abuse Involvement and Pre-Release Treatment

While the nature of the pre-release intervention varied by correctional facility, recruitment of eligible offenders originally was limited to those who completed treatment programs while incarcerated. This criteria was later expanded in the Tampa site to include offenders who received substance abuse interventions during residential treatment ordered by the court in lieu of jail/prison (see Appendix A for brief descriptions of the programs from which OPTS participants were recruited).

Exclusion of Violent Offenders

Program planners originally excluded offenders who had any history of convictions for violent offenses (e.g., homicide or rape) from consideration as potential participants. However, as program implementation and recruitment took shape, the sites pointed to difficulty accessing comprehensive criminal histories at the time of eligibility screening (making it difficult to detect violent crimes beyond those associated with the offenders' most recent convictions). The sites also felt that some offenders are convicted of violent offenses, even though they personally committed a related non-violent act (e.g., driving the get-away car). Consequently, the decision to disqualify participants with any violent offenses from inclusion in OPTS was left to the sites to

make on a case-by-case basis. Early in 1996, St. Louis, for example, elected to implement a blanket policy to screen out all offenders with any violent offense.

Mandatory Probation/Parole Requirements

Initially, the intent was to require participation in OPTS as a mandatory condition of release on probation or parole. Subsequently, participation in OPTS was regarded as fulfilling the drug aftercare conditions of supervision, without the formal protocol of supervision conditions specifically identifying OPTS participation as a mandatory requirement. In general, a probationer/parolee could refuse to participate in the related research study, but could not refuse the treatment once assigned to receive OPTS services and enhanced supervision. However, in Tampa, neither the courts, nor probation officers perceived OPTS participation as a mandatory component of the offender's supervision; as a result, the implementation of graduated sanctions was significantly impacted at this site.

Returning to Designated Neighborhoods

The strategy originally specified that low income, inner-city neighborhoods circumscribed by fairly well-defined boundaries would be used as OPTS catchment areas. Subsequently, the target areas were expanded to increase the flow of eligible participants. Target areas grew to encompass the service provision boundaries of the lead agency, other key service providers, and the participating probation/parole office, or were extended to locations that were sufficiently accessible to these agencies to enable provision of services without undue burden on either providers or clients.

Recruitment Procedures

Arrangements to identify eligible offenders, randomly assign them to treatment or control groups, and administer informed consent varied somewhat across the three sites. All sites developed cooperative arrangements with jail/prison or probation/parole agency staff to conduct the eligibility determination and consent procedures. Identification of potential participants and eligibility determinations occurred either prior to the offenders' release from the jail or prison treatment programs, or upon their return to the community.

Informed consent protocols, consistent with safeguards for research involving human subjects, were used. Case managers, probation/parole officers, or facility staff were trained to implement these procedures. The overall objectives of the demonstration and the research activities were explained to eligible individuals, using clear and concise language; they also were informed of incentives they would receive upon completion of each interview. All candidates

were assured of privacy, confidentiality, and the right to withdraw from the study or withhold information. Candidates were told that they could refuse to participate in the research study without jeopardizing their chances of random assignment to receive OPTS treatment/services. At the same time, they also were informed of the requirement to participate in the treatment if so assigned, regardless of whether they consented to participate in the research.

Recruitment was based on a rolling enrollment that began in mid-winter, 1995, and accepted the last participant by September 1, 1996. A total of 596 individuals were screened and identified for random assignment in Tampa, Kansas City, and St. Louis. Subsequent review of eligibility criteria, failure to complete their pre-release treatment program, or other disqualifiers (e.g., outstanding warrants for arrest, failure to win parole) reduced the actual number of eligible parties to 416; 18 (4.3%) of these individuals declined to participate in the research study.

Thus, the research sample consists of 398 participants. This includes 55 treatment and 49 control group members in Kansas City, 85 treatment and 89 control group members in St. Louis, and 55 treatment and 65 control group members in Tampa.

Random assignment to treatment or control status was performed by The Urban Institute, using separate, site-specific case assignment lists[2] that were constructed prior to recruiting any OPTS participants. Procedures were designed for each site to contact the research team after determination of offender eligibility: Institute staff assigned eligible offenders to treatment and control group status upon receipt of either FAXed consent forms (in sites where consents were administered prior to random assignment) or site identification numbers (in sites where consents were administered after random assignment) from local representatives responsible for recruitment, determination of eligibility, or intake. Procedures for notification of assignment status varied across sites, based on whether intake was done before or after offenders' release from jail/prison. The Institute notified site staff of offender assignment by FAX within one business day of receipt of request for assignment. Letters to offenders notifying them of assignment status were sent within one business day of receipt of consent forms.

Statistical comparisons of the groups, based on a range of factors, found few significant differences between the randomly assigned treatment and control group members (see Appendix B).

Data Sources

Process evaluation of the OPTS program relied on multiple sources. Two to three site visits per year were conducted in each of the three sites from the inception of the initiative to the

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[2] Each list contains 250 slot assignments that were randomly generated using a computer program, devised by the Urban Institute, that facilitates random assignment based on groups of four cases: two treatment [T] and two control [C] slots per grouping.

end of the demonstration period. During these visits, interviews were conducted with key staff in lead service agencies, probation/parole offices, and other service delivery organizations. Interviews and small-group discussions also were conducted with OPTS clients. Periodic telephone interviews were conducted between site visits with key OPTS staff, such as OPTS coordinators, case managers, and probation officers or probation officer supervisors. Written materials were reviewed, including project descriptive materials provided by CASA, information provided by the sites or obtained during field visits, and regular reports prepared by CASA site monitors. Interviews also were conducted with key CASA staff who had been involved in development of the initiative.

The impact evaluation of the OPTS demonstration program similarly uses multiple sources of information. Analyses heavily rely on baseline and follow-up self-report surveys with treatment and control group members. Official criminal justice records also were collected. In addition to these sources, the OPTS evaluation had access to client information from the OPTS Management Information System (for the treatment group only), and relied on observations and secondary data from field visits performed throughout the course of the three-year demonstration period.

Baseline and Follow-Up Surveys

The baseline survey profiles both respondents' histories and the mix of pre-OPTS services they received prior to, and during, the incarceration that qualified them for inclusion in the program. Such information serves as a benchmark against which comparisons can be made with respect to: 1) pre- and post-program characteristics/status of OPTS client and control groups; 2) longitudinal analysis of the differences in outcomes, if any, between the treatment and control groups; 3) representativeness of the sample as compared to other similar populations; and 4) relative costs and benefits associated with or attributable to the program intervention, such as a costs averted due to marked reduction in recidivism and relapse rates among the treatment group, as distinct from routine probation/parole supervision.

The instrument was developed, pretested, and revised to reflect lessons learned during pilot testing in the Fall of 1994. In its final version, the baseline questionnaire contains 104 items, is organized into substantive components that largely correspond with the core features of the OPTS program model, and requires approximately 90 minutes to administer. The questionnaire employs a structured interview protocol that combines verbal responses and written (pencil/paper) responses for more sensitive items[3], such as drug use while in-jail or subsequent to recent release on probation or parole, and HIV risk behaviors. Response formats include forced

[3] Interviewing protocols were constructed to optimize privacy and confidentiality of responses, consistent with rigorous data security procedures. Self-administered answer sheets, placed in sealed envelopes upon completion, were used to increase response validity (see Rossman et al., October, 1995, for more detailed discussion).

choice, open-ended, and self-reported items. Items progress from a basic socio-demographic focus through antisocial behavior, general health, lifetime and recent substance abuse and treatment, history of criminal activity, and conclude with items inquiring about respondents' most recent experience in jail/prison.

Two features of the survey warrant particular attention:

- Offender Profile Index. Many of the 11 components/sub-scales of the Offender Profile Index (OPI) are embedded in the baseline (and also the follow-up) survey. The OPI is a classification instrument broadly applicable for determining appropriate types of substance abuse treatment to use for various offenders, based upon their drug use severity and their "stake in conformity" scores. Substance use severity is measured by the Drug Severity Index (DSI), which uses a combination of types of substances used and frequency of use to generate an index score. Stakes in conformity are measured by such factors as educational attainment, employment history, living arrangements, and arrest history. The instrument is derived from research that indicates individuals with high stakes in conformity are less likely to commit crimes than persons with low stakes; also those with high stakes who do commit crimes are less likely to recidivate, and therefore less likely to require supervision and services. Similarly, those with less severe drug use (i.e., higher DSI scores) and higher stakes in conformity scores are less likely to require intensive treatment services (such as long-term residential treatment) (Inciardi et al., 1993b; National Association of State Alcohol and Drug Abuse Directors, undated).

> Substance abuse was measured using the 18 groups of substances categorized in the Drug Severity Index (DSI) portion of the Offender Profile Index. These include: alcohol, marijuana, inhalants, hallucinogens, pills (downers and uppers, speed, crank), amphetamines, opiates, powder cocaine, crack cocaine, non-intravenous speed balls (heroin and cocaine), IV heroin, IV cocaine, IV speed ball, IV speed, other IV narcotics, and illegal methadone.

- Crime Calendar. A modified version of the crime calendar reporting system -- developed by the RAND Corporation to survey prison and jail inmates (Chaiken and Chaiken, 1982; Peterson et al., 1982) and later refined by a host of other studies (see, for example, Horney, undated) -- was included to facilitate respondent recall and provide a more precise appraisal of criminal activity.

Information was recorded using a calendar to capture criminal behaviors and life circumstance changes for each month of a one-year period.[4] At baseline, respondents reported crime, probation or parole status, periods of incarceration, school enrollment, residential treatment, and part- and full-time employment.

Calendar Data and Meaning of Street Months

The calendar reporting technique facilitates respondent recall in reporting monthly variations in life circumstances during a specified time frame. For example, at baseline, respondents were asked whether -- prior to the incarceration that qualified them for OPTS -- they ever committed any UCR Index offenses (e.g., burglary, aggravated assault, vehicle theft, or drug dealing).

Subsequent items systematically probed about periods of detainment or conditions of supervision to establish and define the respondent's level of freedom and ability to engage in criminal activity during a specified one-year time frame. Any months that respondents reported they had been locked up, and all months outside the one-year reference period, were crossed out on the calendars. The remaining months are considered "*street months or street time.*"

Then, for each type of self-reported criminal activity, respondents were asked to review the calendar and indicate during which, if any, street months they committed particular types of crime.

The follow-up instrument[5] parallels the baseline survey, focusing on events during the respondents' first year of participation in the OPTS study (i.e., the treatment period for OPTS clients and the first year of probation/parole supervision for the control group). The instrument has two important additions to capture expanded outcome information:

- Treatment Calendar. A treatment calendar was included to collect detailed data on respondents' substance abuse treatment experiences during the twelve months post-release from incarceration/court-ordered residential treatment. This component solicits such information as: the type of treatment received (i.e., hospital detoxification, halfway house, short-term residential, long-term residential, methadone maintenance, outpatient drug counseling, AA/NA, other 12-step programs, or acupuncture), the duration of treatment for each modality, the perceived efficacy of the treatment, whether family/domestic partners were

[4] As described by Freedman et al. (1988) the street calendar data has two important advantages. First, it is helpful in collecting retrospective information by aiding recall of life events (Freedman et al. 1988; Bradburn 1996). The street calendar provides a temporal context with an important reference point for aiding recall of important and less salient life events. Second, the street calendar provides a useful device to record sequences of information more easily than conventional data recording devices.

[5] Two versions of the follow-up instrument were used; they are virtually identical except for a few items related to services received/service satisfaction. One version, designed for the OPTS clients, includes breakouts related to their experiences with both case managers and probation/parole officers; the second version for control group members limits that line of questioning to similar experiences with only probation/parole officers.

active participants in the treatment sessions, and who paid for the treatment. The section also queries whether the respondent was drug tested during this period, and with what results.

- Service Context and Customer Satisfaction. A series of questions are included on: frequency of contact with case managers/POs; service needs with respect to daily activities, social relationships, educational or employment supports, and health; and satisfaction with services received.

Figure 3-2 depicts the time frames covered by the two surveys.

Official Criminal Justice Records

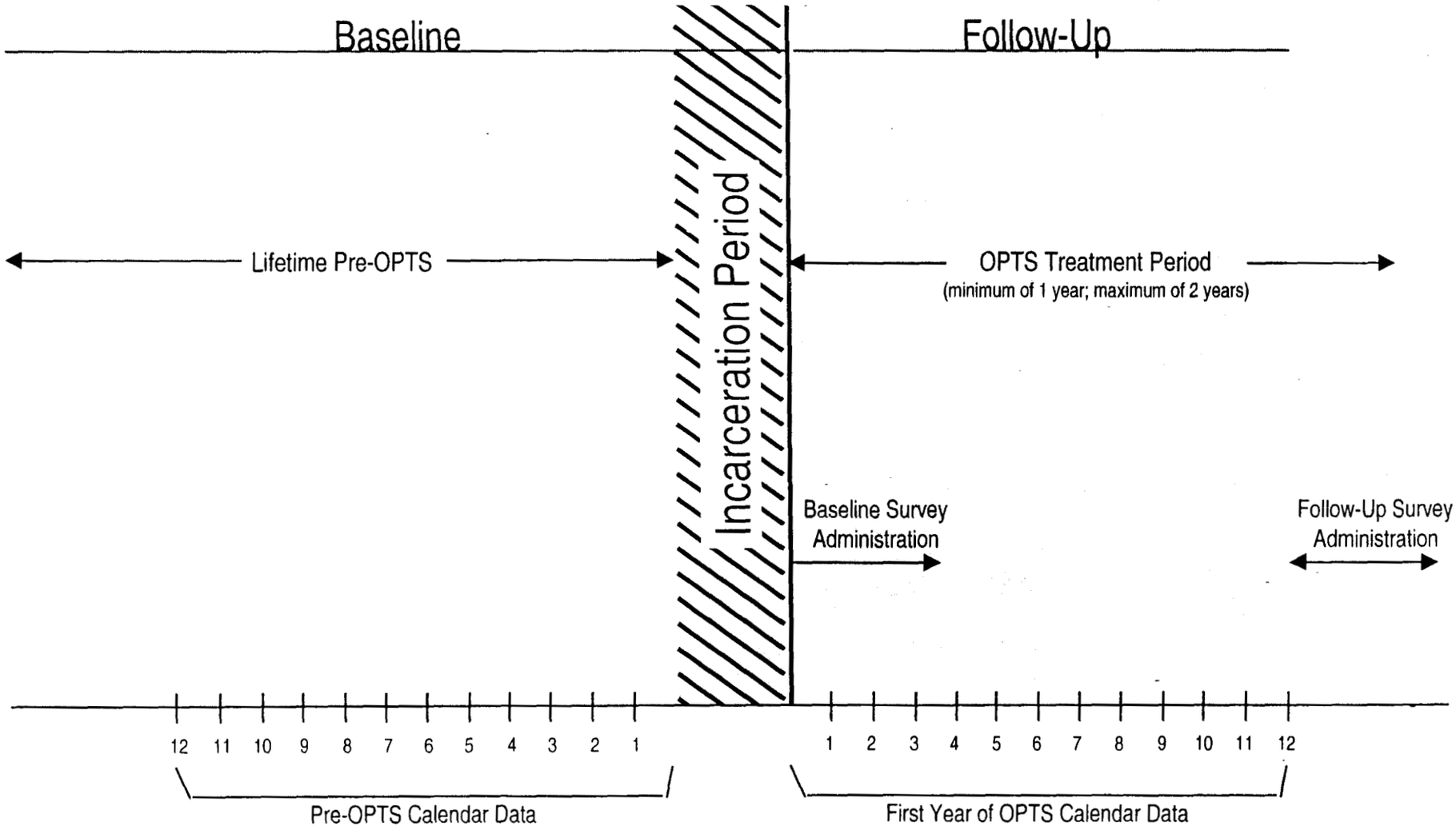
Official records initially were requested from the central records of the Missouri Department of Probation and Parole in Kansas City, MO, for both the Kansas City and St. Louis cohorts. Data for the Tampa participants were available from two sources: the Department of Corrections central records office in Tallahassee, FL, and the Tampa Central Field Office, which coordinated data amassed by individual probation officers. Preliminary data collection began in July, 1996; early records review established missing cases and other limitations that were addressed during on-going data transfers and negotiations with the various database management staff. Because these data sets do not contain identical elements, mapping across data sources was performed. In addition, since the identified databases lacked some key elements, data from centralized systems were augmented using information extracted from probation department files, including criminal history or "rap sheet" information and violations data, as described below. Final data collection concluded in July, 1998.

Analysis of official records for this study focused on two categories of variables: arrests and technical violations. Arrest data were selected instead of conviction data, because the latter are more likely to involve errors of omission since sufficient time may not have elapsed to ensure that active offenders who committed crimes during the OPTS research period were actually adjudicated. Further, records of arrests more closely match the self-reported calendar data for which respondents' reported the months in which they were arrested for various criminal events. Errors in counting arrests as criminal behavior -- when in fact the arrestee was innocent and therefore, set free (i.e., charges were dismissed) -- may occur. However, such errors of commission associated with innocent arrestees appear to be far less frequent than the errors of omission that would occur had convictions been used as a measure of criminal behavior, and hence, program failure (see Blumstein et al., 1986, on methodological issues in criminal career research).

The reliability of arrest records may be compromised by two main sources of error: 1) undercounting of arrests in Florida, because the centralized computerized criminal history files may not include arrests occurring at the local level, and 2) over counting of arrests in Kansas City

FIGURE 3-2.

Baseline and Follow-Up Surveys



because records were obtained from local criminal history records. Local records may duplicate arrests because of the mechanism used to list arrests, warrants, charges that are transferred to state agencies, and contacts with the police.

For the first source of error, missing arrest reports are especially a problem for less serious offenses. This is so because entries in centralized files, such as the FBI history files, are usually triggered by submission of a fingerprint record from an arrest or admission to a detention or correctional facility. Some misdemeanor offenses (e.g., drunk in public and disorderly conduct) may not elicit a fingerprint record, and therefore, are not recorded in the centralized file.

The second source of error is related to the treatment of charges referring not to offenses committed while free, but to acts related to arrest, court processing, custody, or supervision procedures (Geerken, 1994). These events, that look like arrests on criminal history records, are often called "process" crimes, and can include charges like "resisting arrest," "escape," or "flight." In addition, detention and correctional agencies record events that resemble arrests on the rap sheet. A transfer of an individual from a local jail to a state correctional facility could evoke a listing that looks like an arrest on paper. Furthermore, probation and parole agencies often submit a sentenced offender's fingerprints to the state's fingerprint repository for verification. Such records are often indistinguishable from arrests. In essence then, events that were not arrest erroneously may have been counted as such. This was possible in all three sites, but there was more chance that duplication occurred in the collection of records from Kansas City because the criminal history records included all local records, which was not the case in Tampa and St. Louis.

Florida's criminal history data only included those arrests for which individuals were fingerprinted. Due to resource and time constraints, local arrest records were not obtained through the sheriff's department to supplement arrest data derived from criminal histories directly available to the state probation department. Non-reporting most likely is not a problem with the Missouri data, because those jurisdictions rely heavily on state criminal history files. Past research has demonstrated that local jurisdictions with strong ties to state systems have more complete records systems.

In addition to the two sources of error outlined above, OPTS records data contain missing data on category of offense -- misdemeanor versus felony. The data distinguishing misdemeanors from felonies were not available for some offenses. In those cases where it was possible to distinguish the nature of the crime, it was coded as such.

Data on technical violations for Kansas City and St. Louis were collected directly from the probation office folders on each client. Research staff reviewed each file and collected key pieces of information that included: 1) the date the technical violation report was written, 2) the date the action occurred that led to the technical violation, and 3) the reason for the violation. For cases where there were many actions that led to the technical violation, the date of the earliest technical violation was recorded.

Data on technical violations in Tampa were provided from the Florida Department of Corrections' Central Records Office in Tallahassee, Florida. These data include the date the investigation for a violation was initiated, and the date the investigation for the violation was concluded. The data do *not* include the reason for the technical violation.

OPTS MIS

OPTS sites were provided with a Management Information System (MIS), developed by Urban Institute staff and BOTEC Analysis Corporation personnel, in collaboration with senior CASA staff and members of the local demonstration programs who participated in identifying key data elements and system specifications for tracking OPTS clients (i.e., only the treatment group). The MIS was designed to capture salient information related to the OPTS program model, including: 1) nature and intensity of case management activities, such as brokering activities and direct service provision; 2) clients' compliance with mandatory program participation requirements; 3) service referrals and utilization in the five key service domains (i.e., substance abuse treatment, employability training, housing, family intervention and parenting training, and health/mental health services); 4) substance abuse relapse; 5) pro-social actions, including employment and avoidance of criminal recidivism; and 6) application of graduated sanctions for program violations (such as "dirty" urine tests).

Since there were substantial differences within, and across sites, over time in the consistency of item definitions and the completeness of data entry, the evaluation was unable to use this data source as originally intended to examine differences in outcomes associated with the nature, intensity, and duration of various services and activities. Instead, the analyses relied on self-report data, which were more circumscribed in depth, to measure differences in service use. However, the MIS data were used in process analyses (as reflected in Chapter 4) to confirm the identities and types of services offered by various service providers.

Data Collection

The majority of baseline interviews were conducted shortly after offenders were released from incarceration or court-ordered residential treatment in lieu of incarceration. During periods when potential respondents were not in compliance with probation/parole reporting requirements (e.g., were not showing up for meetings with probation/case management staff) or were officially designated as absconders, they were considered unavailable for interviewing. However, these individuals remained in the sample and were interviewed at later dates when feasible, using modified versions of the baseline survey. Interviews were performed by Urban Institute field staff trained specifically for this program. This baseline data collection began in late January, 1995, and concluded in January, 1997.

Follow-up interviews were conducted roughly one year after individuals began participating in OPTS or, alternatively, began serving their routine probation/parole sentences. These interviews began in late April/May, 1996, and were completed in February, 1998. Follow-up survey data collection targeted all members of the sample originally designated as eligible for the program, including those who had never been baselined[6] and those who had been re-incarcerated. Overall, response rates for each of the surveys was good, as shown in Exhibit 3-1. The response rate was 86% at baseline, and 72% at follow up.

In addition to survey data, official records were collected to capture arrest and technical violations information. These data typically were found in different databases, which sometimes did not contain relevant information for all sample members. Thus, for example, information about technical violations could be located for approximately 84% of the sample. A full data set of baseline and follow-up surveys, together with both arrest and technical violations official records, was compiled for 52% (207) of the sample.

Analysis of attrition between the baseline and follow-up surveys was performed to determine whether differential attrition compromised the validity of survey data. Statistically significant differences in the proportion of individuals who completed the study were found for four baseline measures: friends use drugs, hard drug use three months before incarceration, property crime in the year prior to incarceration, and site (Kansas City). Weighting techniques were used to measure the bias due to attrition. The effects due to attrition were modeled in two steps:

- *Step one:* The propensity to complete the study was modeled as a function of the covariates at the baseline.

- *Step two:* The data were then weighted by the inverse probability of staying in the sample at the follow up. Robust estimation techniques were used to examine the effectiveness of OPTS, using the weights obtained in step one (McGuigan, Ellickson, Hays and Bell, 1997). Robust estimation techniques provide "better" estimates of the standard errors of the coefficients: this has implications for hypotheses testing.

Appendix C presents the attrition analysis, and also compares the baseline characteristics of those who completed both instruments to those who did not complete the follow-up survey. Attrition analyses also were performed as part of the analysis of official records, as noted in Chapter 6.

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[6] Absconders and soft-refusers, who were available at follow-up and had not previously been baselined, were interviewed first using the follow-up instrument, and then were administered the modified form of the baseline instrument.

Exhibit 3-1
Number of Eligible Participants About Whom Data Were Collected

	KANSAS CITY		ST. LOUIS		TAMPA		TOTAL T/C		TOTAL
	T	C	T	C	T	C	T	C	
Eligible	55	49	85	89	55	65	195	203	**398**
Baseline Survey	51	38	80	79	44	51	175	168	**343**
Follow-Up Survey	46	33	66	63	39	41	151	137	**288**
Baseline + Follow-Up Surveys (Matched Sample)	45	33	66	62	36	41	147	136	**283**
Official Records:* Arrests	51	44	63	61	53	64	167	169	**336**
Official Records:* Violations	52	36	67	67	50	63	169	166	**335**
Baseline + Follow-Up + Both Official Records	40	24	37	31	34	41	111	96	**207**

* Official records were collected for all eligible members of the sample, for whom such information could be located, regardless of whether those individuals completed baseline or follow-up surveys. Because the violations information came from a different database than the information on arrest, the numbers for each of these rows may reflect data obtained on different individuals.

Data Analysis

The data were used to measure constructs identified by the conceptual framework (as previously depicted in Figure 3-1). Data analysis emphasized the effects of OPTS on substance abuse, crime, and employment outcomes, although family/social and health outcomes also are examined. Key variables are defined by domain in the Glossary at the end of this volume. The Glossary presents operational definitions of the measures used, together with summaries for the properties of scales and indices constructed from multiple items.

Survey respondents may be motivated to over- or under-report a behavior on a survey in order to present a favorable image to the interviewer, themselves, or others with access to the survey results (Edwards, 1957). Other motives for under-reporting illegal or highly stigmatized behaviors include fear of negative consequences such as loss of job, arrest, or other forms of reprisal.

Since respondents may deliberately distort their self report of certain information, such as drug use or commission of crimes, the validity of these data was examined. The analysis searched The analysis searched for indications of systematic bias in the reporting of drug use and arrest information, focusing on the threat to the validity of the evaluation posed by potential differential reporting accuracy by the treatment and control groups. Data validation included an examination of the discrepancies between self-report and official records from justice agencies for arrests and technical violations, and an examination of denial of lifetime drug use during the baseline interview.

Analysis of discrepancies between self-report and official records from probation and parole agencies found consistency in reports of the number of arrests during a one-year follow-up period for 71% of the respondents, with 8% over-reporting their number of arrests and 20.6% under-reporting the number of arrests for that time frame. Accuracy in reporting the number of arrests did not vary by treatment or control group.

The discrepancy in reporting may reflect the way the self-report questions regarding arrest were structured. Official records were collected on all arrests except for traffic violations, regardless of whether these were misdemeanors or felonies. Respondents were asked about arrests for only nine crimes: burglary, robbery, assault, larceny, auto theft, forgery, fraud, disorderly conduct, and driving under the influence of alcohol or while intoxicated (DUI/DWI). It is possible that individuals officially arrested for one of these crimes actually thought they were charged with a lesser crime and, therefore, did not report an arrest for one of the nine crimes. For instance, nearly one-third of the 20.5% of the respondents who under-reported their number of arrests had discrepancies related to arrests for assault. It is possible that respondents misperceived the question about assault to signify assaults of the more violent or "aggravated" nature, and did not count arrests for simple assaults when they reported the number of arrests for assaults.

Analysis of the discrepancies between the self-reported number of technical violations and the number of technical violations obtained from the official records found somewhat more under-reporting -- 27%, which includes 16% of respondents who reported no technical violations, when they had at least one in their official records. If respondents who over-reported their number of violations (13%) are included, the overall accuracy level for reporting on technical violations rises from 60% is 72.4%. It is possible in the cases of over-reporting that the clients thought they were going to be written up on a minor technical violation, and the probation officers simply gave them warnings. Under-reporting may occur for the opposite reason -- clients are unaware that they have been written up on a violation because they are not regularly reporting to their PO or have not yet been told that a violation report has been written. Accuracy in reporting technical violations did not vary by treatment or control group.

A question asked in the follow-up survey was used to examine the denial of lifetime use of a drug: *Prior to your incarceration over a year ago, what was your drug of choice?* It was felt that asking respondents about their drug of choice over a year ago would be less threatening than asking about more recent drug use. The expectation was that those respondents who identified a particular drug of choice would also have reported prior use of that drug (i.e., responded affirmatively to the question about whether that substance was ever used in their lifetime) during the baseline interview. Out of 139 respondents reporting that crack or cocaine was their drug of choice during the baseline period, only 5 (3.6%) denied ever using crack or cocaine in their lifetime. Three of those five respondents were OPTS clients, two were in control group members. With respect to heroin and the opiates, the denial rate was a bit higher: two respondents out of 22 (9%) who said that their drug of choice was heroin or opiates, had denied ever using those drugs during their baseline interviews. Both respondents were in the control group. This low rate of denial for both the cocaine/crack and opiate users is reassuring because the willingness to report past drug use declines as the social stigma attached to the drug increases (Harrell, 1997).

Simple regression models were used to examine the influence of group membership on follow-up outcome behaviors for the main effects of substance abuse, crime, and employment. The regression models had the following form:

$$\textit{Follow-Up Outcome Behavior} = \text{Constant} + \beta_1 * \text{Baseline Outcome Behavior} + \beta_2 * \text{Site(Tampa)} + \beta_3 * \text{Site(Kansas City)} + \beta_4 * \text{Group Membership} + \varepsilon$$

Ordinary Least Squares (OLS) were used to estimate the interval-level dependent measures. Both OLS and logistic regression techniques were used to estimate the dichotomous dependent measures.

Structural equation models (SEM), which are especially useful when there are complex interrelationships between variables,[7] were used to estimate the effects of the treatment services on criminal behaviors. SEM are fairly similar to standard regression models, with two key differences: multiple dependent variables can be modeled simultaneously and measurement errors can be incorporated into the modeling framework. One of the difficulties associated with SEM approaches is that as the number of variables in the model increases, the computational complexity involved rises dramatically. This was a particular concern in the OPTS evaluation since a large number of services were provided; to streamline potential complexity, variables were chosen for inclusion the model based on both substantive and empirical grounds. Empirical correlations (presented in Chapter 9) guided the choice of treatment measures included in the SEM. Also, nonlinear principal component analysis, a relatively new data reduction technique useful for examining relationships between variables when data are measured at the mixed levels (e.g., nominal, ordinal, interval) was used to construct a hard drug scale, as described in Chapter 9 (see Michailidis and de Leeuw, 1996; Gifi, 1990; Kreft, 1996, for *optimal scaling methods*).

The OPTS analysis employed a model-generating process: a hypothesized model was first tested to determine if the model fit the data; then the model was modified (primarily the correlational linkages between different measures were included) in theoretical meaningful ways to obtain an "adequate" model. The approach presented in Chapter 9 uses a "goodness-of-fit" test to quantify whether the model does an "adequate" job: the chi-squared measure ($\chi 2$) and the adjusted goodness-of-fit index (AGFI) are used to measure the congruence between the hypothesized model and the data (Bollen, 1989). The $\chi 2$ measures the discrepancy between the sample correlation matrix and the correlation matrix impled by the model. The AGFI measures "how much better the model fits as compared to no model at all" (Joreskog and Sorbom, 1993: 122). The range of the AGFI is between 0 to 1; values closer to 1 imply a better fit. Thus, broadly speaking, a "good model" should have a low $\chi 2$ and an AGFI close to one.

Finally, the relationship between changes in life circumstances and criminal behaviors was examined using multi-level models (DiPrete and Forristal, 1994). The advantage of the multi-level methodology is that both *within* and *between-individual* changes can be modeled simultaneously (Bryk and Raudenbush, 1992). Hierarchical Linear Model (HLM) software was used to build these models, which given their complex nature are detailed as part of the discussion within Chapter 10.

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[7] Good introductions to Structural Equation Models include Bollen (1989) and Mueller (1996). SEM is useful not only as a statistical technique, but also as a *research process* (Mueller, 1996). Joreskog and Sorbom (1993: 115) differentiate between two possibilities in SEM: 1) *strictly confirmatory*: a researcher formulates one single model, and uses empirical data to test and either accept or reject that model; or 2) *model generating*, whereby a researcher specifies a tentative model, and if this does not fit the given data, the model is modified and tested again using the same data. Several models may be tested during this process. The goal may be to find a model that not only fits the data well from a statistical point of view, but also has the property that every parameter of the model can be given a substantively meaningful interpretation. Re-specification of models may be theory- or data-driven; however, the emphasis is on *generating a model*, rather than model testing."

The OPTS Sample

The OPTS sample consists of 398 probationers/parolees in Kansas City, St. Louis, and Tampa: 195 were enrolled in the OPTS program (the treatment group) and 203 were subject to routine conditions of probation/parole supervision (the control group). At the time of sample recruitment, the average age of the 343 baseline respondents was 32 years old (ages ranged from 17 to 55 years old). Although the intent was to recruit both male and female offenders, the sample is overwhelmingly comprised of males (85%). Approximately 73% of the self-report sample is African American and 19% is Caucasian; Hispanics, Native Americans, and bi-racial individuals, each, accounted for 2% of respondents. Although 29% had been married at some point in their lives, by the follow-up year, only 12% were currently married. Also, 72% had children (most of whom were younger than 18), although they were not necessarily in contact with them or financially responsible for their maintenance.

At baseline, the treatment group was significantly more likely to be married, less likely to have used marijuana in the three-month period prior to the incarceration that qualified them for inclusion in the OPTS study, and less likely to have committed a property crime in the year prior to that incarceration (see Appendix B).

Basic demographic information on baseline survey respondents at each of the three sites, displayed according to their group assignment, is presented in Figure 3-3. That same information is provided in Figure 3-4 for the respondents who completed the follow-up survey.

Exhibit 3-2 presents the percentage of the baseline sample that reported any prior use of the 18 selected substance groupings; this table also illustrates the progression of the sample's lifetime drug use for the period preceding participation in the OPTS study (see Appendix D for data disaggregated by treatment and control group). Consistent with the literature (Blumstein et al., 1986; Harrison, 1992; Hawkins et al., 1988; Huizinga et al., 1993; Johnson and Golub, 1994), onset of alcohol and drug use occurred during adolescence, with the use of alcohol initiated at about age 15 (mean age = 14.7). Initiation of marijuana use ensued shortly thereafter. Approximately 76% reported becoming regular alcohol users; similarly, 62% reported they had been regular users of marijuana. The data also indicate that approximately 84% of those who tried crack became regular users; by comparison, only 35% (8 of 23) inhalant users reported regular use.

FIGURE 3-3.

OPTS Baseline Demographics, by Site and Group Assignment Status

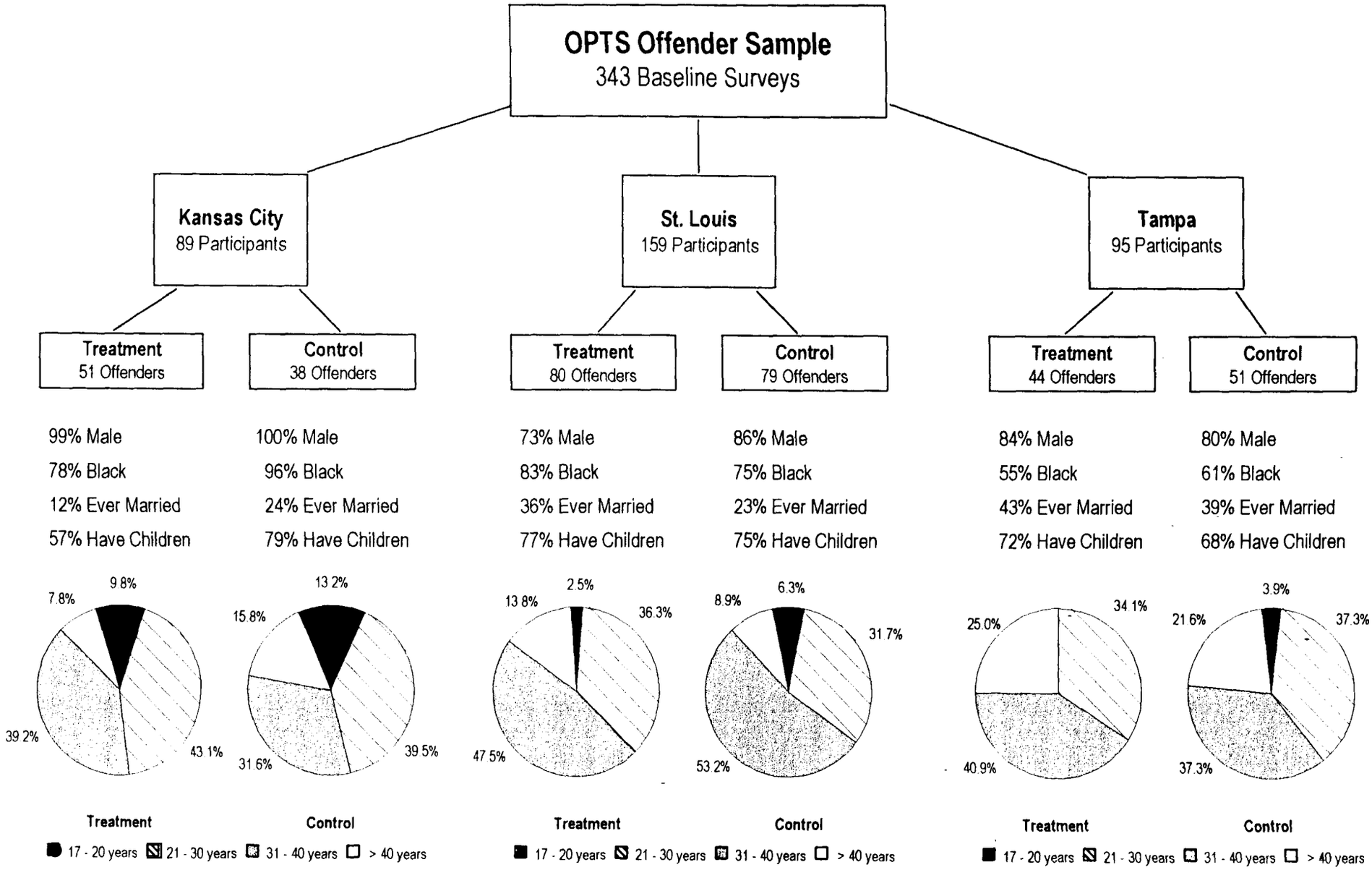

FIGURE 3-4.

OPTS Follow-Up Survey Demographics, by Site and Group Assignment Status

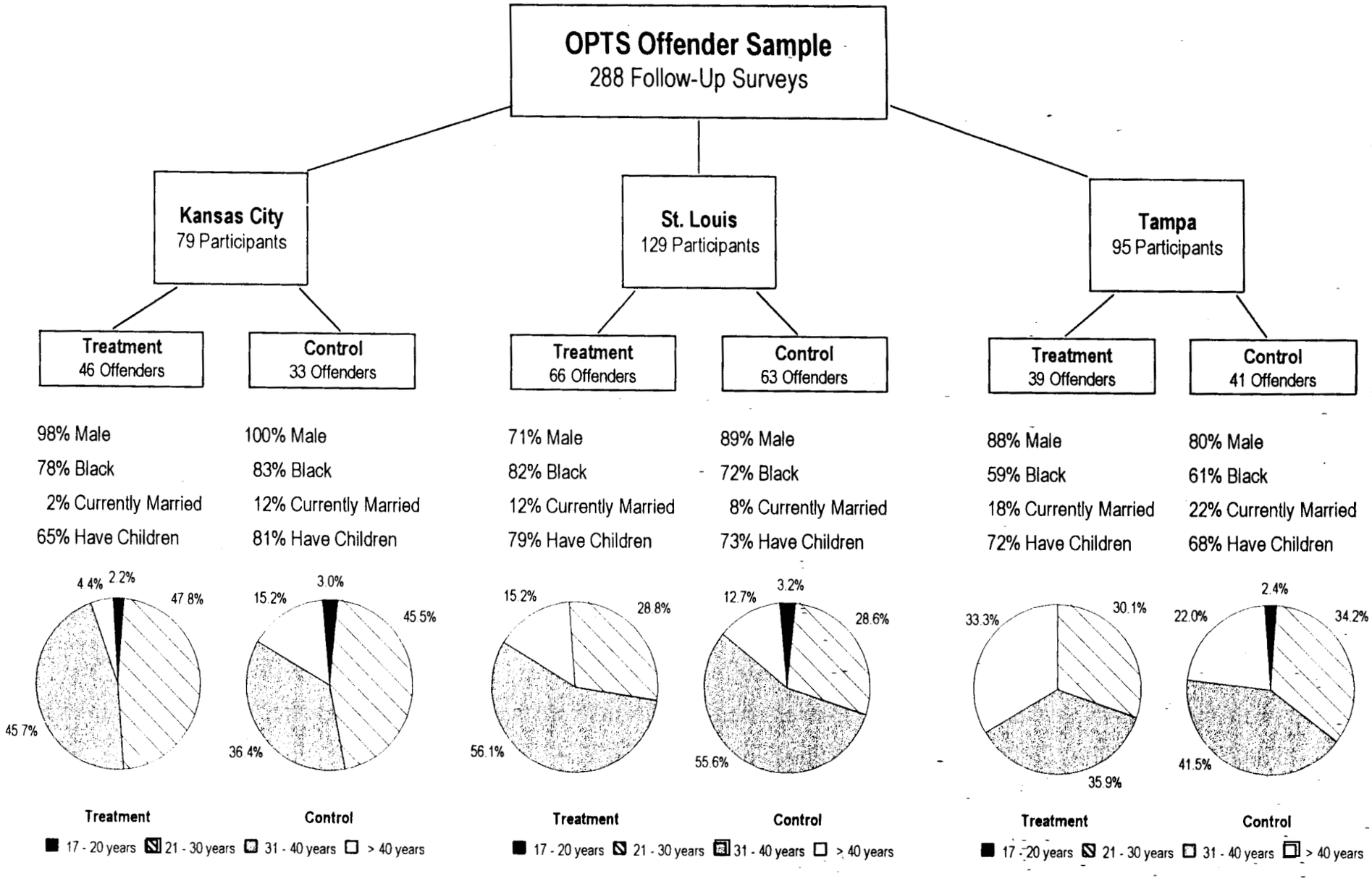

Exhibit 3-2
Pre-OPTS Substance Abuse Profile:
Use of the 18 DSI Substances (Baseline Sample N=343)

DRUG	EVER USED Percent	EVER USED N	AGE:FIRST USE (Range)	REGULAR USE Percent	REGULAR USE N	AGE: REGULAR USE (Range)	MEAN YEARS OF REGULAR USE
1. ALCOHOL	97.3	284	15 (1-36)	75.0	219	19 (10-40)	12.1
2. MARIJUANA	87.6	256	15.3 (2-35)	69.9	204	17.0 (2-38)	7.4
3. INHALANTS (glue, solvents, paint , fuel, spray cans)	6.4	21	15.3 (11-25)	2.0	6	14.3 (11-18)	1.5
4. HALLUCINOGENS (LSD, PCP, Ecstasy)	40.1	117	18.8 (12-40)	21.6	63	19.2 (13-32)	5.4
5. PILLS (downers, sedatives, tranquilizers)	24.0	70	18.6 (7-39)	14.0	41	19.0 (7-39)	7.8
6. PILLS (uppers, speed, crank)	20.8	61	18.7 (9-41)	12.0	35	19.4 (10-36)	5.7
7. AMPHETAMINES (ice, crystals)	7.2	21	19.9 (8-35)	4.1	12	22.3 (10-35)	4.1
8. OPIATES (heroin, T's and blues, dilauded)	18.2	53	20.6 (13-40)	13.7	40	22.4 (13-49)	5.7
9. COCAINE (non-intravenous, powder)	54.1	158	22.5 (10-45)	34.2	100	23.7 (11-42)	6.3
10. CRACK (freebase)	64.0	186	26.1 (11-51)	53.8	157	26.8 (4-50)	6.24
11. SPEEDBALL (non-intravenous)	6.8	20	24.9 (13-49)	3.8	11	23.6 (13-35)	7.5
12. BASUCO (Coca paste)	0.7	2	31.0 (26-36)	0.3	1	36 (36)	N/A
13. IV HEROIN	11.0	32	22.3 (12-44)	8.2	24	20.4 (12-44)	14
14. IV COCAINE	12.3	36	24.1 (12-37)	7.5	24	22.9 (14-35)	9.7
15. IV COCAINE/HEROIN (speedball-intravenous)	9.6	28	24.2 (13-45)	5.5	16	24.1 (14-45)	9.4
16. IV SPEED (ice, meth, crack)	3.8	11	21.2 (14-35)	2.4	7	23.9 (15-35)	9.1
17. IV OTHER NARCOTICS	2.7	8	19.1 (15-22)	1.7	5	17.4 (16-20)	12.6
18. ILLEGAL METHADONE	3.0	9	29.6 (13-48)	0.7	2	17.5 (15-20)	21.5

CHAPTER 4
OPTS PROGRAM OPERATIONS

The Primary Partnerships: Lead Service Agencies and Community-Based Corrections Offices

In each demonstration site, OPTS paired the local probation and parole agency -- the Missouri Department of Corrections in Kansas City and St. Louis, and the Florida Department of Corrections in Tampa -- with a social service agency. Exhibit 4-1 shows the primary partners in each location, and the staffing structure.

Exhibit 4-1
Primary Partnerships

	Kansas City	St. Louis	Tampa
Lead Agency	National Council on Alcoholism and Drug Dependence (NCADD)	Lutheran Family and Children's Services (LFCS)	Drug Abuse Comprehensive Coordinating Office (DACCO)
Probation and Parole Agency	Missouri Department of Corrections, Kansas City Office	Missouri Department of Corrections, St. Louis Office	Florida Department of Corrections, Tampa Circuit Office
Lead Agency Staff	1 Coordinator (PT) 2 Case Managers (FT) 1 Admin. Assistant	1 Coordinator (PT) 3 Case Managers (FT)[1]* 1 Admin. Assistant (PT)	1 Coordinator (PT) 2 Case Managers (FT) 1 Admin. Assistant (PT)
Probation Officer Staff	1 Dedicated PO	2 Dedicated POs*	Initially 2 Dedicated POs; subsequently a few POs in each field office

The lead services agencies in each site are nonprofit organizations with offices located in the selected target areas. The primary service activities of the lead agencies in Kansas City and Tampa are oriented to substance abuse treatment; in fact, Tampa's lead agency has a history of providing such services to offender populations. By contrast, St. Louis' lead service agency is a

[1]*A third case manager and a third PO were added when the OPTS caseload was augmented.

multi-service provider, although it had not previously focused its services on substance abusing or offender populations. Additionally, it is the only OPTS lead service agency with a religious affiliation (for more detailed discussion, see Morley et al., 1995, and Rossman et al., 1999).

Lead Service Agencies

- In Kansas City, the National Council on Alcoholism and Drug Dependence (NCADD) historically has provided a combination of direct services and referral (or information brokering) services. The former includes educational/support programs, such as How to Cope, for domestic partners of substance abusers, and Children at Risk Encounter (CARE), for children in families with substance abuse problems. Referral services include both telephone referrals and a center that assesses individuals' substance abuse treatment needs and refers them to appropriate service providers. NCADD also provides information to professionals seeking advice to make referrals for their own clients, and operates a resource center (lending library) with materials on substance abuse and related topics (NCADD, 1993).

- Lutheran Family and Children's Services (LFCS) in St. Louis had its origins as an orphanage in 1868. The agency has continued to focus on children and families in providing adoption and foster care services; family, marriage, and individual counseling; family life education; and family advocacy. LFCS expanded its community services in recent years to include transitional housing and counseling services for the homeless. Under a Cooperative Congregational Outreach (CCO) program, the agency provides employment training and placement assistance, casework and referral, advocacy, and emergency food and utility assistance in cooperation with four St. Louis congregations. LFCS also had substantial involvement with relief efforts and disaster response for the flood of 1993 (LFCS, 1993).

- Drug Abuse Comprehensive Coordinating Office (DACCO) is one of the primary providers of substance abuse treatment services in Tampa and Hillsborough County. DACCO services include assessment and evaluation; outpatient treatment programs; residential treatment centers; transitional housing units for clients in recovery; employee assistance programs; and educational programs for high-risk youth (including counseling and educational programs provided in schools and alternative school settings). DACCO also provides specialized programs, such as Substance Abusing Mothers and Their Infants (SAMI), which provides a variety of services for addicted mothers and their infants and toddlers (DACCO, undated).

  DACCO had fairly extensive involvement with the Department of Corrections prior to OPTS, providing such services as nonsecure residential treatment, assessment, case management, and outpatient treatment. DACCO participates in several programs, including Treatment Alternatives to Street Crime, for which DACCO staff monitor clients' progress and report to the Court and/or probation officer. DACCO staff also provide evaluations and case management services for offenders in the Drug Court program, and operate an Outpatient Acupuncture Treatment Component for that court.

During the demonstration period, OPTS programs in each community were contracted to provide services for specified numbers of caseload slots. Initially, each site was expected to serve 40 clients at any given time; subsequently, the maximum caseload in St. Louis was increased to 55, and reduced to 30 in Tampa.

The program strategy assigned the role of case management to the lead service agencies, anticipating that these organizations would work collaboratively with the specified probation/parole agencies and also would negotiate agreements with other local providers of core services perceived to prevent relapse and recidivism.[2] The model anticipated that each probation/parole agency would dedicate one or two probation/parole officers to the OPTS program; i.e., all OPTS clients would be under the supervision of these POs, although these officers also might supervise other offenders, depending on departmental requirements for PO caseload size.

> Case managers were expected to identify clients' service needs and link them with appropriate providers. Probation officers remain officially responsible for ensuring that OPTS clients adhere to supervision requirements and behave in accordance with the law.

Each of the local programs co-located case managers and probation officers, when this was feasible. In Kansas City, case managers and probation officers were intermittently co-located at NCADD's offices. In Tampa, case managers were given office space at the central probation office, which was the office to which the original OPTS POs were assigned. St. Louis differed from the other two sites in that both case managers and OPTS probation/parole officers were co-located with the core service providers who offered substance abuse treatment and employment search services -- essentially constituting a team approach to case management and decision making. Also, St. Louis made use of the services of a volunteer, who was a retired social worker, to extend the team's ability to link clients with various social and therapeutic supports.

Lead agencies were provided with management information systems (MIS) as part of the demonstration to permit them to track clients, recording such information as: service plans, chronologies of drug and alcohol treatment, involvement with the criminal justice system, case management contacts, drug testing outcomes, service referrals and service use, violations and sanctions. Regrettably, the MISs were not used as extensively as optimally desired to record client and service information, and they were not used as tools for such case management purposes as updating service plans and making decisions as to when to graduate or terminate clients.

Case Management

A key feature of the OPTS model is its use of case management. The model neither specifies the form case management should take (e.g., frequency or location of contact, individual or team decision making regarding service planning), nor delimits the scope of case

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[2] The sites have employed a variety of mechanisms to promote such collaboration among case managers, OPTS officers, and other service providers (e.g., co-location of offices, regularly-scheduled meetings, and joint case staffings). See Morley et al., 1998, for detailed discussion of multi-level collaboration in OPTS programs.

management activities. However, it does imply that, regardless of form, case management should involve service planning; service provision, either directly by lead agency staff or using brokered services; and monitoring of client progress. The following sections highlight these features. In general, program activities varied over time, within and across the sites, depending on: 1) individual case manager and PO styles of interacting with individuals on their caseload(s); 2) client profiles, which elicited customized responses from program staff; and 3) the local contexts, which even in the relatively short span of three years, experienced changes in departmental policies, law, and resources that impacted program delivery.

Service Planning

Although the OPTS model calls for provision of five core services, it was expected that -- aside from substance abuse treatment, which was mandatory for all participants, but would require different treatment modalities dependent on the nature and severity of the individual's addiction -- each client would have specific needs, requiring only a few of the covered services during the course of his/her program participation. Hence, one important function of the case managers was to assess client needs and develop individualized service delivery plans.

The Nature of Problems Experienced by the OPTS Sample

During their follow-up interviews, OPTS clients and control group members were asked whether a series of issues -- including activities of daily living, housing difficulties, family dynamics, employability or employment concerns, and health care -- were problems they experienced during their first 12 months post-release from incarceration (see Appendix E for the complete set of problem items and response patterns). The problems most commonly reported (identified by more than 25% of respondents) were:

- Maintaining sobriety (55.8%)
- Remaining drug free while living in their neighborhood (46.3%)
- Avoiding hanging out with family or friends who use alcohol or drugs (41.5%)
- Controlling anger or expressing anger in non-physical or non-violent ways (37.9%)
- Scheduling and keeping treatment and probation appointments that did not conflict with work hours (37.2%)
- Needing a car for work or emergencies (36.1%)
- Getting a driver's license (35.4%)
- Getting along with spouse or domestic partner (32.1%)
- Having enough money for rent deposit (30.7%)
- Finding a place to live (26.8%)
- Attending scheduled drug treatment programs (26.1%)

OPTS case managers used the early months of program implementation, before service delivery began, to develop client intake and assessment procedures. Initial assessment and plan development were typically performed in the early weeks of contact with clients, and might be

documented either formally or informally, depending on agency protocols or the individual styles of various case managers. Two sites, Tampa and St. Louis, initiated contact with offenders prior to their release from correctional or court-ordered residential facilities, beginning needs assessment and service planning in advance of the clients' return to the community. In St. Louis, this pre-release outreach had two interesting facets: 1) case managers were accompanied to the Institutional Treatment Center (ITC) by the OPTS PO (and sometimes other core team members from DART and the Employment Connection) to impress on future clients that lead agency staff and probation/parole staff were functioning as a team in supervising them; and 2) case managers and POs also jointly made home visits to families prior to the offenders' release, to explain the program and the services they would provide to clients and family members.

Within and across sites, procedures for updating service plans varied over time and depending upon individual case managers, as well as client profiles. Sometimes service delivery was changed to meet emergent client needs or in recognition of clients' progress, and new "plans" were not formally drawn up, although such changes might be reflected in case files or the OPTS MIS.

For the most part, client assessments were accomplished informally, based on case managers' perceptions of clients' needs or as a result of services requested by either the clients or supervising POs. Contrary to program planners' expectations, Tampa was the only site to use the Addiction Severity Index (ASI), which determines individuals' level of addiction to alcohol/drugs, because staff in the other locations were generally not trained to use such tools. Completion of the ASI was part of the intake process, and considered a fundamental part of the battery of assessment instruments. Although case managers in the other sites did not typically rely on standardized diagnostic instruments, some had clients complete self-assessment forms or tools. Such self-identified needs were used by case managers in developing service plans and also to remind clients of their own plans to deal with problem situations or achieve specified goals (for a more detailed discussion of service planning, see Rossman et al., 1999).

Service Provision

> Some services were available directly from the case manager or under the umbrella of the lead agency; some client needs necessitated referrals to other providers in the local community.

Theoretically, service provision under a case management model may include: 1) linchpin or brokering activities to coordinate referral and delivery of services offered by other providers; 2) interventive activities to keep clients out of institutions, provide crisis services under emergency conditions, or serve as advocates with courts and other entities; 3) therapeutic activities, including counseling and clinical therapies designed to help clients understand their strengths and problems, and to develop relapse prevention skills; or 4) integrative activities such as arranging or providing for transportation, teaching life-skills, and helping with employment or education problems. Each local program developed its own

approach, encompassing some, but not necessarily all, of these components. Key features of these activities are described below (additional detail may be found in Rossman et al. (1999); a description of specific service domains and the extent of their use is provided later in this chapter.

Linchpin or Brokering Activities

> "A case manager should be knowledgeable of community resources, and tied to community networks. The key to effective case management is being able to readily link clients to resources and services."
> *A Kansas City case manager, commenting on key qualifications for case managers*

Case managers had primary responsibility for assessing client needs and ensuring that clients were linked to appropriate services. At the systems level, resource development was a critical aspect of brokering and linking clients to services. Given the breadth of services anticipated for OPTS clients, program planners recognized that lead service agencies would be able to directly provide some, but not all, needed services. Consequently, each site was encouraged to identify local providers that could assist the lead agency in supplying the five core services to OPTS clients. Thus, prior to program implementation or shortly thereafter, local programs implemented Memoranda of Understanding/Agreement (MOUs/MOAs) with a limited number of agencies to furnish the services unavailable directly from the lead agency, as shown in Exhibit 4-2.

In their role as service brokers, case managers proactively worked to identify and leverage the services of additional providers, instead of relying solely on established partners such as those with signed MOUs (also see Exhibit 4-2 and Rossman et al., 1999, for information about these ancillary service providers). Political and fiscal factors often impacted the availability of services in the local context, in a way that destabilized existing service partnerships and required the forging of new networks. For example, the unexpected closure of Kansas City's foremost detoxification treatment program, Act One, meant case managers had to quickly identify alternative resources (in this case, Park Lane Hospital's medical detox unit) and create an in-road for client access. Similarly, in St. Louis, the program had to find new resources for clients' health care when a partnership with the Health Department was undermined by financial constraints and downsizing in that agency.

The network of service providers used by OPTS programs also was expanded beyond core service partnerships to fill gaps in service or for redundancy to ensure space in service areas where programs had limited capacity. Hence, multiple substance abuse treatment providers were needed, particularly for intensive or residential interventions, because many of these facilities have long waiting lists, making them virtually inaccessible to clients who have immediate needs. Network expansion occasionally occurred to meet one or more clients' specialized needs. For example, one Kansas City client was a habitual shoplifter, who case managers determined might

Exhibit 4-2

Overview Of OPTS Collaborative Service Delivery Structure, By Site

	Kansas City	St. Louis	Tampa
Lead Agency	National Council on Alcoholism and Drug Dependence (NCADD)	Lutheran Family and Children's Services (LFCS)	Drug Abuse Comprehensive Coordinating Office (DACCO)
Probation or Parole Agencies	Missouri Department of Corrections, Kansas City Office	Missouri Department of Corrections, St. Louis Office	Florida Department of Corrections, Tampa Circuit Office
Core[1] Providers: Substance Abuse	NCADD OPTS Group Community Recovery Home (closed 7/95) NARA Program Welcome House Fellowship House	DART	DACCO Relapse Prevention DACCO Res II Aftercare
Employment	Full Employment Council	Employment Connection	Vocational Rehabilitation Florida Job Services
Housing	Community Recovery House Fellowship House	*no core providers*	DACCO Drug Free Housing
Family, Parenting & Life Skills	NCADD How to Cope, CARE Survival Skills	LFCS Counseling Services & Workshops (Man to Man, FEW)	DACCO Relapse Prevention
Health & Mental Health	Swope Parkway Health Center Samuel Rodgers Community Health Center	OPTS volunteer counselor	Psychological Management Group
Other Service Providers	AODA TREATMENT: Act One (detox) Comprehensive Mental Health Svcs. CSTAR Gateway Residential Johnson County Substance Abuse (closed mid 1995) Imani House Kansas City Community Center (KCCC) NA/AA groups Northland Recovery (detox) T.B. Watson Park Lane Hospital Recovery Dynamics Research Medical Center SACEK (in Kansas) Central KC Mental Health	AODA TREATMENT: Agape House Archway Communities Treatment Center Dismas House (halfway house) Salvation Army-Harbor Lights (halfway house) Magdela (halfway house) Mission Gate NA/AA groups EMPLOYMENT: Adult Learning Center LFCS CCO program Voc Rehabilitation	AODA TREATMENT: Agency for Community Treatment Svcs. Crossroads Daytop Goodwill Day/Night Trtmt. VA Hospital S.A. Program Operation Par Center for Women Avon Park NA/AA groups Manna House EMPLOYMENT: Career Diagnostics Center Center for Women

[1] Core providers constitute those service providers that were a central part of the OPTS network of services, those most often used during the course of the demonstration, or those with whom OPTS initially established MOUs.

Exhibit 4-2 (continued)

Overview Of OPTS Collaborative Service Delivery Structure, By Site

	Kansas City	St. Louis	Tampa
Other Service Providers (cont'd)	V.A. Hospital EMPLOYMENT: Four West Employment Group MO Div. of Employment Security Project Prepare (AFL-CIO) apprenticeship program) Restart Southeast Community Center (ABE, GED) Swope Parkway Training Prgms. Voc Rehabilitation (also drug education) HOUSING: Gateway Residential Imani House KCCC Leisure Care LINC Recovery Zone Salvation Army Sheffield Place Shelter Plus Care V.A. Hospital (also gen. drug) Welcome House Wise Council House USCCA FAMILY SERVICES, ETC.: Ad Hoc Group Against Violence Alternatives for Anger Associated Addictions (domestic violence) Communiversity-UMKC Jr. League Thrift Store KC Corrective Training (domestic violence) Family Advocacy Network LINC (parenting) United Service Community Action Agency YMCA HEALTH and MH: Comprehensive Mental Health Anger Management Jackson County Health Clinic KC Health Dept. KCCC Truman Med. Center Central KC Mental Health	HOUSING: ALIVE Apartment Finders Dismas House (also drug treatment until 3/97) Family Support Services Harbor Lights (also drug treatment until 3/97) Harris House Oxford House St. Patrick Center FAMILY SERVICES, ETC.: Family Resource Center-home-based counseling LFCS Food Bank and Thrift Store RAVEN Sherman Weaver home-based counseling HEALTH and MH: Regional Hospital St. Louis University Health Ctr. Highland Center St. Louis Metro Psychiatric Ctr. Central Intake Unit City Health Department Hopewell Clinic Life Source St. Louis Mental Health People's Clinic	HOUSING: Chrysalis House Crossroads Transitional Housing The Spring Tampa Homeless Network FAMILY SERVICES, ETC: Hillsborough Parenting Bay Area Legal Services People Licensed Under Supervision HEALTH AND MH: Commun. Health & Human Services The Spring

benefit from assistance geared specifically to that problem. The program identified and referred this client to a local resource -- the Kansas City Corrective Training, Inc. (KCCT), a multi-service organization that offers, among other services, a rather unique anti-shoplifting education program.

At the level of individual client services, brokering client referrals generally involved case managers in the process of contacting service providers to locate or confirm availability of services. In the instances of providers who had not previously served OPTS clients, case managers had to determine what, if any, eligibility criteria existed and make sure clients could meet these requirements. Often, in addition to referring clients to services, case managers actually made and confirmed appointments (and, in some instances, physically transported clients to their appointments), or assisted clients with any necessary paperwork associated with program enrollment or fulfilling eligibility requirements.

Advocacy or Interventive Activities

> "Case managers function as advocates in the sense that one champions the cause of the underdog. OPTS clients are the underdog -- with two strikes against them, the first being their addiction, the second their criminal record. The case manager is an active advocate who works to secure opportunities for each client."
> *A St. Louis case manager, commenting that client advocacy was an essential ingredient of OPTS case management*

Case managers frequently served as client advocates in their interactions with officials in the criminal justice or social service systems. In cases where clients had multiple minor transgressions, such as missed appointments or a series of relapses, and probation officers were inclined to take a hard line (e.g., declaring the individual an absconder, or formally reporting technical violations leading to an arrest warrant, and likely revocation), case managers often advocated for giving the individual another chance or instituting a sanction and closer supervision. Similarly, case managers sometimes championed the interests of their clients before city, county, and municipal courts. Clients in focus group discussions expressed their appreciation for this support because they recognized that the case managers had credibility with the courts, and judges were inclined to accept their recommendations.

Likewise, case managers often supplied the extra degree of security desired by employers and landlords. They frequently served as clients' spokespersons, speaking to potential employers and housing managers on behalf of their clients. Case managers across the three programs reported it was not unusual for them to place follow-up calls to employers and landlords when conflicts arose, or to check on client progress in an effort to identify and resolve potential issues before they could reach untenable levels.

In addition, case managers worked to improve clients' domestic situations, sometimes using advocacy and sometimes providing emergency assistance under crisis circumstances. For

example, case managers in all three communities tried to informally advise clients on how to repair familial relationships that disintegrated under the weight of substance abuse, crime, or other anti-social behaviors such as poor anger management. At the same time, case managers might try to contact family members to inform them of a client's progress and to encourage re-unification. In a related example, one of the Tampa case managers was heavily involved in working with Florida's Department of Children and Families to assist a client in securing the return of her children. Similarly, the Kansas City program purchased an airline ticket that permitted a client to be reunited with his child.

Across the three sites, the programs routinely assisted clients in paying rent (e.g., to provide the first month's rent or security deposit), utilities, and mortgages to stave off foreclosure, etc. Such assistance was commonly structured as loans. OPTS programs also found ways to intervene in the various emergency situations clients experienced. For example, 20% of OPTS clients reportedly did not have suitable clothing for different weather conditions, 14% had a problem getting food for themselves or their families, 13% needed clothes for family members, and 11% had difficulty paying for prescription medication. The OPTS programs responded by providing emergency supplies such as food or clothing, or assisted with the purchase of medications or eyeglasses for clients or their family members. For example, LFCS, the lead agency in St. Louis, kept clothes at the OPTS office in order to offer immediate service to clients or family members; this program also provided clients and their families with items such as car seats, baby clothes, and formula.

Case managers diffused crises in other ways, as well. Over time, case managers in each site acquired beepers or cell phones that permitted them to be constantly accessible to clients (and other service providers or POs), regardless of the day or time. It was not unusual for clients to call a case manager if they felt they were on the verge of buying or using alcohol or drugs, or if they had some other immediate problem. For example, a Kansas City case manager recounted receiving a page from a client who was in the midst of a domestic quarrel that was escalating towards violence; the case manager hastened to the scene in time to mediate the situation before it moved completely out of control.

Tampa case managers and agency director had a running dialogue on whether the scope of case management should include counseling. Their views paralleled the uneasiness felt by case managers and program staff in the other two sites. Namely, some case managers felt ill-equipped to act in a counseling capacity because they lacked the training and professional expertise. Others, although technically equipped, felt there was inadequate time to offer real, clinical counseling -- that is, case managers indicated that they couldn't provide clinical counseling in addition to brokering client services, monitoring client compliance and progress, outreaching to family members, and trying to comply with reporting requirements.

Therapeutic Services Provided Directly by the Lead Agency

Although many clients were referred to other providers for substance abuse, mental health counseling, or other clinical therapies, they also received some assistance in this regard from case managers. Most of the therapeutic services directly provided by

OPTS staff consisted of informal advice and counseling that would not meet standards of clinical intervention (and clearly did not involve the administration of any prescription medication). However, in two sites (Kansas City and Tampa), client group meetings were implemented as substance abuse treatment components that were more formal interventions, regarded by many as therapeutic in nature.

Across the three programs, case managers tried to provide informal counseling, which was generally oriented toward promoting greater self-awareness, self-control, and other pro-social attitudes and behavior. For example, Kansas City case managers frequently served as sounding boards for family members' frustrations or concerns over the clients' behavior. Staff consistently delivered the message that families did not have to accept clients' negative or destructive behaviors, but that family members were responsible for their own enabling behavior(s). Case managers reminded family members that support was available to them; for example, the lead agency had several educational programs (e.g., CARE and COPE) designed to help adults and children develop more constructive responses that would be beneficial to both the client and other members of the family.

Other Direct Service Provision

Aside from the counseling or therapeutic interventions mentioned in the preceding section, each of the lead agencies directly provided one or more of the other core OPTS services, as well as engaged in other integrative activities, such as providing for transportation, helping with employment difficulties, or trouble-shooting clients' other problems.

Although they had not planned to do so, lead agencies directly delivered job-related services in addition to referring OPTS clients to one or two employment/job training services with which the primary partners had prior relationships or which they identified early on. For example, in Kansas City, NCADD sponsored a half-day "Labor Market Overview" for OPTS clients in April, 1995. Staff brought in representatives from a range of employment and training service providers, union representatives, etc., to introduce their organizations to OPTS clients, and provide information about labor market trends, skills training, and accessing resources. In all three communities, case managers were proactive in "job development," contacting and cultivating potential employers. Also, in both Tampa and St. Louis, case managers referred some clients to temporary employment agencies, which provided an opportunity for clients to update their skills in short-term jobs that sometimes led to more permanent positions.

Case managers also delivered direct services by facilitating workshop seminars and client groups. For example, NCADD implemented a life skills curriculum, *Survival Skills for Men*, and LFCS tried to encourage clients' assumption of pro-social responsibilities, by introducing first an Afrocentric *Man to Man* workshop series, and when that proved untenable, the seminar series called *Family Empowerment Workshop* (FEW).

Case managers performed other integrative activities of various kinds, helping clients to balance the mundane, yet critical, duties of everyday life. For example, case managers frequently encouraged clients to further their education, and supplied them with lists of locations and course listings for enrolling in GED courses or suggested community colleges that could offer educational advancement. In Kansas City, for instance, the case manager offered to assist clients who needed to obtain school supplies, such as course materials or art supplies.

Also, although bus passes were routinely distributed to assist clients, some service providers were not located near public transportation routes, or emergencies arose making private transportation a necessity. Lack of transportation or insufficient transportation was an issue in all three sites, and this motivated case managers to provide "taxi service" in order to ensure clients actually arrived at services to which they had been referred or achieved other expectations, such as arriving to work on time.[3] Transportation assistance was also provided for emergency situations, such as the OPTS administrative assistant in St. Louis taking a client to an emergency room for a severe toothache.

Core Services

The OPTS strategy aimed to achieve reductions in substance abuse relapse and criminal recidivism, as well as increases in other pro-social behavior, through the provision of aftercare services in the five core areas previously identified. Despite the challenges associated with identifying and securing services for OPTS clients, a considerable range of services in the core domains was evidenced across sites. The following sections provide an overview of the spectrum of services offered in each domain (detailed descriptions are provided in Rossman et al., 1999), and describe the use of the respective services by OPTS clients and controls.

As discussed previously, management information systems were provided to lead agencies as part of the demonstration. It was expected that data from these MIS' would be used to determine the number of clients referred to and receiving various services/activities. However, because the MIS' were not used as extensively and consistently as anticipated, the data were not sufficiently reliable for this purpose. Therefore, data on service use are derived from self-reports. This has the advantage of providing the same types of data for both treatment and control group members (while the MIS only contained information on treatment group members). There is more detailed data available related to substance abuse treatment than the other service areas, which largely rely on participants' reporting of referrals.[4]

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[3]Probation officers in at least one community were unsympathetic to this need, and unsupportive of case managers' involvement: they reasoned that these offenders typically had not committed their crimes within their own neighborhoods, and were well able to arrange transport when they chose to do so.

[4]The self report surveys emphasized substance abuse treatment for two reasons: 1) it was the only mandatory service; and 2) relapse prevention was one of the primary objectives of OPTS.

Substance Abuse Treatment

Substance abuse treatment services were a central focus of the OPTS initiative, as well as frequently being a condition of probation for substance-abusing offenders. Unlike the other core services that were used on an as-needed basis, OPTS clients were mandated to participate in some form of substance abuse treatment. Consequently, substance abuse treatment was the most widely implemented service component of the five domains that comprise the OPTS model.

It should be kept in mind that the substance abuse treatment provided to OPTS clients and controls was intended to be *aftercare* treatment; eligibility criteria included receipt of at least some treatment while incarcerated (the nature of this treatment is described in Appendix A). Overall, more than half of the sample (55% or 189 of the 343 individuals who completed the baseline interview) reported prior involvement in substance abuse treatment; with the exception of 7% (14 of 189), they had been actively engaged in treatment during the five years preceding their inclusion in the OPTS study. However, both exposure to treatment and length of time in treatment -- significant factors in predicting positive treatment outcomes (Inciardi, McBride, and Weinman, 1993; Hubbard et al., 1989; Lipton, 1994; Tims and Ludford, 1984; Stahler et al., 1994; Van Stelle et al., 1994) -- reportedly were limited during this same five-year period. Approximately 58% of treatment and control group members attended only one program during the five years preceding the incarceration that qualified them for inclusion in the OPTS study. The majority of the remainder attended two to four programs over all; the range of past treatment programs attended varied from one to nine, although one St. Louis respondent reported 41 past treatment programs (an unusually high number, which apparently was validated by site-based program staff).

Approximately 75% of respondents who had received pre-OPTS treatment indicated they had had less than 12 months of treatment in the preceding five years (the average length of treatment during this time frame was 7.3 months). St. Louis had the largest percentage of offenders reporting prior treatment, about 57% of that site's sample, followed by 55% of Tampa's offenders, and 53% of Kansas City offenders. However, Tampa offenders averaged the most months in treatment (9.2) in the five years prior to the baseline survey, compared to those in Kansas City (8 months) and St. Louis (6 months).

OPTS programs in each demonstration site served clients with various substance abuse problems, including alcohol abusers and individuals who were eligible for the program largely because they *sold* drugs.[5] (Presenting profiles of OPTS clients and control group members are analyzed in Chapter 5.) Ideally, a full complement of services related to alcohol and drug

[5] The OPTS initiative tacitly assumed either 1) that drug sellers also were drug users or 2) that drug-selling offenders, because of their close proximity to drugs, need some form of treatment not only to recognize the harm to others (the customers) and the potential for harm to themselves, but also to modify their behavior accordingly. However, some case managers perceived that sellers were not always users, and reportedly were reluctant to require clients who sold, but did not themselves use drugs, to attend substance abuse treatment sessions.

treatment encompasses a range of care that permits substance abusers to access services specifically matched to their individual needs. Since the programs were not limited to recruiting a particular type of drug user or addict (e.g., heroin addict or chronic cocaine abuser), the local OPTS networks of treatment services had to be diverse to adequately address client needs.

Research conducted by the U.S. Department of Health and Human Services' Center for Substance Abuse Treatment (1994) suggests that such a continuum includes at least three components: 1) pretreatment services[6], 2) various outpatient programs, and 3) short- and long-term inpatient treatment. Two other components also are desirable: detoxification regimens and support groups that offer relapse prevention assistance.

The three sites varied with respect to the nature and extent of services available to OPTS clients. In general, the range of substance abuse interventions was based on availability of the different types of services within each community. Each encompassed a wide variety of program types from support groups that met once or twice weekly to residential treatment facilities designed to offer inpatient care for more serious addictions. Some of the substance abuse services were provided directly by the lead service agencies or under MOUs with core partner organizations, others were accessed on a case-by-case basis. Exhibit 4-3 presents an overview of the types of substance abuse services provided.

Figure 4-1 details the number and percentage of OPTS clients and controls who reported use of the different types of drug treatment services[7] (respondents could use more than one type of service) The most widely used form of treatment by far was self-help groups (AA/NA), used by 77.6% of OPTS clients and 69.1% of controls. Outpatient treatment was the second-most common form of treatment, while methadone maintenance and acupuncture were rarely used. OPTS clients used the various types of residential treatment (halfway houses, and short- or long-term residential programs) and detox programs more than controls.

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[6] Pretreatment services generally consist of substance abuse education, and monitoring, screening, and possible referral at the early intervention level. Such services typically are not considered primary treatment, but are used as a tool in prevention and possibly early intervention. For OPTS clients, prevention services were not used, because nearly all clients had histories of alcohol or drug abuse. The few who reported no problems ever with substance abuse were either in denial (or possibly fabricating the truth) or were eligible for OPTS because of their conviction for the delivery or sale of drugs.

[7] These data derive from the self-report follow-up questionnaire, which asked respondents about intensity, duration, and frequency of use for nine different types of treatment services (not counting medication), including: detoxification programs, halfway houses, short-term residential programs (up to 30 days), long-term residential or therapeutic community programs, methadone maintenance programs, AA and NA support groups, outpatient drug treatment, other counseling programs or support groups/aftercare programs, and acupuncture treatments.

Exhibit 4-3
Substance Abuse Treatment Services

Self-Help Groups. The best known groups are Alcoholics Anonymous (AA), Narcotics Anonymous (NA), and Cocaine Anonymous (CA). These three programs are based on the 12-step model of recovery that has a largely spiritual base, focuses on abstinence, and encourages active participation in self-help meetings and related activities. As individuals become members, they may be linked to a sponsor, who is a person in recovery. A sponsor's relationship to the newer member is similar to that of a mentor.

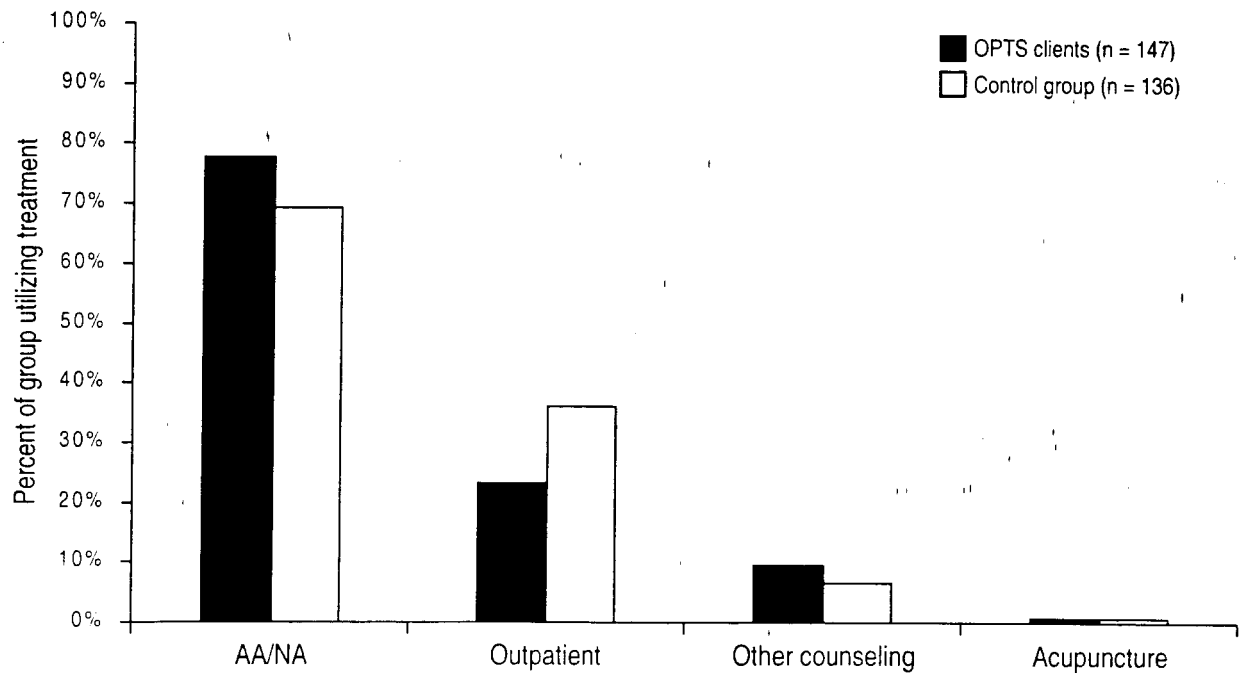
Outpatient Treatment. Outpatient treatment can include highly professional psychotherapy or simply informal, facilitated peer group discussions. Individual and group therapies are usually the most popular types of counseling, but counseling can include peer group support, marital counseling, anger management, vocational therapy, and cognitive therapy. Outpatient programs fall along a continuum from intensive (9 or more hours per week in a structured setting) to non-intensive interventions (less than 9 hours per week). Non-intensive programs often address emotional and social issues that impact a client's potential for relapse. Another type of outpatient program offers support groups modeled on 12-step programs; these are based on the principle of total abstinence (consistent with AA/NA), but use certified counselors who are often recovering addicts to conduct group and individual counseling. In addition, outpatient treatment may include methadone maintenance.

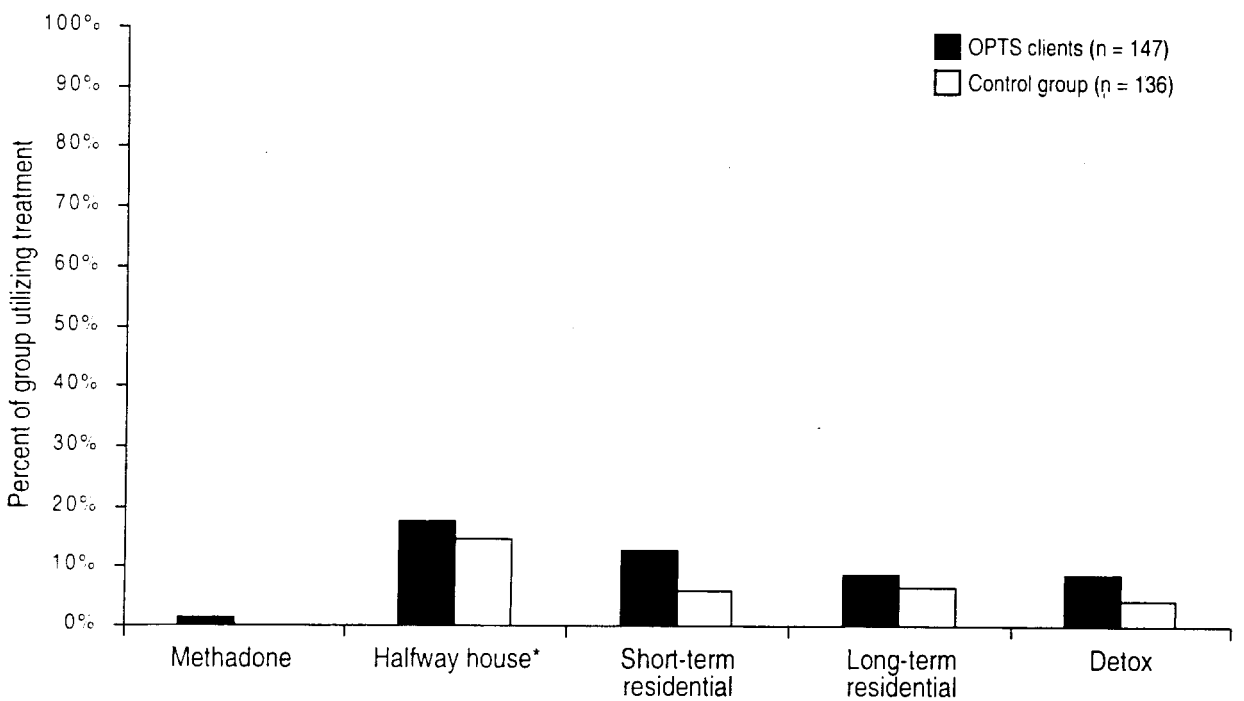
Residential Treatment. Residential programs range from non-intensive, community-based treatment to more intensive inpatient therapies that include medical, psychiatric, and psychosocial treatment provided on a 24-hour basis. Programs differ in the intensity of the intervention(s), particularly substance abuse services, and the time frame required to successfully complete on-site treatment. Residential programs include halfway houses, which ideally offer supportive living environments and a range of other services aimed at reducing relapse risk. Other types of residential programs emphasize substance abuse treatment: intensive residential programs generally use a specific treatment modality or type of therapy such as therapeutic communities or reality therapy. These may range from short-term programs, typically 30 or fewer days, to longer-term programs of several months to one year or more of institutional care, followed by community-based aftercare services.

Detoxification Programs. Detoxification -- or medically supervised withdrawal from a substance -- is often the necessary first step for many patients. This is usually provided as an inpatient service in a hospital or medical setting, but persons needing detoxification can be treated in outpatient settings as well. Detoxification can take any number of days, although such treatment generally does not exceed one week. It is often used prior to admission to an inpatient or outpatient treatment program since the client needs to withdraw from the substance s/he has been abusing before beginning to cope or deal with the addiction. Not all programs offer medical detoxification; some provide only social detoxification, which has become more popular in recent years, where no medication is used to assist the withdrawal from drugs.

FIGURE 4-1.

Substance Abuse Services Used During First Year of Supervision, by Group*





Individuals could use more than one type of service

Exhibit 4-4 shows patterns in use of substance abuse treatment. The majority of both treatment and control group members received more than one type of treatment service. Individuals might use multiple services simultaneously (e.g., they might participate in AA/NA meetings while living in a halfway house or residential treatment facility), or sequentially. OPTS clients were referred to a greater number and variety of treatment services than control group members -- 23.5% of OPTS clients reported receiving AA/NA services plus two or more other services, compared with only 12.2% of the control group. In addition to greater use of multiple services, OPTS clients were less likely to receive *no* substance abuse treatment than controls -- only 14.3% of OPTS clients did not report receiving treatment services, versus 21.3% of controls.

Exhibit 4-4
Patterns in Use of Substance Abuse Treatment During First Year of Supervision

	OPTS Clients (N=147)	*Control Group (N=136)*
No Services	14.3	21.3
AA/NA Only	29.3	19.1
AA/NA + 1 other treatment	25.3	37.4
AA/NA + 2 other treatments	16.5	10.1
AA/NA + 3 other treatments	5.6	.7
AA/NA + 4 other treatments	.7	1.4
AA + 8 other treatments	.7	----
1 non-AA/NA treatment	7.4	6.6
2 non-AA/NA treatments	----	2.8
3 non-AA/NA treatments	.7	----

Employment Services

Although participation in employment services was not a requirement for OPTS clients, they (and controls) were expected to be fully employed as a condition of their probation or parole supervision (employment patterns of both groups are discussed in Chapter 7). As was the case with substance abuse treatment services, each site established MOUs or close working relations with organizations that could provide employment services for OPTS clients needing assistance in finding jobs.

As previously presented in Exhibit 4-2, Kansas City OPTS aligned with the Full Employment Council and also used the services of the Missouri Division of Employment Security. St. Louis primarily relied on the services provided by the Employment

Connection, which was co-located with the DART substance abuse treatment program, and OPTS case managers and PO staff. Tampa OPTS most often used the services of the Florida Job Service. Both St. Louis and Tampa used Vocational Rehabilitation services for eligible clients. Most of the collaborating agencies have experience serving low-income populations and offer program components developed for populations with characteristics similar to OPTS clients.

Across the sites, the various employment organizations provided a range of services, differing in intensity and duration. Core elements included:

- Assessment of clients' skills and career interests.
- Basic job search skills training, largely focused on how to: develop a resume, fill out applications, identify job openings, and conduct themselves in job interviews.
- Job referral and placement services.

A few agencies offered more extensive services, such as adult basic education or GED courses, vocational skills training, apprenticeship programs or other opportunities for on-the-job training, or support services for work-related needs (see Rossman et al., 1999, 1998a, and 1998b, for additional details).

Figure 4-2 depicts the percentage of OPTS clients and controls who reported that they were referred for various employment-supportive services. Many of the referrals in this domain were for services most commonly associated with employment, such as filling out job applications, obtaining a GED, or getting along with co-workers. However, some of the referrals addressed problems that were not directly related to employment, but affected the individual's ability to obtain or keep employment, such as transportation.

OPTS clients received more referrals for employment-related assistance than controls in all but two categories (in which the differences were not statistically significant): working on a GED and scheduling and keeping treatment and probation appointments that do not conflict with work hours. In many cases, OPTS clients reported receiving significantly more referrals than controls, including assistance directly related to obtaining employment: 40.9% of OPTS clients received help identifying job openings, 31.8% were assisted in learning how to interview for jobs; and 25.7% receiving help related to filling out job applications, compared to 17.5%, 6.6%, and 7.3% of controls, respectively. OPTS clients also received significantly more assistance with ancillary needs. For example, 39.3% of OPTS clients received assistance using public transportation (e.g., bus passes), compared to 8.1% of controls; and 26% of OPTS clients

FIGURE 4-2.

Referrals for Employment Assistance, by Group

REFERRALS FOR ASSISTANCE TO RESOLVE EMPLOYABILITY BARRIERS

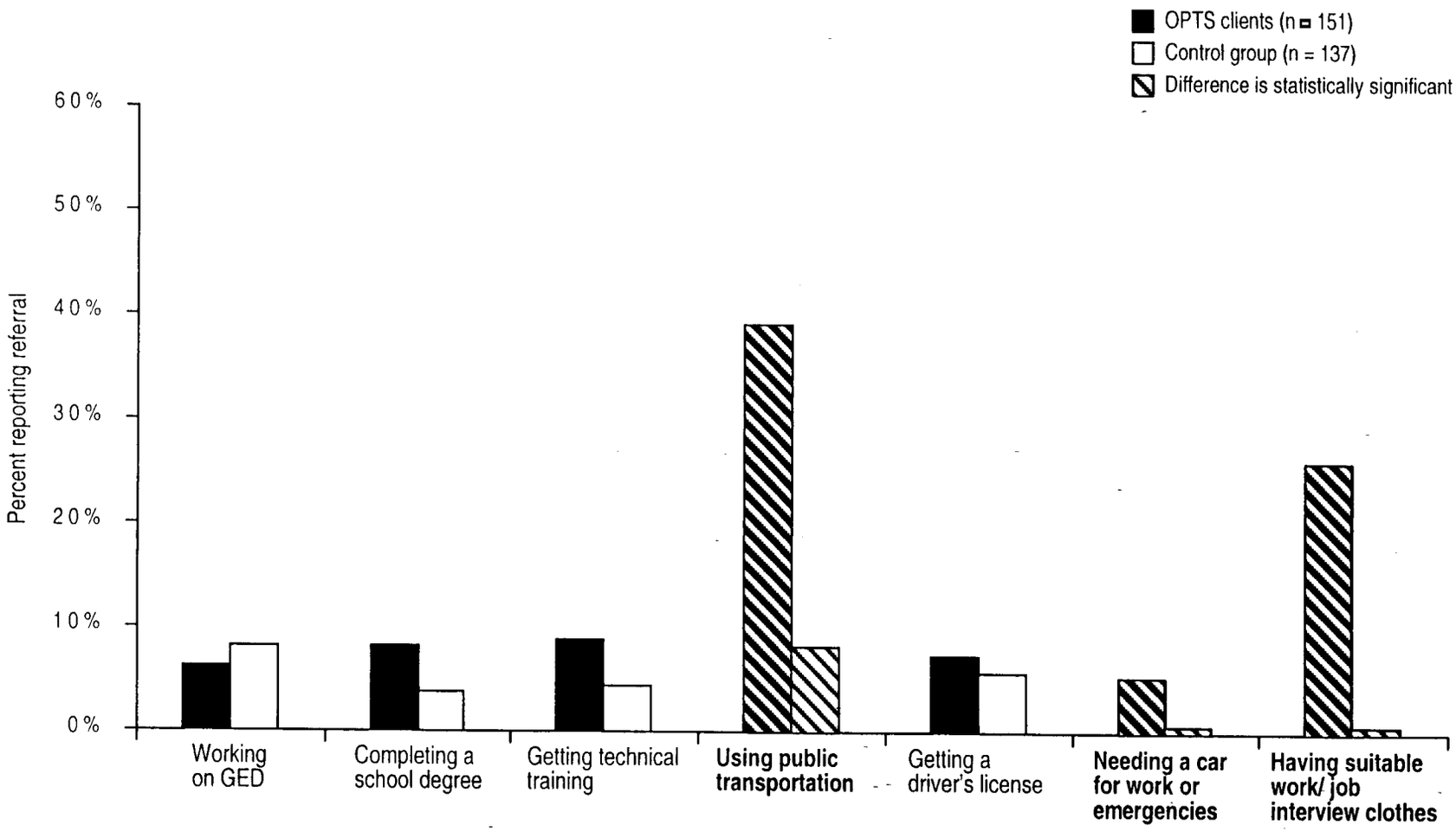


FIGURE 4-2. (CONTINUED)

Referrals for Employment Assistance, by Group

REFERRALS FOR ASSISTANCE WITH JOB SEARCH

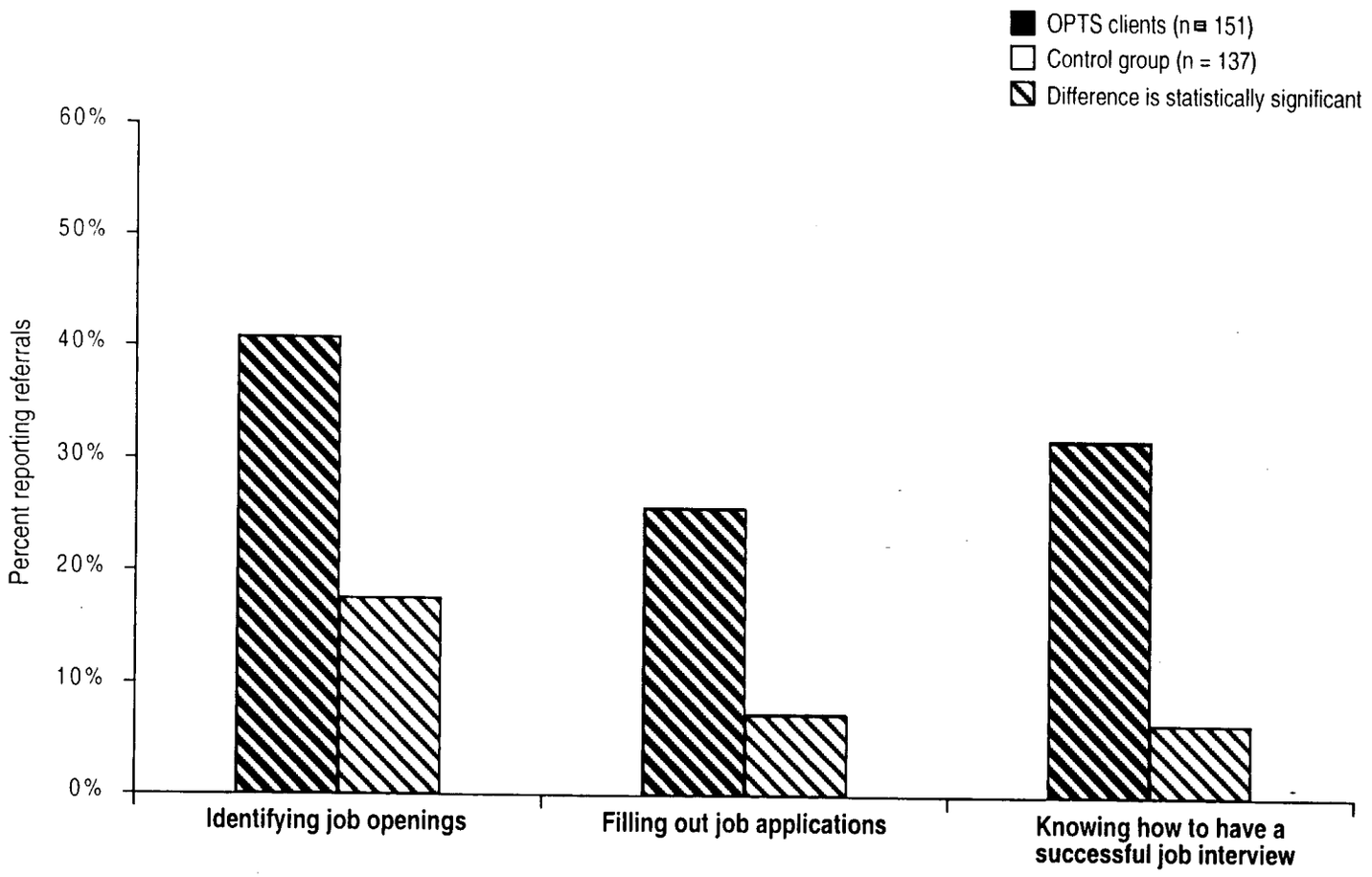
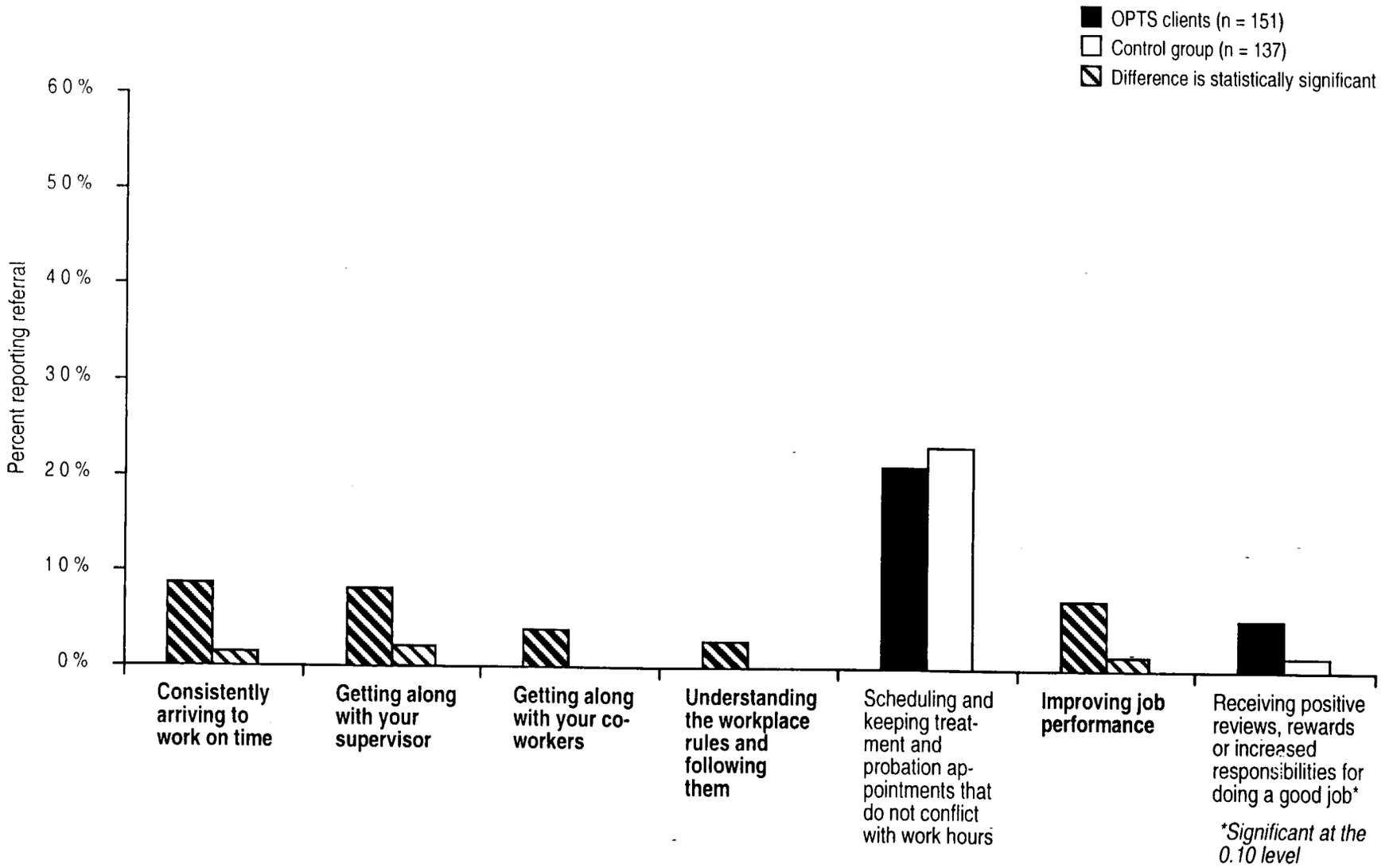


FIGURE 4-2. (CONTINUED)

Referrals for Employment Assistance, by Group

REFERRALS FOR ASSISTANCE WITH WORKSITE PROBLEM BEHAVIOR



received assistance in obtaining clothing for work or interviews, compared to 0.7% of controls.

Housing Services

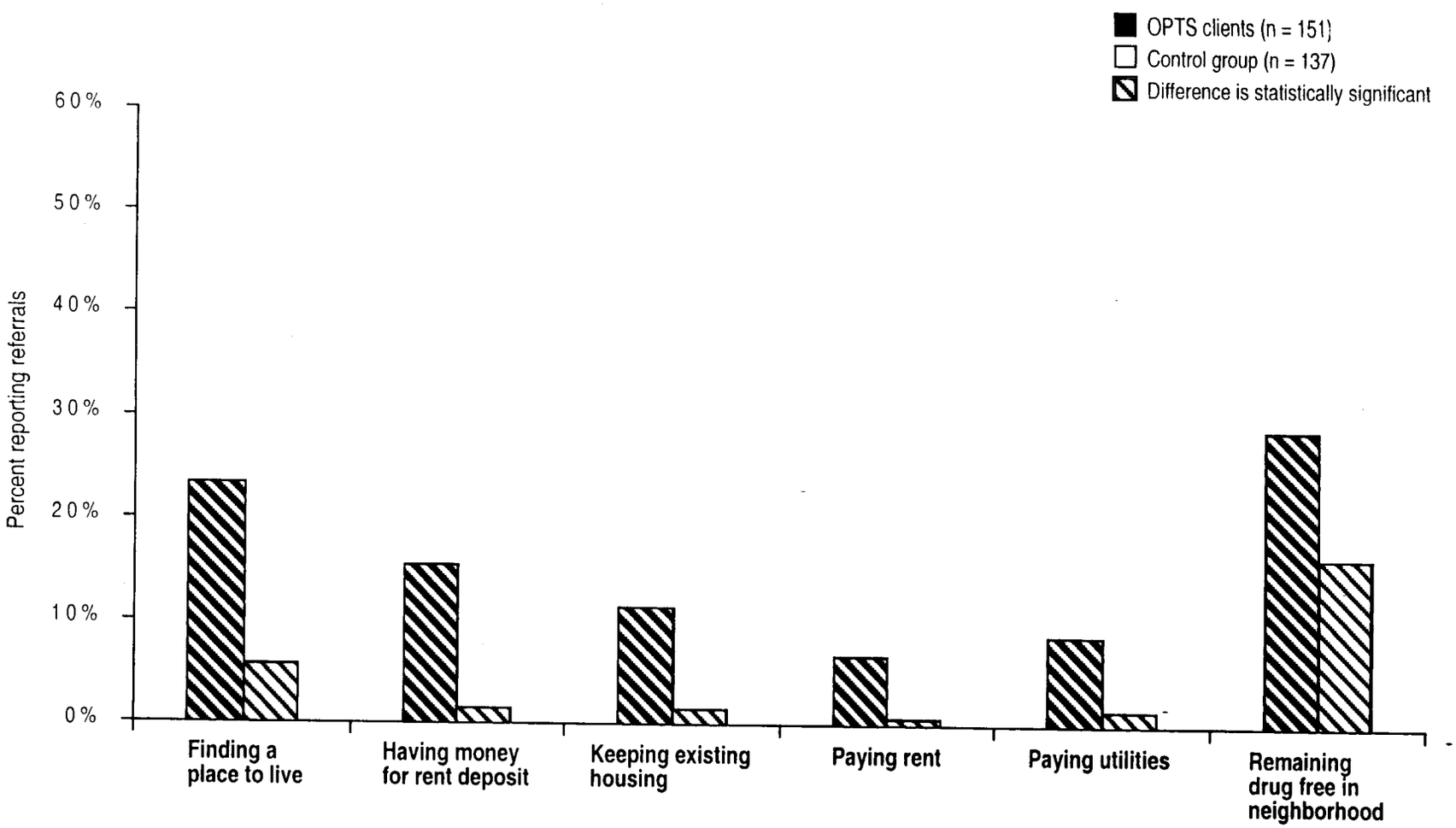
Individuals may require housing assistance for a variety of reasons, such as homelessness, unsuitable living arrangements, or high-risk and drug-infested accommodations that make it more difficult for them to remain in recovery. Release requirements of correctional institutions typically regard the transfer of offenders to community-based supervision as contingent on home plans that demonstrate designated living arrangements in the community are satisfactory. However, some OPTS clients were unable to establish suitable home plans, necessitating housing assistance as part of their return to the local area. Other clients encountered difficulties that required drug-free, transitional housing once in the community; these included such crises as family or domestic relations that deteriorated after the individual returned home, client relapse or concerns about increasing risk of relapse, or drug use in the home or surrounding neighborhood that threatened or compromised the individual's ability to maintain sobriety.

Under the OPTS model, clients could access a variety of housing assistance, including: 1) placement in supportive, drug-free housing such as halfway houses, group houses, and apartments to share; 2) crisis shelter when domestic situations deteriorated, necessitating immediate relocation; and 3) provision of emergency funds to cover unexpected expenses. Sometimes clients expressly requested assistance; other times, case managers assessed living arrangements as unhealthy or not conducive to recovery, and initiated a change in housing. Various housing placements had the added advantage of offering residents a range of on-site amenities in addition to shelter; these included such services as counseling, support groups, life skills training, or employment placement. As with substance abuse treatment and employment services, lead agencies directly delivered some services to clients, while also referring individuals who needed assistance to other community-based providers who could help resolve their housing difficulties.

Figure 4-3 shows the percentage of OPTS clients and control group members who said they were referred for help in solving various housing-related problems during the twelve months following their return to the community. OPTS clients received considerably more housing referrals than controls (differences were statistically significant in all cases). Notable differences can be seen in services associated with obtaining housing -- 23.2% of OPTS clients received help finding a place to live, and 15.3% received help associated with money for a rent deposit, compared to 5.8% and 1.5% of controls, respectively. The largest percentage of referrals (for both treatment and control group members) was associated with problems encountered remaining drug free while living in their neighborhood.

FIGURE 4-3.

Referrals for Housing Services, by Group



Family Strengthening and Skills Building

Family services were incorporated in the OPTS model to address risk factors associated with family instability. The model allowed for some autonomy in determining the nature of services under this component. The model originally focused on the need for parenting training, but this subsequently was broadened to comprise a range of activities that were compatible with reducing anti-social family and peer pressures in offenders' lives, as well as enhancing clients' general self-sufficiency. Thus, services offered included: basic life skills, anger management and domestic violence counseling, family or marital counseling, and other activities designed to end violent or destructive domestic behaviors and help clients assume responsibility for their children/families and themselves.

Among the critical services provided to OPTS clients were family advocacy and emergency assistance. Educational programming, counseling services, and family support services were provided to varying degrees, within and across the three sites during the three-year demonstration period. OPTS client attitudes about family and social responsibilities were addressed through workshops, seminars, and one-on-one time with program staff.

> In Kansas City, efforts to strengthen offenders' relationship with family included providing one client with the funds necessary to fly his daughter from California back to Missouri: the OPTS client expressed the desire to resume his role as primary caregiver when his daughter reported an abusive relationship with her mother (she also had asthma and felt living in Missouri would be better for her condition).

Figure 4-4 portrays the percentage of OPTS clients and control group members who self-reported that they were referred for various types of family strengthening or life skills services. OPTS clients received considerably more referrals than controls (differences were statistically significant in all cases except services associated with getting along with friends). Particularly notable differences were associated with referrals for clothing and food -- 27.3% of OPTS clients received referrals to obtain clothing for different weather conditions, and 14.7% received referrals to obtain food for themselves and their family, compared to 2.2% of controls (for each of these services). Large differences also were associated with services to improve relationships: 22.5% of OPTS clients were referred to services to help them control/express their anger in non-physical and non-violent ways, and 17.5% were referred to services to help them get along with their spouse/partner, compared to 9.6% and 3.7% of controls, respectively.

Exhibit 4-5 shows the percentage of the sample who reported participating in training programs, workshops, or counseling that focused on parenting issues. OPTS clients consistently reported somewhat greater participation in such parenting-related services than controls. However, the difference was statistically significant for only one

FIGURE 4-4.

Referrals for Family Strengthening, Life Skills, and Self Sufficiency, by Group

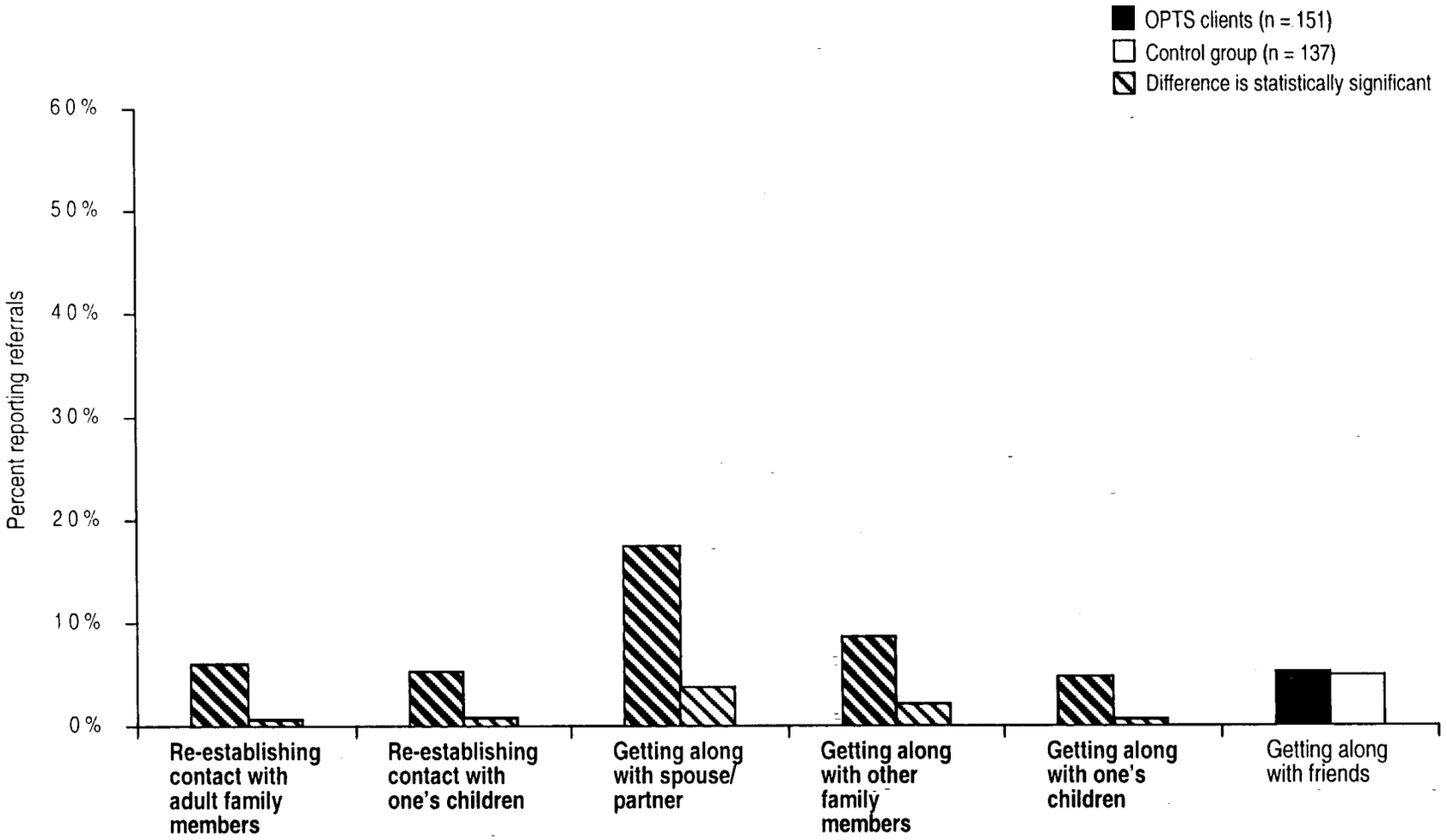


FIGURE 4-4. (CONTINUED)

Referrals for Family Strengthening, Life Skills, and Self Sufficiency, by Group

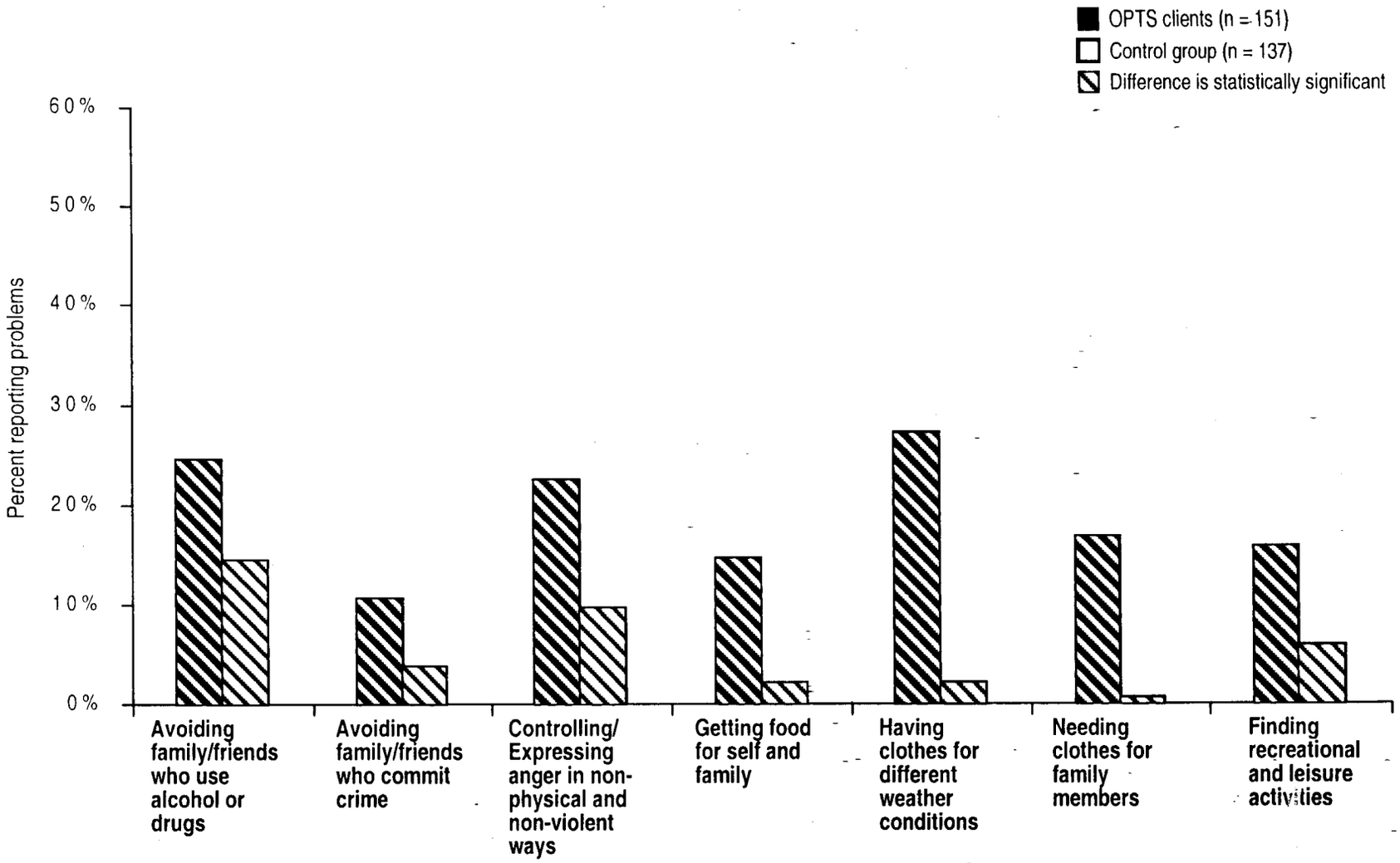
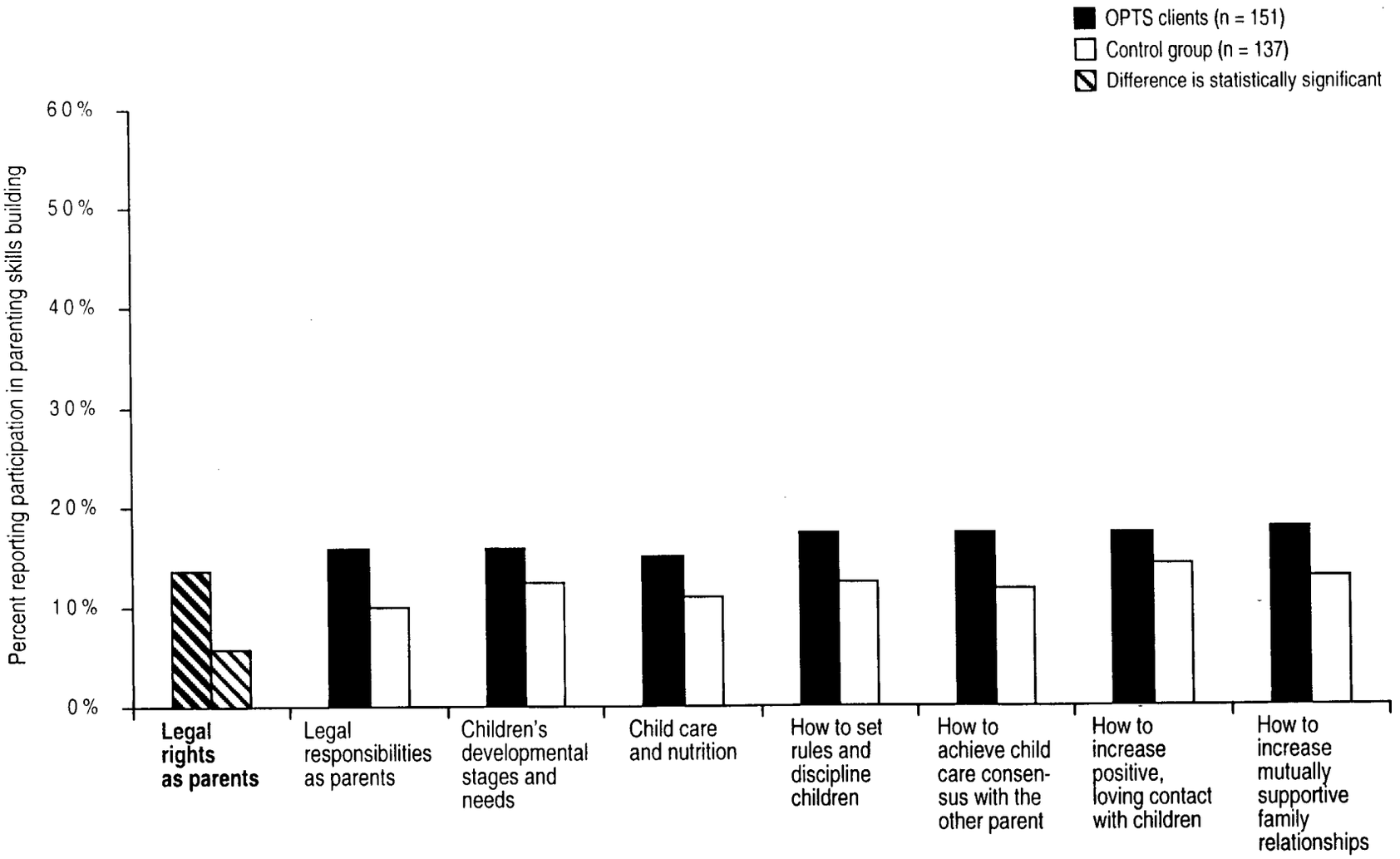


FIGURE 4-5.

Participation in Parenting Skills Training or Counseling, by Group



topic -- legal rights as parents -- for which 13.5% of OPTS clients received services, versus 5.8% of controls.

Medical and Mental Health Services

Health and mental health services, including such care as routine examinations, dental care, eye glasses, prescription medications, and psychiatric evaluations, were among the OPTS core service domains. Of the three sites, only Kansas City negotiated MOU's with local health care providers as a mechanism to ensure client access to medical and mental health services. Its core providers included two of the city's comprehensive health care clinics; when appropriate, case managers used the Veterans Administration Hospital as a resource for more comprehensive psychiatric treatment. In St. Louis, a partnership initially arranged with the city's Health Department dissolved due to departmental budget cuts, and the program unexpectedly had to rely on the Regional Hospital and its various satellite clinics.. Clients also were referred to several of the city's university-affiliated medical clinics and community-based clinics, which also provided primary mental health services. Through OPTS, St. Louis clients also could access a private therapist who would conduct counseling sessions in the client's home; the program's volunteer cultivated this service in response to client's resistance to mental health services. Tampa reportedly did not pursue MOUs with health care providers partially due to the lead agency's substance abuse treatment provider status, which presumably included protocols for accessing medical care needed by clients, and also because the local area has numerous clinics for the city's indigent population.

Figure 4-6 shows the percentage of OPTS clients and controls who said they were referred for various health care services. OPTS clients received considerably more referrals for health care than control group members (differences were statistically significant in all cases). In fact, no control group members reported receiving referrals for half of the services identified (dental care, eye care/glasses, and prescription medication). Health services associated with maintaining sobriety were used most heavily by both treatment and control group members (53.3% and 37.5%, respectively).

Services Summary

As shown in the previous sections, OPTS clients generally were referred to more services in the core service domains than control group members. In addition, as shown in Figure 4-7, OPTS clients tended to receive services across more domains -- that is, to receive a more comprehensive suite of services -- than controls. Altogether 66% of OPTS clients were referred to services in three or more domains (i.e., in 3, 4, or all 5 of the core service areas) compared to only 17% of control group members; moreover,

FIGURE 4-6.

Referrals for Health Care, by Group

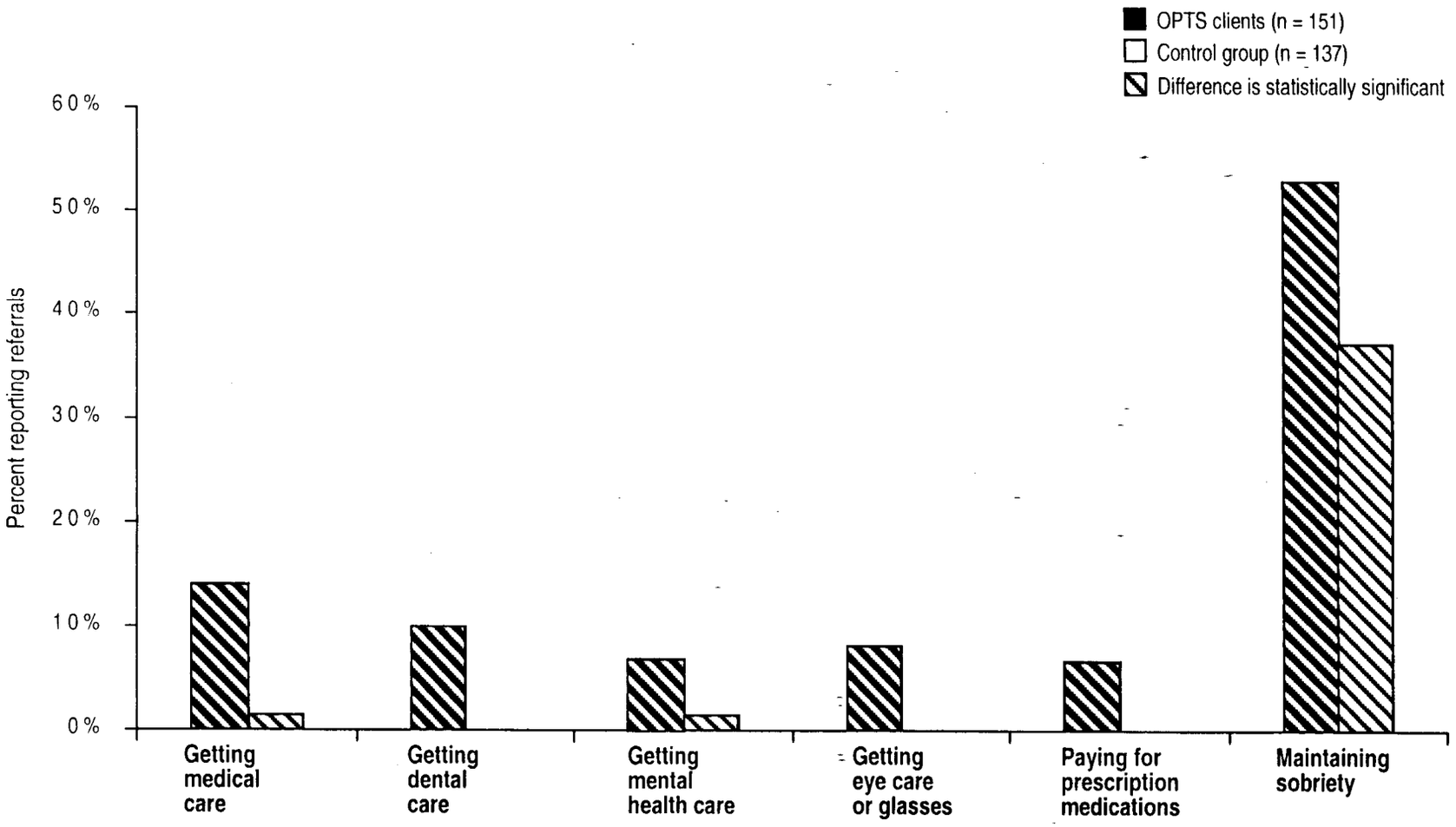
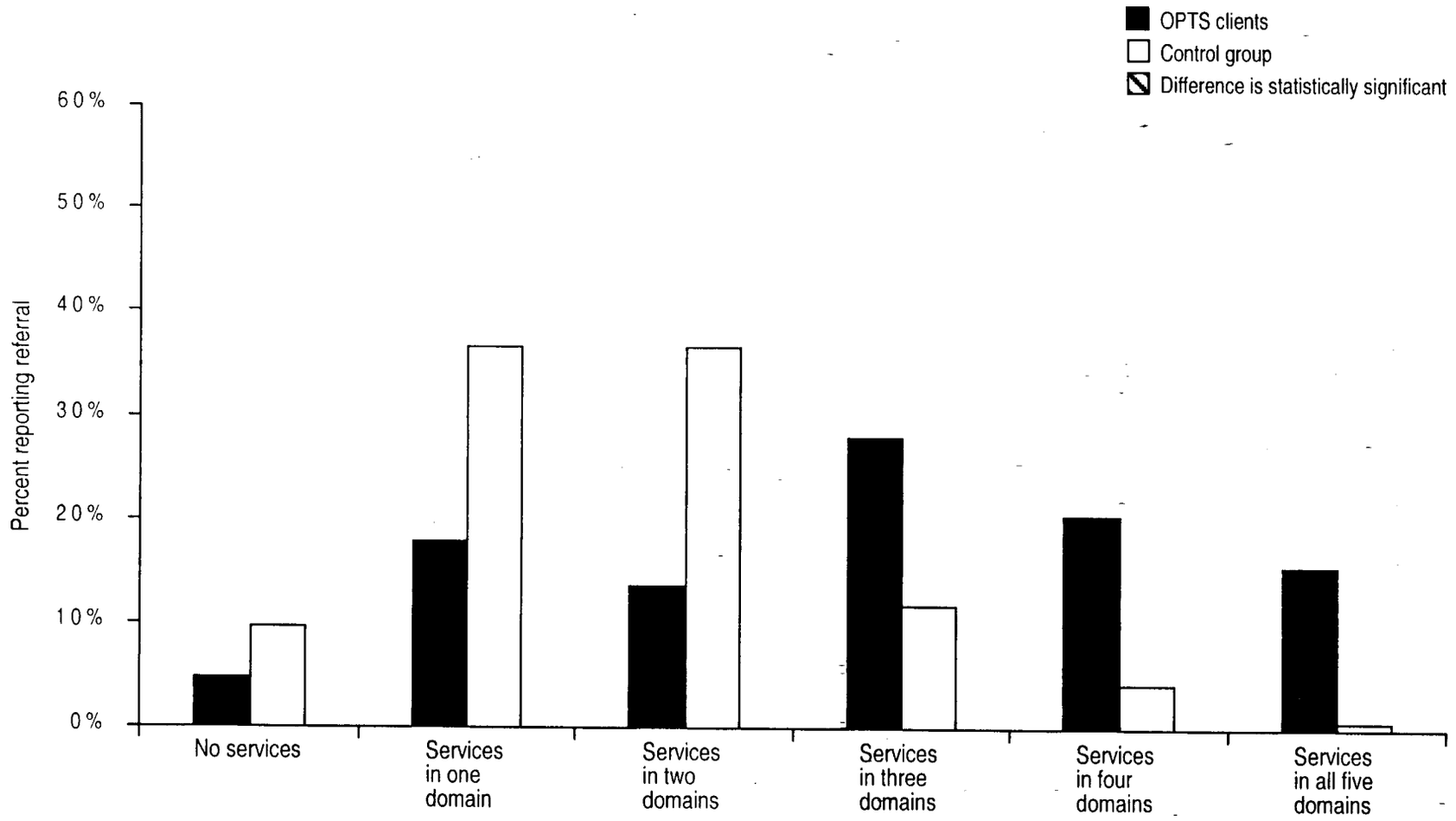


FIGURE 4-7.

Comprehensive Services: Service Referrals in Multiple Domains,* by Group



*Services in five domains were possible: (1) substance abuse treatment, (2) employment, (3) family strengthening and life skills, (4) housing, and (5) health

15.6% of OPTS clients, compared to fewer than 1% of controls, received services in all five domains. At the other extreme, approximately 10% of controls reported they received referrals to *no* services, while only 4.8% of OPTS clients reported no services.

Monitoring and Supervision

Under the OPTS model, case managers have responsibility for monitoring client progress. Monitoring entails several activities, undertaken individually or in conjunction with cognizant POs to ensure consistency in supervising clients, including:

- Client contact to assess on-going service needs, as well as progress in achieving individual and programmatic goals.
- Communication with external service providers to verify clients' compliance with programs and services to which they have been referred, and to determine whether anticipated outcomes are being achieved.
- Urinalysis testing to independently establish that clients have not relapsed.
- Use of graduated sanctions and incentives to hold clients accountable for non-compliance or other transgressions, while motivating them to demonstrate desired behaviors.

Highlights of these activities are described below (a detailed discussion of monitoring and supervision is provided in Rossman et al., 1999).

Client Contact

In theory, case manager contact with clients serves multiple purposes: 1) on-going interaction between case managers and clients, as an adjunct to probation officer oversight, facilitates the intensive supervision anticipated by the OPTS model; 2) it is also a mechanism for tracking client progress and changes in service needs to provide direction for updating service plans and referral to brokered services; and 3) it affords the opportunity to directly deliver services, such as informal or therapeutic counseling, as previously described. Through frequent interaction with clients, case managers can become aware of high-risk behaviors, relapse, criminal activities, or other failures to adhere to probation or parole requirements. Ideally, this contact positions case managers to detect emergent problems before they reach crisis proportions and undermine individuals' abilities to remain sober and otherwise succeed at home, at work, and in the community.

Case manager contact typically occurs in several ways: telephone contact, individual office visits, and home visits (or, occasionally, visits at the client's workplace or other location). Home visits differ from other forms of contact in that they provided an opportunity for case managers to meet, and interact with, other family members or housemates of the client, and are often used as an opportunity to identify needs of other family members/domestic partners, and to refer them to services. In addition, home visits, particularly the initial visits, are used to obtain a sense of the appropriateness of the client's surroundings, which sometimes resulted in efforts to find other housing in cases where, for example, family members or other residents appear to be involved in drug use, or when drug trafficking appears prevalent in the immediate neighborhood.

Prior to program implementation, each of the three local programs planned to have case managers meet fairly frequently with OPTS clients, and two anticipated that a phased system would be used, with contact decreasing over time. Based on discussions with program staff, Kansas City and St. Louis adhered fairly closely to the planned frequency of case manager-client meetings. While Tampa did not stipulate frequency of case manager contact at the outset, as the program was implemented, case managers seemingly adopted the practice of weekly meetings with new clients.

> The St. Louis program initiated an additional component to augment its case management activities. Clients are required to make daily telephone contact with the OPTS administrative assistant at the lead agency for the first six months post-incarceration. Clients may identify specific needs (e.g., clothing, health care, bus passes) during this call, to be passed on to the case manager. This contact also assists in monitoring clients, in that case managers make efforts to locate clients if they do not call in regularly.

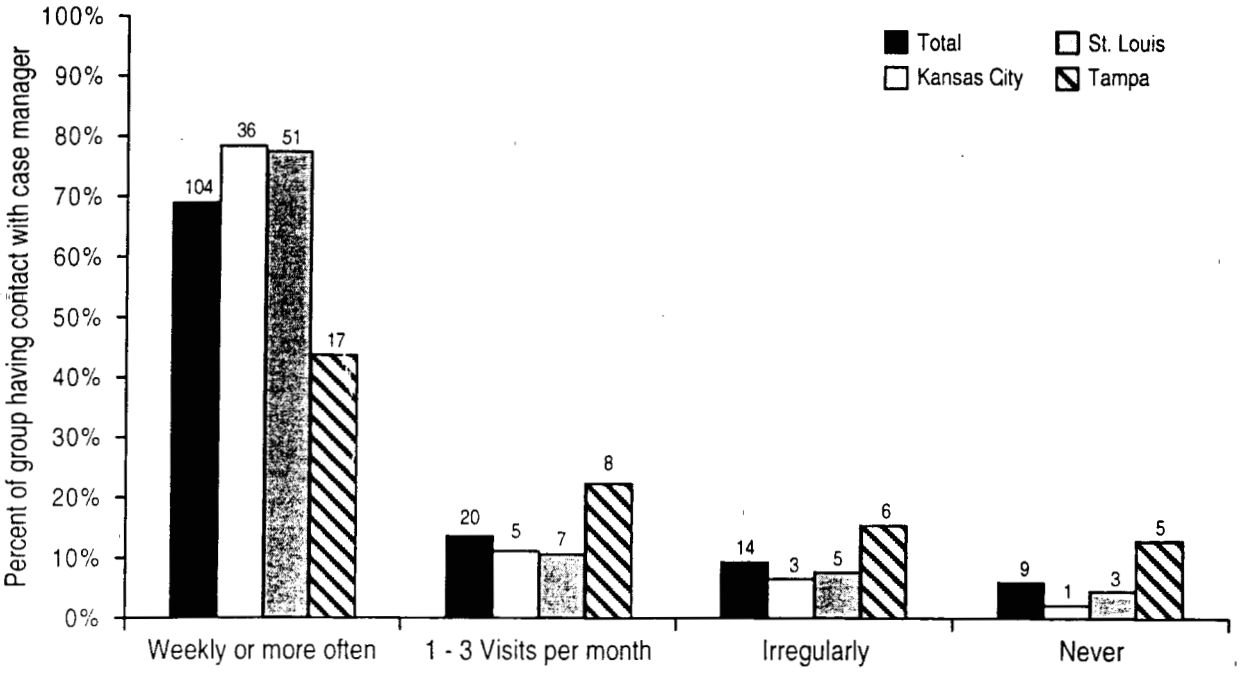
Figure 4-8 presents self-report data on frequency of case manager in-person meetings during the first and last three months of clients' first year in the OPTS program. Overall, 69% of clients reported they met with their case manager at least weekly during the first three months of participation; this included 19% who reported daily or almost daily meeting during that quarter. In addition to in-person contact, 25% of clients (i.e., 26% of Kansas City, 34% of St. Louis, and 10% of Tampa cohorts, respectively) reported daily telephone contact with case managers during this same timeframe. An additional 37% of clients across the three sites reported weekly telephone contact. In general, the frequency of contact diminished over time.

Across the three sites, the intensity of contact varied depending on case managers' styles of client interaction, client needs, and also other demands on case managers at any given time. Office visits might last 30 minutes to an hour, but could be more or less intensive depending on circumstances. Regardless of routine patterns of contact, all sites reported that case managers increased contact with specific clients on an as-needed basis. Thus, a client in a crisis situation (e.g., having a relapse, being evicted), or one with particularly difficult problems or service needs, received considerably more contact,

FIGURE 4-8.

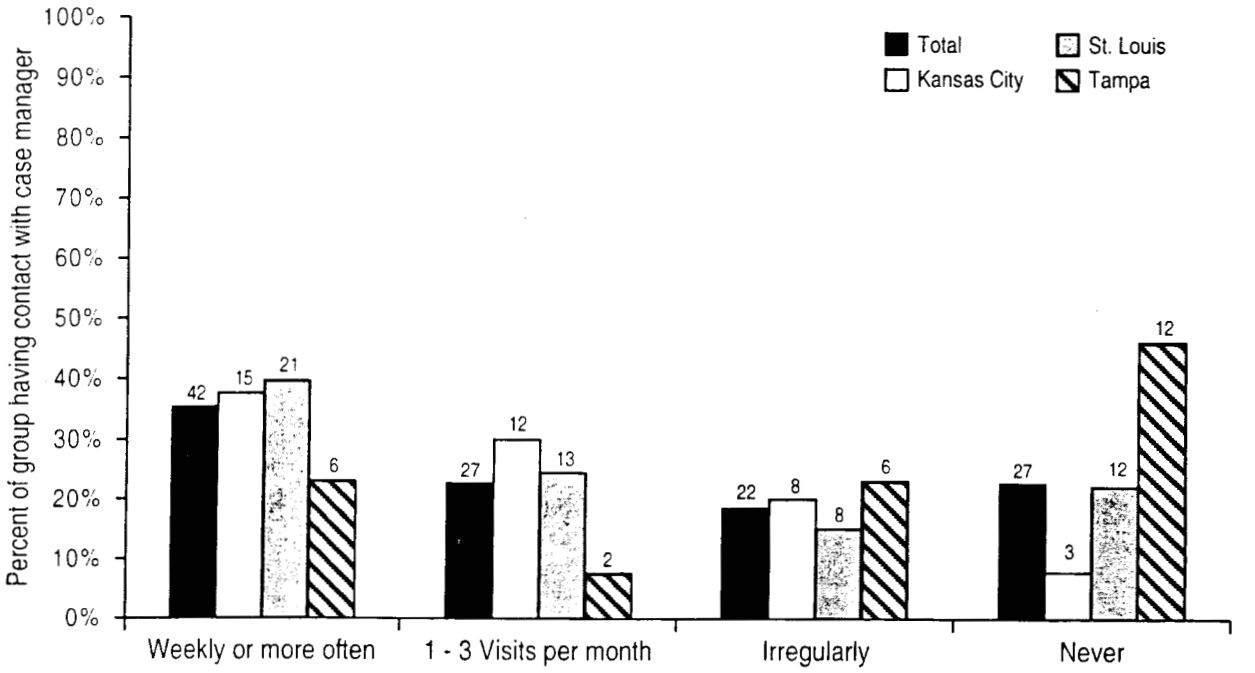
In-Person Contact with Case Manager During Clients' First Year of OPTS Participation

FIRST 3 MONTHS



Note: Ns are reported at the top of each bar

LAST 3 MONTHS *EXCLUDING THOSE INCARCERATED DURING LAST 3 MONTHS*



Note: Ns are reported at the top of each bar

perhaps including daily meetings or telephone contact, several home visits per week, etc., until that situation was resolved. As a result of this intensive responsiveness to such needs, however, case manager contact with some other clients during that time period may have been reduced, particularly on occasions when there were several clients needing intensive contact at the same time.

OPTS clients also received home visits from both their case manager and probation officer. Home visits ranged from 15 minutes to two hours in length, and it was not unusual for them to reach the upper bounds since these often included discussions with family members, as well as with clients. Home visits were conducted by either the case manager or PO, or jointly, although joint home visits were less common than individual home visits. Joint home visits did not follow a regular schedule. The frequency of home visitation varied by client, usually depending on a client's length of participation in OPTS, and how well they were doing. The frequency of home visits that were conducted jointly, as opposed to individually, varied across case manager-PO pairs, and appeared to be influenced by individual preferences and time demands, particularly demands on the PO's time (see Morley et al., 1998, for detailed discussion of case manager-PO collaboration within the three sites). As can be seen in Figure 4-9, OPTS clients received more frequent home visits from their case manager than from their PO (note that joint home visits are subsumed under individual visits). In addition, considerably fewer OPTS clients reported having never received a home visit from their case manager than from their PO.

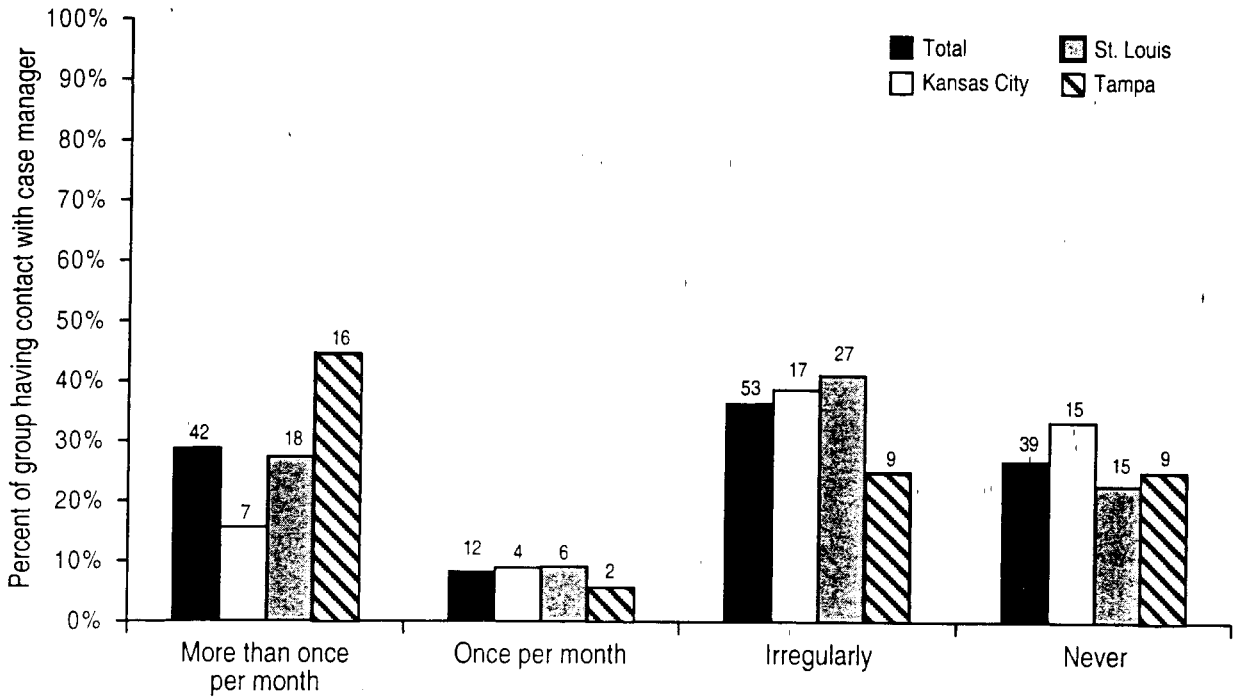
The OPTS model does not assume that POs will have more frequent contact with OPTS clients than with other probationers/parolees. Since OPTS clients were mandated to some form of drug aftercare, they were among the groups of offenders that generally received somewhat more frequent PO contact than lower-risk offenders. In Kansas City and St. Louis, for example, frequency of contact varies with clients' risk scores (which are based, in part, on substance abuse); most OPTS clients were seen on a weekly basis, although that may have been reduced to every other week or once a month after they had been in the community for a while and were more stable. In Tampa, monthly probation officer/client contact is mandated; but actual contact with OPTS clients tended to be more frequent than that.

Although the OPTS model assumed that probation/parole officer contact with OPTS clients would follow the rules and procedures of their respective agencies, client self-report of contact with POs during their first and last three months of program participation for their first year post-incarceration portrays a different picture. As shown in Figure 4-10, OPTS clients overall received more frequent supervision than controls during both time periods (although the difference was statistically significant only for the first three months of supervision). Not surprisingly, frequency of PO contact for both treatment and control group members decreased by the last three months of that year. St. Louis clients reported considerably more contact with POs than did the control group

FIGURE 4-9.

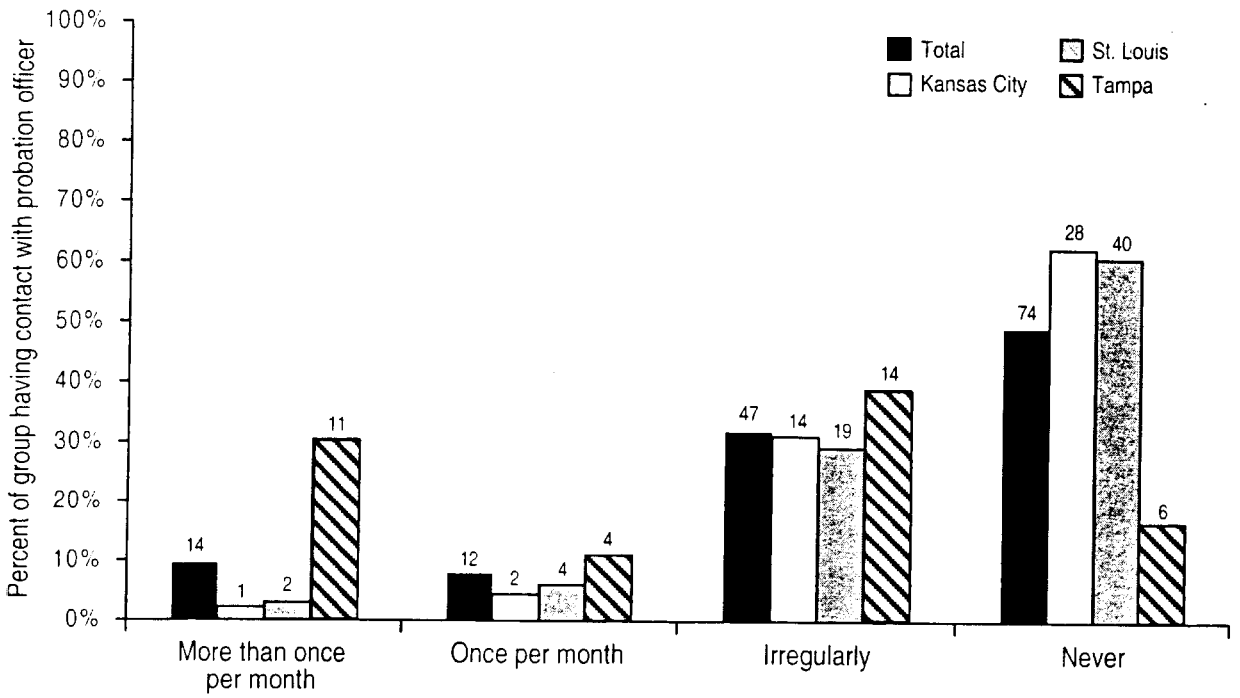
Home Visits During the First Year of OPTS Participation

CASE MANAGER HOME VISITS



Note: Ns are reported at the top of each bar

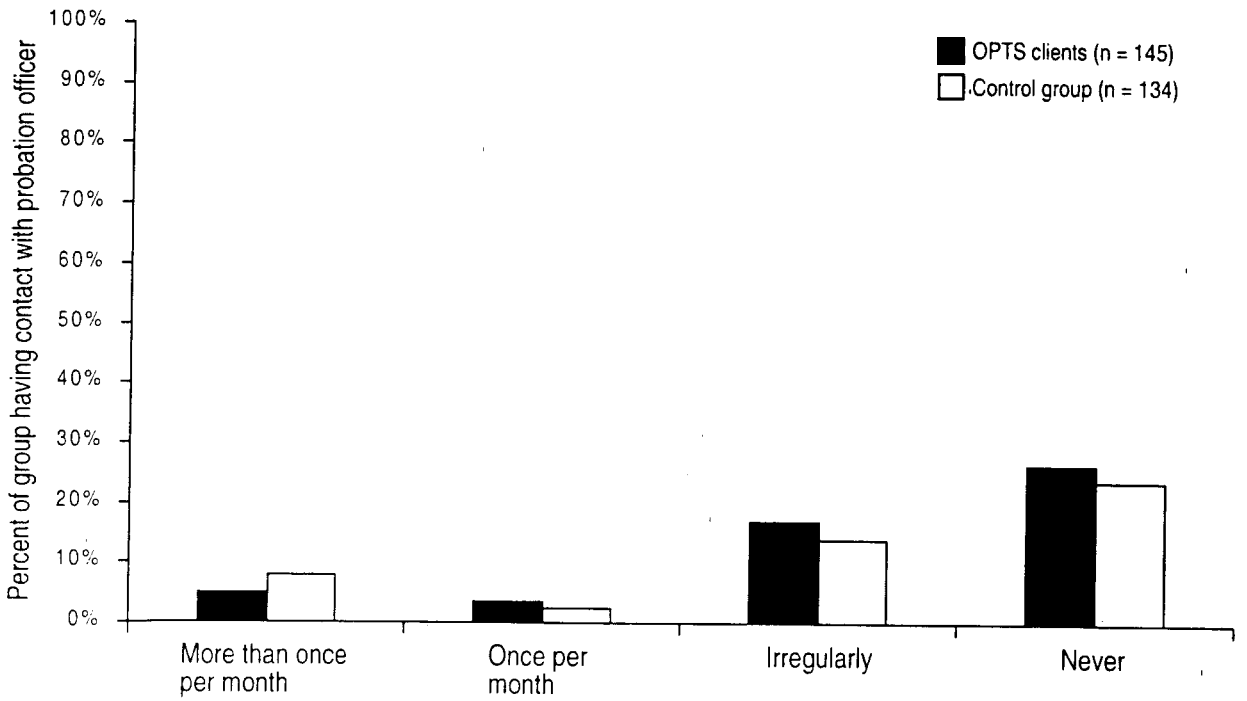
PROBATION OFFICER HOME VISITS



Note: Ns are reported at the top of each bar

FIGURE 4-10.

Probation Officer Home Visits



under routine supervision. Conversely, Tampa clients reported less contact with their POs than did the control group.

Figure 4-11 displays home visits by probation officers during the first year of supervision for OPTS clients and controls. Overall, there was little difference in patterns of PO home visitation for these two groups, and none of the differences was statistically significant. It appears that POs commonly do not conduct home visits, or do so irregularly. Relatively small proportions of clients or controls reported receiving home visits from their PO on a monthly or more frequent basis.

Case Managers' Contact With Service Providers and Probation Officers

Case managers were expected to monitor client progress to determine whether services were, in fact, being provided (or attended) as planned; whether they were having the desired effect in terms of client improvement; and whether goals had been reached or new service needs had developed, necessitating modifications to a client's service delivery plan. Depending on the nature of the services provided, case managers might establish weekly telephone contact with service provider staff to confirm the client's attendance and document his/her progress. In-person visits or meetings also were held. POs were kept informed of client progress, typically by telephone communication (case manager-PO pairs in Kansas City and Tampa reported daily phone contact was not unusual; St. Louis case managers and POs were co-located, which virtually eliminated the need for phone contact). Conversations with both service providers and POs covered such topics as client problems or progress, the appropriateness of a particular service or agency for OPTS clients, or the potential provider's capacity to accept a client at a particular time.

OPTS sites regularly scheduled team meetings between the OPTS POs and case managers (clients were generally not present at these meetings).[8] In St. Louis, the expanded service team routinely participated in these meetings; as did a retired social worker who volunteered her services to provide counseling and referral for OPTS clients. In other sites, other service delivery staff were sometimes included (see Morley et al., 1998, for detailed discussion of collaborative structure).

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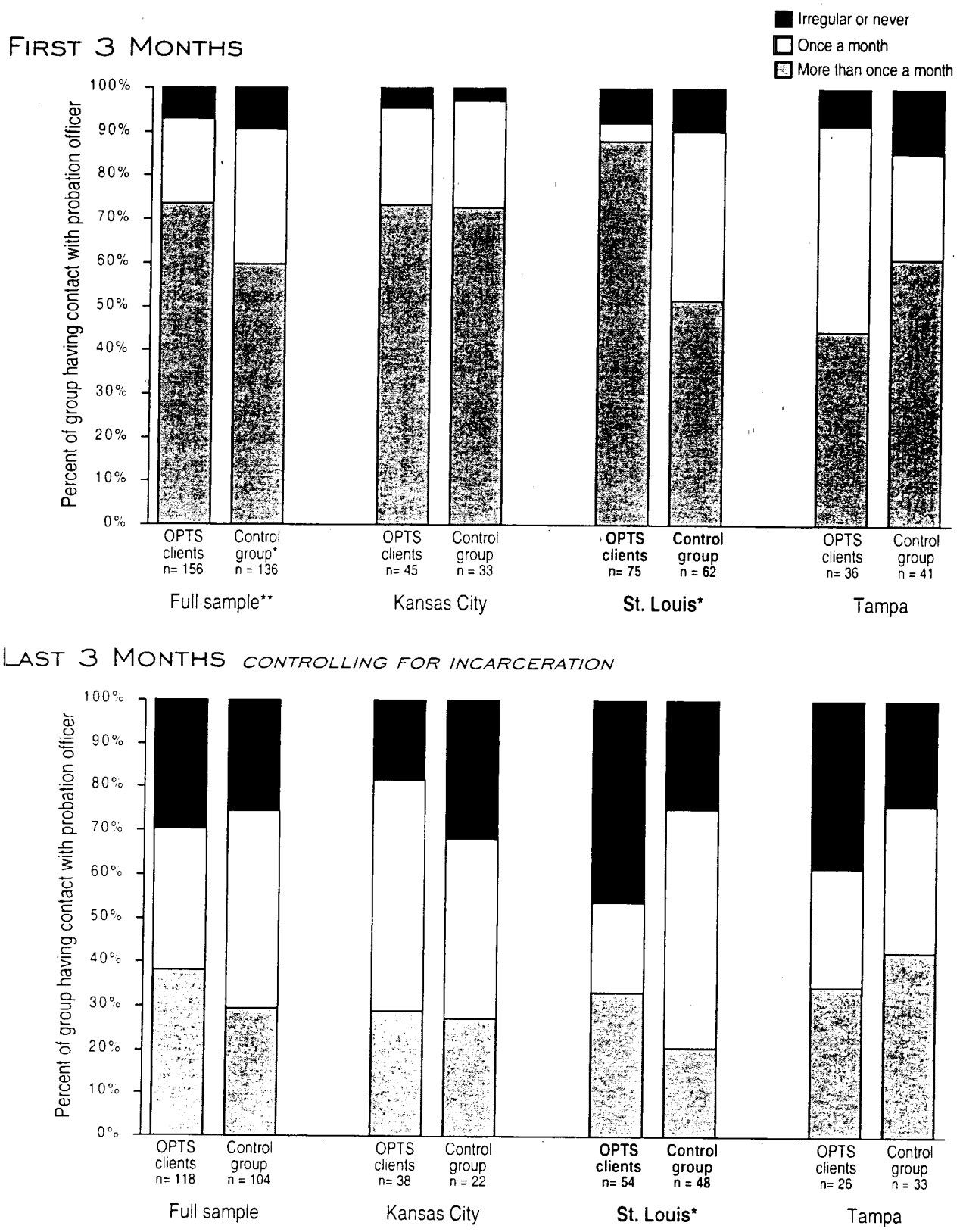
[8] Kansas City instituted weekly team meetings; St. Louis held service team meetings twice per month. Tampa initially planned to hold weekly meetings between OPTS POs and case managers to discuss clients, with other service providers included as needed. After target area expansion led to involvement of numerous POs, the site instituted monthly group meetings to enable the case managers and the OPTS coordinator to meet with all POs at once. In addition to the group meetings, the case managers met once or twice a month with the OPTS POs with whom they were co-located.

FIGURE 4-11.

PO Contact, Comparing OPTS Clients to Routine Supervision of Control Group



*Difference is statistically significant at the 0.05 level.
**Difference is statistically significant at the 0.10 level.

Team meetings provided a forum to review client progress, and for joint decision making related to treatment and service needs, imposition of sanctions, ordering urinalysis, or changing a client's status in the program. Typically, the meetings highlighted particular cases, but sometimes they focused on examining possible procedural or programmatic refinements, perhaps sparked by discussions regarding a particular incident.

> Case managers were sometimes uneasy about discussing a client's illegal activities with the PO, feeling that such information sharing would be a violation of the client's confidentiality. Specific incidents of this nature triggered generic discussions. In St. Louis, for example, the core team spent a fair amount of time in team meetings clarifying and identifying situations in which confidentiality should or could be maintained, versus what information had to be shared with the PO or the rest of the team.

Case manager-probation/parole pairs across the sites regularly used formal staffings or interventions with clients in attendance to deal with individuals who had positive urinalysis tests, committed other serious violations, or experienced serious problems. In St. Louis, a typical client intervention consisted of the core service team meeting as a group with the offender to confront him/her about the problem, and obtain the individual's agreement to take steps recommended by the team to resolve the difficulties. Where appropriate, sanctions might be imposed, or changes made to the client's service or treatment plans, as part of the intervention. Tampa and Kansas City used essentially the same approach for similar circumstances; key players typically involved in the intervention included the case manager, probation/parole officer, other service agency staff (where relevant), and the client.

Urinalysis Testing

Although random drug testing is a feature of probation/parole supervision in most jurisdictions, the OPTS strategy intended that more frequent urinalysis monitoring be incorporated into the oversight of program participants. The underlying philosophy was that increasing the frequency of testing would permit staff to detect any relapses at an early stage, so that clients could receive the appropriate treatment and sanctions to avoid more serious relapse and possible re-incarceration. The model did not stipulate the frequency with which such testing should be performed.

Across the sites, staff indicated that new clients, as well as those whose sobriety was suspect, were typically tested more frequently than those who had been in the program for awhile. Some clients, particularly those who had relapsed, might be tested as frequently as weekly (but this did not appear to be the norm). As clients progressed in their recovery, and produced fewer or no positive results, testing typically decreased to a monthly basis, or even more intermittent. OPTS clients also might be subjected to drug

testing administered by the substance abuse treatment programs in which they were enrolled, or if they resided in a halfway house.

> One probation officer noted that, although case managers can independently ask for a "drop," she has informed them that she needs to be present, so she has direct knowledge of the circumstances in case she later has to testify in court (e.g., if the test is dirty, and the client disputes the finding).

In general, POs took the lead with regard to drug testing, although case managers could order such tests or request that they be performed. Testing took various forms over time within the three programs. Prompt receipt of urinalysis test results is a key factor in their usefulness, since this enables case managers and POs to act on violations in a timely way. However, time lags in obtaining test results was a problem encountered in some OPTS sites at various times. Use of particular laboratories for analysis was associated with longer turn-around times in some sites, but those laboratories were often less costly than those that provided results more quickly. POs could, and often did, use field kits. These had the advantage of returning immediate results, but staff in some sites (notably the Missouri sites) were uncomfortable with their use because the tests were limited in the substances they could detect, were seen as costly, and were of uncertain validity and reliability. Staff also used laboratory facilities to collect and analyze specimens.

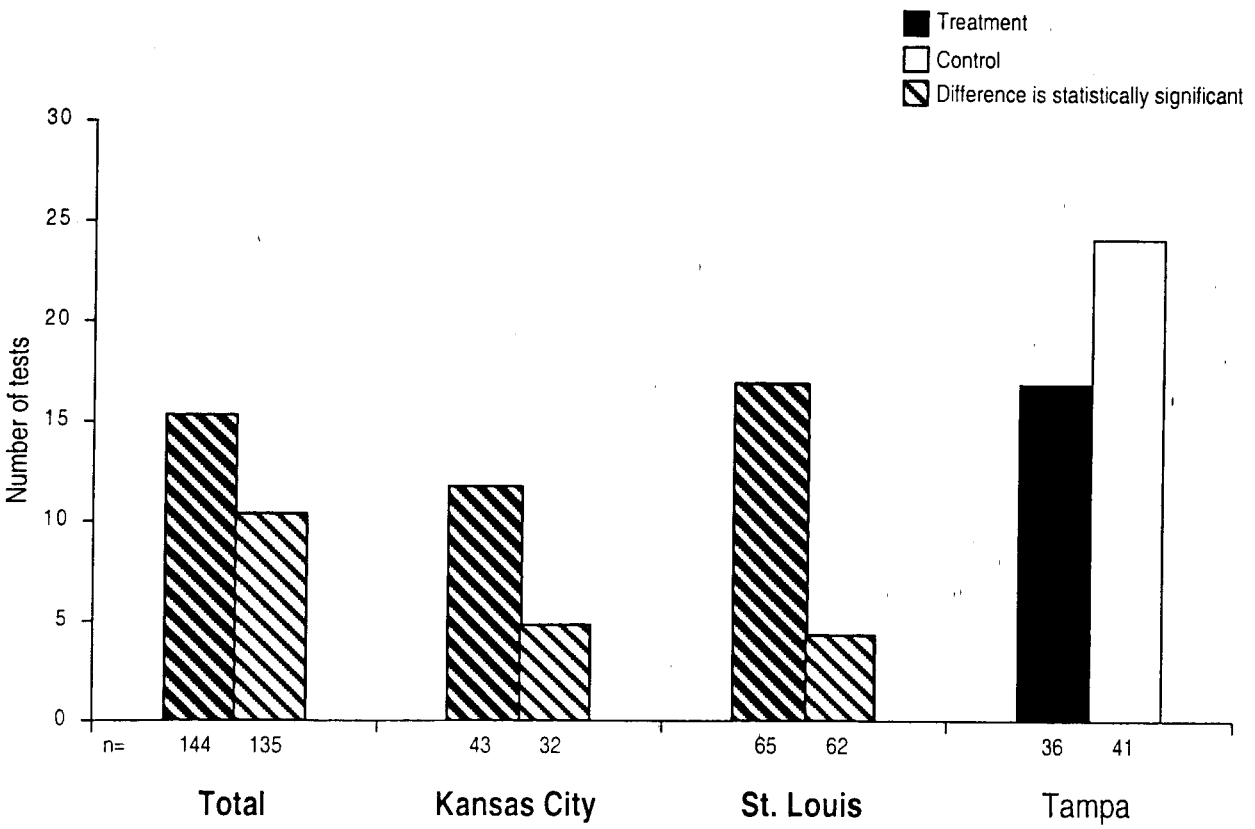
In addition to urinalysis testing, both Kansas City and St. Louis initiated use of breathalyser testing during the second program year. This was done in response to staff concerns that clients' abstention from drugs correlated with an increase in their use of alcohol. St. Louis staff reportedly began using the breathalyser to test clients who showed up at DART's outpatient group sessions with alcohol on their breath. Also, in both Missouri sites, the OPTS POs conducted mass testing on a sporadic basis. That is, once or twice per year, POs would test every single client on their caseload, regardless of the client's status in the program.

Figure 4-12 depicts the mean number of drug tests self-reported by OPTS clients and controls during their first year of OPTS participation. Overall, OPTS clients reported being tested considerably more frequently than controls -- OPTS clients reported receiving an average of 15.3 tests during this period, versus 10.4 tests reported by controls. In Tampa, however, controls reported receiving more urinalysis tests than OPTS clients, which may be related to the fact that many of these offenders were under "drug offender probation officer (DOPO) supervision (although the difference was not statistically significant).

In practice, testing did not occur as frequently as anticipated -- in part because the programs did not follow a regular protocol or schedule that ensured frequent testing of all clients. Neither OPTS clients, nor members of the control group, were tested as frequently as probationers involved in drug court programs. Across the three sites, 14%

FIGURE 4-12.

Average Number of Drug Tests, per Participant, by Group and Site*



*Includes respondents never tested

of clients (i.e., 4 clients each in Kansas City and St. Louis, and 12 clients in Tampa) and 21% of controls (i.e., 6 in Kansas City, 20 in St. Louis, and 30 in Tampa) reported never having been tested during this time frame.

Sanctions and Incentives

> Relapse is part of recovery. The steps to success are little things, like keeping appointments, arriving on time....So much depends on where the client is starting from....Relapse happens at any time -- some clients are doing really well; they have a job, and they've been clean for a long time; and then suddenly, they turn up dirty....
> *St. Louis staff, commenting on the need for sanctions and incentives*

Since program planners envisioned closer oversight of OPTS clients than would ordinarily accompany routine supervision of probationers/parolees, the model called for the use of graduated sanctions to offset offenders' increased risk of detection and punishment for relatively minor infractions (e.g., failure to keep appointments, non-compliance with treatment plans) or initial instances of more serious infractions, such as "dirty" urine tests. The system of sanctions was intended to enable programs to impose consequences without unduly terminating clients. In addition to various penalties, OPTS programs also were expected to use incentives, or rewards, to recognize clients' accomplishments, and to encourage or motivate them to continue making progress in the program.

The topic of sanctions and incentives was addressed at one of the cross-site planning conferences sponsored by CASA during program development; guidelines for sanctions developed at that conference are included in Appendix F. For example, a first incidence of infraction might be met with an informal sanction, such as telephone contact with the case manager or PO; a second infraction might trigger an unscheduled meeting with the case manager or PO; while additional infractions or more serious incidences of non-compliance would elicit more severe consequences, including possible termination from the program or revocation of probation/parole.

The local programs intended to adhere fairly closely to these guidelines, with minor modifications; however, each experienced some difficulty in implementing the sanctions (and incentives) protocols as planned. In some cases, the problems were primarily logistical; while in others, there were philosophical concerns about the use of these practices that prevented their full implementation (see Rossman et al., 1999).

In both Kansas City and St. Louis, procedures varied over time, but typically sanctions were imposed on a case-by-case basis. This permitted staff to take individual circumstances and other factors (e.g., the client's desire to remain sober, willingness to attend treatment, and interest in remaining in the local community) into consideration when selecting an appropriate sanction. In Kansas City, the case manager often took the lead in identifying the need for sanctioning particular clients, but would confer with the cognizant PO. By contrast, St. Louis used its core team (which included the case manager, PO, and staff from the substance abuse and employment services programs) to conjointly make these decisions. Tampa case managers had less flexibility in using sanctions than the other community-based programs. This was largely due to justice system requirements that proscribe POs' authority (and by extension, case managers' ability) to impose sanctions.[9] Authority to impose sanctions, such as changes in supervision (e.g., day treatment, electronic monitoring, etc) or mandatory treatment, is reserved for judges. Thus, such measures reportedly could be required and enforced only by court order.

In general, if a client recidivates, sanctioning efforts may depend on what actions are taken by a judge. In St. Louis, staff felt that most local judges were supportive of treatment if the crime or technical violation were related to relapse. For infractions that did not result in the individual's appearance before a judge, sanctioning decisions (and also decisions about incentives) were made at service team meetings.

The site followed a graduated approach, but sanctioning was more individualized than envisioned by the CASA model. The core team reviewed client compliance and progress in team meetings and reached consensus on the next steps for that person: this might require a person suspected of relapse to return to more frequent attendance at group therapy sessions and also be subjected to more frequent drug test screening; if the individual's problem persisted, s/he might be required to enter residential treatment; after two such admissions, the person might be terminated from OPTS and a warrant might be issued for her/his arrest.

Program staff felt the OPTS clients were given many more chances than offenders under routine supervision. However, they regarded this as consistent with the program mandate.

All three programs planned a variety of incentives to motivate or reward clients; although the extent to which plans were implemented varied over time and with different case managers. Neither Kansas City, nor Tampa, identified specific behaviors that clients needed to exhibit to obtain incentives; however, both sites used such incentives as certificates of achievement, tickets to entertainment or sporting events, meal vouchers for local restaurants, and decreased contact with case managers and POs, on an ad hoc basis. For example, Tampa used free books of bus passes as incentives that could be distributed

[9] Clients were not court ordered to participate in OPTS, per se. They had been ordered to participate in substance abuse aftercare as part of their supervision, and OPTS was viewed as meeting these requirements. However, participation in OPTS, itself, was regarded as voluntary, because offenders could have participated in a variety of other aftercare programs to be in compliance with supervision.

at the joint discretion of the case manager and PO; the program also distributed some meal vouchers; and at least one client was provided with a bus ticket to visit family members living out of town. Over time, Kansas City case managers sometimes rewarded individual behavior spontaneously (e.g., taking a client out to lunch to acknowledge some progress), but also recognized progress more systematically at annual banquets where certificates of achievement were awarded.

In contrast, the St. Louis proposal identified specific behaviors that would earn positive reinforcements, such as:

- Free lunch for two for keeping all appointments for two weeks.
- Free movies for two for keeping all appointments for one month.
- Free lunch for the family, if the client had no positive urinalysis for one month.
- Free dinner and movie tickets for two for having no positive urinalysis for two months.

These were not implemented wholly as envisioned, because the team was largely unable to solicit community donations to furnish such awards. However, the team did provide such rewards as bonus goods and services (e.g., groceries, tickets to movies or special events, vouchers for meals in local restaurants) on a case-by-case basis. Also, the program used the monthly dinner meeting that was open to clients and their families to publicly award certificates marking milestones and to hold periodic graduation ceremonies.

> One feature that the St. Louis program adopted was to reinforce the supportive role played by the PO, by having that individual give OPTS participants the awards (incentives) they had earned for achieving positive milestones.

Client Satisfaction

Clients interviewed in small-group sessions during the course of site visits throughout the demonstration period reported that case managers typically served as a confidantes -- good listeners, who provided objective perspectives that helped individuals view their circumstances in a more accurate light. Clients remarked that case managers gave them the extra support they needed by calling them frequently to catch up and by drawing them out on issues and concerns; further, clients observed that they could count on their case managers to provide support when it was needed.

Similarly, at the end of one year of OPTS participation, clients were queried about their perceptions of the support they received from their case manager(s) and PO(s). As shown in Exhibit 4-5, most clients perceived case managers positively. Also, clients were

Exhibit 4-5 Clients' Perception of Case Managers			
The following statements have to do with your feelings about your case manager during the 12 months .....Your case manager will not see your responses. How often would you say your case manager ...	**Always %**	**Sometimes %**	**Never (%)**
a. Spoke in a way you understood	92	4	4
b. Respected you and your opinions	81	13	5
c. Understood your situation & problems	76	14	9
d. Was someone you trusted	66	17	17
e. Helped you view your problems/situations more realistically than before	70	15	15
f. Helped focus your thinking & planning	65	20	15
g. Taught you useful ways to solve your problems	64	16	20
h. Motivated and encouraged you	75	11	14
i. Helped you develop self-confidence	65	16	19
j. Developed a treatment plan with reasonable goals & expectations for you	68	15	17

more favorably disposed to the support received from case managers than from POs. However, it should be noted that, compared to offenders in the control group who were under routine supervision, OPTS clients rated their POs more favorably on all ten items, and the differences were statistically significant on seven out of the ten items (see Exhibit 4-6).

Implementation Issues

The local programs encountered a variety of challenges in implementing case management, performing service planning, overseeing service delivery, and monitoring client progress. The following discussion highlights key issues experienced by two or more sites.

> Service plans often were not formally recorded as "blueprints for individual actions." Case managers had reasonably small caseloads, and really went to considerable lengths to bond with their clients, so that they personally had a clear idea of the services they expected each client to receive. However, the lack of formalized plans hampered some client oversight when turnover or referral required that a different staff member or professional step in and try to carry out planned activities with transparency.

Case managers were charged with responsibility for determining client needs and matching them with appropriate services. As noted above, the first OPTS case managers used the early months of program implementation, before intake began, to develop their client intake and assessment procedures and forms, and to develop other case management procedures, such as protocols for information to be maintained in files, etc. However, the sites experienced some degree of staff turnover; and possibly because the program was so new, many of the procedures were not institutionalized as part of the organizational culture. The OPTS model did not detail specific standards for case management; and, none of the sites had policy or procedural manuals to help guide new case managers. In cases where there was an overlap of incoming and outgoing case managers, some training took place, but in general, replacement staff were left to develop their own style of case management.

Case managers across the sites came from very various backgrounds, with differing skills and experience. This variability affected service planning and delivery, as well as the brokering of services across all domains, but was specifically troublesome with respect to the delivery or brokering of substance abuse treatment and mental health services. In most cases, neither case managers, nor cognizant POs were certified addictions counselors, although some had prior experience in working with substance abusers. Often case managers lacked the requisite training or experience to make interdisciplinary -- particularly clinical -- determinations about client needs, and were also unfamiliar with standardized tools that might have permitted uniformity across staff (and clients). Additionally, staff were sometimes unfamiliar with distinctions among various

Exhibit 4-6
Clients' Perceptions of Probation/Parole Officers, by Group

The following statements have to do with your feelings about your PO during the 12 months.... Your PO will not see your responses. How often would you say your PO...	Always %		Sometimes %		Never (%)	
	T	C	T	C	T	C
a. Spoke in a way you understood	79	87	9	7	12	6
b. Respected you and your opinions	68	65	20	41	12	20
c. Understood your situation & problems*	64	43	22	46	14	26
d. Was someone you trusted	44	43	24	19	32	38
e. Helped you view your problems/situations more realistically than before*	51	34	23	24	26	42
f. Helped focus your thinking & planning*	47	28	23	25	30	47
g. Taught you useful ways to solve you problems*	41	27	24	20	35	53
h. Motivated and encouraged you*	55	37	18	22	26	42
i. Helped you develop self-confidence*	50	29	17	17	33	53
j. Developed a treatment plan with reasonable goals & expectations for you*	51	34	18	21	31	45

*Difference is statistically significant.

treatment modalities, or requirements for client admission to different treatment milieus. Further, case managers were sometimes called upon to directly deliver intervention programs (as opposed to referring clients to other service providers); less clinically-oriented staff reportedly did not feel comfortable facilitating the in-house counseling/relapse prevention groups and therefore, the groups usually lapsed if the "more experienced" case manager was not available to lead the meeting or left the OPTS program.

In addition, some of the case management staff were new to the local area, or new to the field, and were unfamiliar with local resources and how to access them. Even seasoned case managers had difficulty connecting clients to services at times, for a variety of reasons, including: 1) demand for services outpaced the supply in some areas; 2) clients could not meet eligibility criteria for some services; 3) the local context kept changing, such that some service providers ceased to exist, while others altered their service offerings; or 4) there were true gaps in the continuum. These barriers to service are described more fully in subsequent chapters that address the key service domains.

Across the three sites, case managers diligently worked to stay abreast of changes in the local service landscape, and to develop a reserve of services that could be accessed quickly on an as-needed basis. In many cases, clients with more extensive problems required services that are costly or in limited supply. In particular, dually diagnosed clients, and those who exhibited characteristics consistent with this diagnosis, fit this description. Communities often lack adequate treatment programs for these kinds of patients. Another factor inhibiting the provision of services to this subset of the OPTS population was client resistance to psychological evaluations, which was needed to confirm staff members' professional hunches of dual diagnosis.

Similarly, case managers in St. Louis, the site serving the largest number of female clients, observed that women present a host of service issues that male clients do not. These include health problems related to prostitution, mental health issues associated with histories of sexual abuse or partner violence, and the need to access health care and other services for their children. Female clients also were felt to be more resistant to complying with recommended interventions than their male counterparts.

Sites also faced varying degrees of difficulty in arranging for more basic services. Linking clients to affordable, drug-free housing was particularly challenging in the Missouri sites, for example, due to the lack of drug-free transitional housing combined with long waiting lists for subsidized housing. Securing mental health care also was a challenge across sites, due in large part to long waiting lists precluding timely access to treatment to all but those with the most serious mental disorders. As previously noted, sites learned that they needed to provide services to mitigate situations that may be critical barriers to client success, such as:

- Transportation assistance to permit clients to access needed services, or to facilitate job-hunting and steady employment.

- Emergency services, such as food, clothing, and funding to facilitate acquisition or retention of permanent housing (e.g., rental deposits, utility costs).

Many of these emergency services were typically provided by the lead service agencies, since some are not typically available through other service providers (with the exception of food and clothing).

Case managers and supervisory staff in each of the programs actively outreached to expand the network of service providers that OPTS could call upon. In addition, each program tried to meet gaps in service or otherwise provide for client needs by developing and implementing small-scale programs within the lead agency. These efforts met with varying degrees of success. For example, despite the programs' best efforts, client participation at lead agency workshops was typically marginal at best; further, varying levels of client interest, flux in caseload composition, and resource limitations meant the continuity with which such programming could be offered was limited.

Perhaps the two components that elicited the greatest consternation on the part of program staff were urinalysis testing and graduated sanctions, as described below. Although the most significant issues associated with urinalysis testing were the costs and the length of time it took to receive results, each of the sites had to grapple with logistics in the early stages of program implementation when urinalysis monitoring did not appear to differ much from the usual probation/parole practices. In St. Louis, for example, urine tests were not performed for the initial OPTS clients because the program had not worked out "chain of custody" procedures to do so (virtually all OPTS participants in the early months of the program were male, while the OPTS PO was female; therefore, the program needed to call upon another male staff member, who was not regularly available to supervise the tests).

> Department wide probation and parole policies may impact the nature and intensity of drug testing in a program such as OPTS. For example, in St. Louis, a probation/parole policy was implemented that required frequent testing of violent offenders, using the allotted resources that were in place. Given budgetary constraints, more frequent testing of that cohort translated into less frequent testing for other categories of offenders.

Similarly, in Kansas City, the lead agency did not complete arrangements regarding the urinalysis component (in terms of finalizing an agreement with a laboratory) until several months had passed. Ultimately, NCADD contracted with a private laboratory that could return results within 48 hours at minimal cost; however, POs noted that the lab was a short distance from NCADD, and case managers sometimes sent

clients there unaccompanied, giving them the opportunity to clear their systems prior to testing. Another logistical issue regarded frequency of testing. The site's initial plan called for frequent testing, but this was re-visited because lead agency staff felt it was inconsistent with the nature of the service-driven relationship they wanted to develop with clients. Case managers wanted to develop a relationship different than what they viewed as the typical probation officer-offender supervision relationship. Consistent with that, they did not want to conduct many urine tests. Staff felt it was acceptable to use fewer tests than originally planned, combined with testing as appeared warranted based on client behavior.

While staff in Tampa and Kansas City were satisfied with the turnaround time for receiving urinalysis results, St. Louis initially sent its samples to the Cremer ITC for analysis, which took four to six weeks to return results (but had the advantage of being paid for by state funds through the probation/parole department). Lead agency staff were frustrated by this long lag time because it made it difficult for them to confront errant clients: by the time the results were received, clients often had regained sobriety, and case managers were conflicted about enforcing a sanction once the client was seemingly clean. In response to this situation, probation officers used field kits for non-routine tests (i.e., to test a client suspected of recent use); however, budgetary constraints within the Department of Corrections meant officers had to cut-back on the use of field kits. Ultimately, the lead agency contracted with a local laboratory that could return results in a timely fashion, but at a fairly high price for tests, particularly positive tests that required verification and therefore were billed at a higher rate. Due to cost concerns, the program limited the use of this resource to "crisis" drops (i.e., non-routine drops for the purpose of confirming and confronting suspected relapse).

As noted previously, the use of graduated sanctions and incentives was largely idiosyncratic in practice, rather than the systemized approach envisioned by the OPTS model. Tampa program staff felt constrained by the nature of the local court and correctional contexts, which greatly limited their use of these measures in any systematic fashion. Sanctions were used fairly consistently in St. Louis throughout the demonstration period; however, at least some of the core team expressed frustration about the use of sanctions, noting that negative sanctions did not appear to mean much to clients, and did not seem to influence their behavior (e.g., sanctioning did not appear to induce clients to increase their attendance at particular activities). A key actor noted that if they rigorously followed the sanctions system, they "would have no one left in the program," since a considerable proportion of clients had relapsed by using drugs or alcohol at some point after enrollment in OPTS. She felt program staff had been deliberately restrained in imposing negative sanctions, because it would "drive both clients and staff crazy" to fully enforce the system.

Kansas City staff also had a variety of concerns about the use of sanctions during the demonstration period; and in addition, they surfaced concerns about incentives. Key

staff re-visited this topic at their meetings on several occasions. Since there were several conditions associated with probation and parole supervision, and sanctions associated with violating the requirements, the OPTS case managers were uncomfortable about imposing a second set of sanctions. They wanted to deal with clients from what they regarded as a more positive perspective than implied by a sanction system, and generally tried to give clients several chances (depending on the client and the circumstances) to comply with program requirements. There was also some concern about whether requiring additional treatment (or services), perhaps in response to dirty tests, should be considered a sanction.

With regard to incentives, Kansas City staff had some philosophical concerns about providing rewards for behaviors that clients should be practicing (i.e., rewarding behavior that was expected). Staff sometimes also felt that clients were not yet at a stage where their behavior was deserving of reward. Therefore, at various times during the demonstration period, incentives were not in use at this site. One notable exception, however, was related to the Survival Skills course: fresh fruit was available at these sessions, and site staff considered using fruit, or randomly providing other, unannounced incentives (such as tickets to the movies, sporting events, or the zoo, for those attending the focus groups on a particular day) to encourage attendance. Also, a graduation ceremony (including a dinner) was held for clients completing the Survival Skills course.

Lastly, a related issue that surfaced among staff pertained to the appropriate circumstances under which to terminate a recalcitrant client or, conversely, to graduate one who was seemingly compliant. OPTS programs were designed to give offenders more than one chance to achieve and maintain sobriety, as well as to get other areas of their lives in order; however, there were no clear-cut guidelines for when to suspend or terminate services. Sometimes the decision to terminate a client was made by the courts, as judges responded to technical or legal violations, but oftentimes, such decision making remained the purview of case managers or POs. As the program unfolded, CASA issued written guidelines for suspending or terminating participants; however, these were loosely enforced, and tended to focus on individuals who had never fully attached to the program or were flagrantly non-compliant.

Case managers often made multiple attempts, often spanning several weeks or months, trying to locate a non-compliant client, prior to having the individual declared an absconder. Similarly, they tried to give clients several opportunities to perform satisfactorily after an instance of relapse or other troublesome behavior. These efforts were often time and resource intensive, as well as frustrating for staff. Among other considerations, the efficient use of resources is an underlying concern of program administrators and staff: they need to balance the wise use of resources (e.g., caseload slots, staff, funds) with clinical or programmatic determinations of how to satisfy individual client needs for services/treatment. Across all sites, case managers recalled instances of clients they went to great lengths to help -- repeatedly moving an individual

from one treatment program to another in an extraordinary attempt to facilitate the client's recovery process -- until finally the determination was made, after several relapses or other infractions, that continuing to offer services was tantamount to professional enabling, and that the client needed to be terminated, in part to free the resources in the hopes of benefitting someone else.

Similarly, case managers and other key staff often grappled with trying to determine client readiness to be graduated from OPTS (or phased down to fewer services, or less intensive contact with OPTS). Decision making was relatively easy, and consensus fairly high, when it involved clients who demonstrated exemplary performance -- no positive urine tests, stable employment situations for six or more months, good family and home conditions; however, the situation was more conflicted when clients with "checkered" performance (e.g., some relapses, some failure to attend meetings as required) were under consideration. For example, St. Louis team members apparently held widely divergent views on how criteria might be implemented for this: some members felt clients should not be graduated until and unless they had demonstrated total compliance with program expectations; others took a more moderate view that the program's goal was not to totally re-make participants, but rather to get them to address the root cause of their addiction and criminal involvement and demonstrate progress in moving toward more pro-social attitudes and behavior. Given these disparate viewpoints, the program was unable to establish formal graduation criteria throughout most of the demonstration period. As a result, many of their clients were retained in OPTS for the maximum allowable two-year period, although some of these clients probably had received as much benefit of services, and progressed as far as they were going to, months before their official graduation.

Implementation Lessons Learned

One of the striking observations about the OPTS demonstration is that there was a high degree of variation among the sites in terms of program implementation. To some extent, the model developed by program planners allowed for flexibility and autonomy in local decision making and practices. For example, sites were expected to use existing community-based resources, in preference to developing their own services. Thus, it is not surprising that the suites of services and mix of providers would vary dramatically across the three programs, as they reflected the extant service networks and capacities in Kansas City, St. Louis, and Tampa. Other site variations likely resulted from the visions, internal organizational structures, and decision making of the lead agencies and/or the partnering probation and parole agencies regarding the roles and responsibilities of their respective staffs.

In general, the sites were satisfied with their efforts in mounting this demonstration; however, both line staff and administrators acknowledged areas of

weakness as their programs evolved. To their credit, individuals and organizations were often quite proactive in defining weak or troublesome elements and introducing refinements that could strengthen their local efforts.

For conceptual clarity, although there is overlap among the topics subsumed, the following summary of lessons learned has been grouped into three categories around issues associated with: 1) performance of case management; 2) supervision and monitoring, as well as systems integration of OPTS primary partners with the larger criminal justice system; and 3) local service networks.

Case Management

Models of case management have been implemented for a variety of purposes; some are quite limited in defining the scope of case management duties; (e.g., case managers may be used only to make referrals, schedule appointments, and confirm client receipt of recommended services). By contrast, OPTS envisioned a considerably more expansive role for its case managers. To some extent, case management was used to counteract the fragmentation and limited availability of services in the existing social service systems in the demonstration communities.

> An important feature and strength of the OPTS program was that OPTS case managers played a central role in directly delivering and brokering services, as well as serving as advocates for their clients.

Case managers were committed to this program, appeared genuinely concerned about clients and sensitive to their needs. As envisioned by the model, the local programs kept caseloads small (typically, fewer than 20 active clients per case manager, at any given time), and case managers focused on trying to maintain a high level of contact with their particular clients.

Despite relatively high client satisfaction ratings, OPTS participants often resisted services for a variety of reasons, including: resistance to supervision in general, perception that they did not need certain services, aversion to some types of services such as family or mental health counseling, belief that particular services or providers would not personally benefit them, or difficulty with the logistics (transportation, scheduling, or financing) of using certain services. Case managers, separately and with PO support, tried

various approaches to increase clients access to, and use of, services.

> Despite the best efforts of case managers and POs, some clients did not respond to OPTS intervention. Programs need to be prepared to offer support to staff who are committed to clients' success, and are hard hit by client failures.
>
> Kansas City arranged *pro bono* consultations with a psychologist, who held quarterly meetings with case managers, POs, and the program coordinator. Staff were able to discuss difficult cases, or present cases where case managers and POs held conflicting views about appropriate actions to take. The psychologist played an important therapeutic role in helping case managers, as well as probation officers, manage stress and reduce occupational burnout often associated with high-maintenance clients.

In addition to making referrals and monitoring service use, the OPTS model implicitly expected case managers to have expertise in a variety of areas, including the ability to: develop resources, make clinical assessments or at least understand them across disciplines (i.e., medical, mental health, substance abuse treatment, etc.), and deliver direct services.

Case managers had various professional backgrounds and levels of expertise; not surprisingly, some were more proficient, than others, in performing these disparate functions. Lead agencies in different sites sought somewhat different qualifications in filling these positions. In general, the salary for the OPTS case managers was relatively low (a common problem for social service providers), which affected the mix of qualifications that could be obtained for this position, and also reportedly contributed to the turnover in this position experienced to varying degrees by the three sites. A key staffing consideration for case manager positions in all sites appeared to be hiring individuals who were comfortable working with the OPTS population and the vision of the OPTS model. To varying degrees, the sites also sought to hire case managers with some similar characteristics to the OPTS clients (e.g., ethnicity, gender, past substance abuse), to facilitate client bonding with case managers. Such considerations may have outweighed technical qualifications in making staff selections in some instances.

> Some case managers were very experienced in working with substance abusers, were familiar with appropriate instruments for assessing various levels of treatment needs, and were able to distinguish services that should (or could) be called into play at different points in a client's addiction, relapse, or recovery. Others had strengths in having worked with an offender clientele, or with other populations who were high-risk or high-need for social services. However, the whole gamut of knowledge and skill did not typically reside within single individuals.

As a result of the varying proficiencies in case manager skills, within and across the local programs, several case management hurdles were encountered, including the need for:

- Consistent and appropriate service planning as a basis for brokering or directly delivering individualized suites of services.

- Familiarity with services across multiple, key domains.

- Balance in the intense demands of crisis management, with the responsibility to perform routine case management and service provision.

Recommendations for Strengthening Case Management

- Carefully select staff who are substantively knowledgeable, familiar with the local service environment, and open to forging new kinds of working relationships with POs and other service providers.

- Involve a broader range of professionals and para-professionals in service planning and oversight to leverage expertise; this might be accomplished within the context of team case management, which might take a form similar to the St. Louis approach. It would have been useful to have clinicians or other (para-)professionals who are skilled diagnosticians as part of an OPTS team. Also, programs and clients could benefit from having access to eligibility workers or others familiar with means-tested programs, public and private insurance, and related matters that may facilitate service placement and utilization.

  A team approach may facilitate a back-up system for case managers. Team case management may diffuse the burdens of decision making and the stresses associated with serving high-maintenance clients, as well as enhance decisions by drawing on the insights and skills of other staff.

- Develop written guidance outlining case management responsibilities and how these are to be performed. For example, state criteria and guidelines for: performing intake interviews and administering client assessments; requesting drug testing; imposing sanctions or providing incentives; or suspending, terminating, or "graduating" clients. Such guidelines can be used to train new staff, to help ease transitions, and also can serve as reference materials for current staff.

  State expectations about which activities and decisions (e.g., ordering urinalysis, imposing sanctions, meeting with clients) are to be performed individually by case managers, and which should be performed in conjunction with POs. Such materials would be useful in shaping case managers-PO collaboration, and

promoting common understanding of expectations. Also, develop written guidelines (e.g., MOUs/MOAs) for interacting with other service providers.

- Formally document the evolution of the program and the history or rationale associated with decisions, particularly those associated with changes in program operations or practices related to clients. This information should be readily available to supervisors and staff, and to facilitate program continuity in times of staff turnover.

- Enhance the flexibility of all staff by providing cross-training on such topics as the information needed for comprehensive client intakes, how to detect emergent problems and when to take action, and what services are specifically useful in mitigating or resolving particular needs or problems. Cross-training offers another potential advantage if it includes staff from other agencies -- it can promote interdisciplinary understanding of the roles played by other professionals who are also interacting with OPTS clients, and it can identify the resources that such agencies can bring to the table.

- Augment staff training with resource materials that are developed, and updated as needed, to reflect the service offerings and eligibility or other requirements of the local network.

- Encourage case managers to participate in professional meetings and conferences that would promote familiarity with local resources. If a community-wide service cabinet is formed (discussed below), case managers should be included in its meetings.

- Implement procedures for monitoring client compliance, including use of more frequent drug testing; logs clients can bring to service providers (e.g., AA/NA meetings) to have their attendance recorded; and follow-up contact with service providers to verify receipt of services and adherence to program protocols.

- Use standard procedures/mechanisms for recording information in client case files to enable other staff to readily understand a client's status in case of the need to "pinch hit" for the regular case manager, or to ease transition when there is staff turnover.

- Develop a management information system (MIS) to record service plans, chronologies of drug and alcohol treatment, involvement with the criminal justice system, case management contact, drug testing outcomes, service referrals and service use, violations and sanctions. Require case managers to *use* the MIS to periodically update service plans, and as input in making such decisions as when to graduate or terminate clients.

- Develop approaches to alleviate staff stress and burnout. Aside from adopting a case management team model, as discussed above, this might entail assigning a counselor to act as a sounding board or advisor, or arranging for staff to attend training or workshops designed to address stress-related issues.

Systems Integration: The OPTS Lead Agency and the Criminal Justice System

The OPTS program, unlike some other case management models, implicitly linked two separate systems at its inception -- namely, social services and criminal justice. Program designers used a planning phase during which interested communities were encouraged to forge local partnerships in keeping with the model. However, such partnerships typically engaged the lead service agency and the cognizant probation/parole department, but not other arms of the criminal justice system, such as the courts or corrections agencies. Further, the lead agency-probation office partnerships were often implemented loosely, sometimes based on the goodwill and face-to-face relationships established among individuals, rather than more formally erected on systems or structural integration, backed by institutionalized policies and procedures.

During the three-year demonstration, several issues emerged in this regard, including the need to:

- Ensure that OPTS is anchored within the larger criminal justice system; and

- Institutionalize the roles and responsibilities of the lead agency and the probation/parole department and, by extension, of the case manager and PO.

One issue that bears special mention is the need to implement more rigorous supervision protocols, including frequent drug testing and effective sanctioning practices to "give teeth" to the model. Recent research on drug courts (Harrell et al., 1999) indicates that a critical aspect of successful programs is forging an understanding of behavioral requirements and consequences -- which may be in the form of a contract that makes clear the consequences of particular behaviors. Consistency in application of incentives and sanctions (which underscores the certainty of consequences), immediacy of the penalty or reward, and salience of sanctions to the offender also have been found to be key elements of successful programs. OPTS sanctions and incentives, for the most part, did not meet these criteria. Sanctions were not always spelled out in advance, and they were not always consistently applied, limiting their effectiveness as deterrents.

Recommendations for Strengthening Supervision and Criminal Justice Systems Integration

- Establish schedules and protocols for urinalysis testing, to ensure that clients are tested considerably more frequently than those on routine probation/parole (e.g., at least weekly). Schedules should be designed so there is flexibility to test as circumstances warrant. Make arrangements to enable prompt receipt of test results, so sanctions or treatment can be initiated in a timely way. This may involve identifying and using laboratories that guarantee return of analysis within a specified time frame (e.g., one day) -- and possibly paying more for their services. Provide field test kits for use when in cases where immediate confirmation of substance use is needed, and breathalysers to enable testing for alcohol use.

- Establish contracts with clients, or otherwise provide clear information about the sanctions (consequences) or incentives associated with various behaviors. To enhance the deterrent effect of sanctions and incentives, be sure that the penalties and rewards selected are meaningful to the offenders, and that they are administered consistently and without delay.

- Steps should be taken to carefully identify and engage major stakeholders. To some extent, the potential for success of OPTS programs may have been curtailed by the relative absence of the courts (particularly judges) and correctional facility administrators during planning and implementation periods, and on advisory boards.

- Exercise care in selecting the probation "unit" in which the program is housed, to ensure that not only dedicated probation officers, but also their supervisors, are supportive of program goals (e.g., both should have a treatment-oriented approach, rather than traditional supervision approach). Obtain agreement from probation and lead service agencies that more than one high-level administrator will be involved with the initiative (e.g., attending regular meetings, being kept apprised of program status, and key decisions) to enhance the "institutional memory" of the project and to help ensure smoother transitions in case of high-level turnover.

- Enter agreements with corrections facilities to ensure that case managers and POs obtain not only advance notice of client's anticipated date of release to the community, but also of their actual release date. Develop guidelines and protocols to ensure that case managers meet with clients prior to their release (or have telephone contact, it they are located in distant facilities) to introduce the program and obtain basic information to initiate service planning.

- Facilitate case managers' and POs' abilities to operate as a team by implementing policies and procedures supportive of such arrangements, including:

  1) Co-locate case managers and probation officers at least part of the time -- preferably for half, or more than half, of the work week. St. Louis pointed out the benefits of co-located services, but also noted that this may involve additional costs for renting "satellite space" to accommodate staff who are being re-positioned to one-stop service locations.

  2) Provide case managers and probation officers with pagers and cellular phones to facilitate telephone communication when staff are in the field.

  3) Encourage or require that the case manager-PO team see clients jointly (for at least some regular meetings), and conduct some joint home visits (where applicable), to strengthen their collaboration, and reinforce the message to clients that they are expected to comply with recommended aftercare treatment and service plans.

  4) Include supervisors of case managers and POs in team meetings to help ensure that: CM-PO teams stay on track in terms of their respective roles; differing perspectives and responsibilities are respected; and that team interaction is collaborative in nature.

- Provide cross-training to probation officers and case managers to help them better understand each others' functions and perspectives. It is particularly important to provide training -- and written guidance -- to case managers regarding legal obligations and safety issues associated with probation officers' responsibilities, and in the nuances of supervision regulations that can cause clients to be violated. Expanding cross- training to include other service providers also is desirable.

- Where possible, allow probation officers to self-select for the dedicated PO position, with the understanding that developing and working in a collaborative relationship is a key aspect of the position. Select officers who are treatment oriented, have good communication skills, and the flexibility to work collaboratively with case managers.

  Obtain agreement -- perhaps in the form of a MOU -- that dedicated probation officers will not be assigned caseloads other than OPTS clients, or that the size of any other caseload will be limited (the maximum size of any non-OPTS caseload should be stipulated).

- Obtain probation department agreement to supersede, wherever feasible, probation agency practices that result in clients being transferred to supervision of

a different probation officer (e.g., due to change in probation status, such as placement on electronic monitoring, or transfer to a halfway house or other residential facility). Obtain agreements that the dedicated PO will remain the cognizant PO for program clients, wherever feasible, in cases where transfer cannot be avoided.

- Recognize that staff turnover at the program level may adversely affect continuity and quality of service provision. Policies should be implemented to reduce the likelihood of staff loss (e.g., careful selection of line staff to ensure their suitability for this type of initiative, practices that mitigate burn-out) and, where that is not feasible, to ensure smooth transitions (e.g., manuals and guidelines documenting the program's evolution and operations).

- Joint hiring of staff (or interagency agreement on which existent staff will be assigned to OPTS) also may promote staff retention. Such a staffing approach requires partner organizations to achieve consensus on the desirable characteristics of employees, as well as to clarify the specific requirements of the job and how it relates to other functions. Joint consideration of such details may result in more careful selection of individuals who are well-suited to these roles. Joint staffing decisions also may reduce the likelihood that the respective organizations will impose inconsistent demands that lead to staff frustration.

Service Network

Achievement of OPTS objectives, such as reducing the prevalence and frequency of substance abuse and associated criminal behavior, and strengthening positive ties of ex-offenders to work, family and community, is dependant, at least in part, on the model's objective of increasing ex-offender involvement in social service programs. Clients exhibited diverse problems and needs; in response, the local programs tried to identify, broker, or directly deliver a wide range of services within the targeted domains. At least some services also were extended to spouses, domestic partners, family and household members. Some clients posed greater challenges than others -- because of special needs, such as dual diagnosis; personal characteristics of the client; or resistance to services. In some instances, problems or failures in service provision may have been due to faulty assessment or referral to programs that were inappropriate for clients with certain types of problems. In some cases, referral decisions were based on availability of space when service was needed, rather than on the best match for a particular client's needs.

> On-going resource development on the part of case managers was critical to adequately supplement service deficits that developed in relation to the dynamic flow of community-based resources.

Gaps in the service delivery system, particularly in programs that meet the needs of clients with special circumstances (e.g., HIV, dual diagnosis) were frequently encountered. Waiting lists and shorter periods of service provision than optimal were relatively common for some services (e.g., inpatient drug treatment, long-term residential treatment), and funding or other eligibility requirements (e.g., drug treatment programs' acceptance of Medicaid or particular types of insurance) further limited service options. Some programs limited potential clientele due to their focus on a particular population (e.g., female or youthful abusers, or abusers of a specific substance, such as heroin or cocaine), or use of a specific approach (e.g., use of an Afro-centric model).

The changing landscape of local service provision, where existing programs might abruptly close or change key features (such as eligibility requirements or service modalities) in response to political or fiscal factors also affected service options for both OPTS clients and control group members. However, the self-report data consistently reflect OPTS clients had greater access to services than did the controls. Clearly, this is related to local OPTS program efforts that expanded the network of service providers beyond those identified in the core partnerships to fill gaps in service for redundancy, to ensure availability of service where programs had limited capacity, or to meet clients' unique needs.

Despite the challenges associated with identifying and securing services for OPTS clients, a considerable range of service providers and services in the core domains was evidenced across sites. The services varied in the degree to which they offered formal or standardized interventions, the duration or length of service delivery per client, and the intensity (e.g., the frequency of contact). Not surprisingly, the widest range of services appears to have been provided in the core service area of substance abuse treatment. Services in this domain ranged from self-help (e.g., 12-step model) and support groups, various types of outpatient treatment, and short- and long-term residential (in-patient) treatment programs, including halfway houses.

For OPTS clients, the lead agencies functioned as service providers in all sites, providing one or more core services in addition to counseling or therapeutic interventions associated with case management. In some cases, the original OPTS design called for the lead agency to provide services in its typical sphere of activity (e.g., in Tampa, DACCO routinely provides residential and outpatient substance abuse treatment, and operates a number of drug-free housing facilities). Over time, the lead agencies took on provision of a variety of services that, in effect, addressed some of the service gaps identified. For example, the St. Louis OPTS program established a small-scale clothing closet and food pantry at the OPTS office. This was initiated to readily provide clothing when a job

interview or job opportunity became available on short notice, or to address emergency needs for food or clothing that could not be delayed until access to the regular food or clothing banks could be arranged. Similarly, most lead agencies adopted the practice of providing loans to OPTS clients, primarily to enable them to obtain, or retain, housing. Lack of funds for the deposit on an apartment, or to pay rent or utility bills to avoid loss of an existing housing arrangement, was a commonly encountered problem that jeopardized OPTS clients' ability to secure stable housing.

Lead agencies also acted to modify the scope of one of the core services. The OPTS model initially called for parenting skills training as one of the core components. Over time, the lead agencies broadened their interpretation of this service to include more generalized family interventions, such as family support or family strengthening activities. This modification was due, in part, to the recognized need for services to support and address problems in the family/domestic structure that often threatened to undermine recovery. Thus, services such as anger management, domestic violence counseling, and other family support services were added to this component. This component also encompassed broader skills building services, addressing such issues as life skills (financial management and problem-solving skills), self-esteem and self-reliance development, and successful re-integration in the community after incarceration. Parenting and family strengthening skills were often included in more generic skills building programs. The lead agencies often provided services associated with this component, although referrals also were made to existing service providers.

It became clear during the course of the demonstration that client needs that were not directly related to a particular service often acted as barriers to receipt of that service. For example, lack of personal transportation, or absence of public transportation that links particular areas in the community relatively directly during both day and evening hours, could effectively block clients from participating in services of a specific agency. This was particularly detrimental in cases where clients had special needs that were addressed by relatively few agencies. Similarly, lack of transportation often served as a barrier to fulfilling the employment conditions of supervision, or limited the potential employment opportunities available. The need for appropriate clothing for participation in job interviews, or for working once hired, was an issue lead agencies also had to address on occasion.

Recommendations for Strengthening Service Networks

- Cultivate relationships with more than one service provider in each service domain. It is important to include providers who have experience working with offender clienteles, but who also are prepared to offer services that meet the needs of a diverse population.

- Retain some flexibility in selection of service partners. When partnerships are established prior to, or shortly after, program initiation, service providers may be included (or conversely, overlooked) based on who was at the table during the planning phase. Although advanced planning is desirable, decision making often takes place before staff have realistic exposure to actual clients and their needs. It may be that some of the originally selected providers are unprepared to serve the range of clients that subsequently enter the program or they may be unable or unwilling to introduce new approaches into their pre-existing service configuration.

- Encourage case managers and POs to forge relationships with new providers through development of professional and personal contacts. This might be done by attending regular professional meetings of cognizant service sectors, or by the lead agency periodically hosting workshops or conferences that enable networking. Case managers should be encouraged to view resource development as part of their jobs, and to periodically seek out potential service providers to expand the network. This activity could be performed when caseloads are lighter than usual, or when there are periods of "down time" for some reason.

- Obtain MOUs with all service providers. These should require information sharing with case the case manager, PO, or other cognizant program staff (e.g., program coordinators or staff assigned to data collection), as well as provision of service to clients.

- Form a community-wide service cabinet with regular (e.g., quarterly) meetings to engage service delivery staff of agencies commonly used in discussing service delivery issues affecting clients, and to promote stronger collaboration and common understanding of the program. Such cabinets promote familiarity with the changing configuration of local service resources and their strengths and limitations, as well as serving as a forum to identify gaps in services, capacity issues, or other barriers to service delivery.

- Encourage case managers or POs to participate in, or even initiate, local task forces or study groups seeking to address gaps in services for populations such as OPTS clients.

- Where feasible, expand the "team" participating in regular case-manager-PO meetings to include key service providers (those who serve substantial numbers of program clients).

- Anticipate, and make arrangements to address, ancillary client needs that serve as barriers to receipt of services or fulfillment of supervision requirements, such as

transportation to service providers or employment sites, work clothing or tools, etc.

- Use the media to develop a positive image of the program among the general public and key decision makers -- including leadership of service providing agencies that might otherwise be reluctant to accept substance abusing offenders. Similarly, the media can serve as a forum to publicize the need for specialized or scarce services for this population.

Individualized public relations or networking efforts may also be useful to address some service-related issues. OPTS case managers have outreached to employers to inform them about the OPTS program and to educate employers about the "potential benefits of hiring an ex-offender." Such advance efforts may help shape employers' expectations and willingness to deal with offenders who are returning to the workforce in a more realistic and, possibly, tolerant fashion. At the least, improved communication between employers and program staff or service providers may alert case managers or employment counselors to emerging workplace problems that can be resolved before they undermine a client's success. This approach may be useful in cases where particular service providers -- e.g., housing or substance abuse treatment services -- are reluctant to accept OPTS clients because of their backgrounds.

CHAPTER 5
THE EFFECTS OF OPTS ON SUBSTANCE ABUSE

The primary thrust of the OPTS intervention was to prevent substance abuse relapse and criminal recidivism. The importance of the linkage between drug use and criminal behavior is underscored by a vast body of criminology literature that suggests that drug-dependent offenders are responsible for an extraordinary proportion of crime (Chaiken, 1986; Gropper, 1985; Inciardi, 1979; Johnson et al., 1995). Substance abusers, especially offenders who use heroin and cocaine, have been found to exhibit extremely high rates of criminal behavior (Ball et al., 1981; Ball et al., 1986; Chaiken and Chaiken, 1983; Johnson et al., 1995; McGlothlin et al., 1977; Harrison and Gfroerer, 1992). As the severity of drug abuse increases among users, the frequency and severity of their criminal behaviors rises dramatically (Chaiken, 1986; Chaiken and Chaiken, 1982; Collins et al., 1985; Speckart and Anglin, 1986a,b).

Drug-dependent criminals generally lead lifestyles characterized by self-destructive and anti-social behaviors; they also have problems related to job training, dependence on others, and frequent conflict with criminal justice authorities (Collins et al., 1985; Wexler et al., 1988). Furthermore, criminal offenders who are poly-substance abusers or regular users of hard drugs are typically at high risk of recidivism after release from prison (Chaiken and Chaiken, 1992; Innes, 1986; Wexler et al., 1988).

In this chapter, self-report data are used to test the general research hypothesis that OPTS clients had lower rates of alcohol and drug use than did offenders under routine supervision during their first year of probation/parole. Survey respondents were asked to report on their use of alcohol, marijuana, and more serious drugs, using questions modified from the Drug Severity Index (Inciardi et al., 1993b). At the baseline, they were asked about substance use during: 1) their lifetime and 2) the 90 days prior to the incarceration that qualified them for inclusion in the OPTS sample. Figure 5-1 illustrates the extent to which respondents reported ever having used any of the 18 DSI substances prior to their entry into the OPTS study (i.e., lifetime pre-OPTS). Only 2 individuals (both treatment group members in Kansas City) reported they had never used any of the substances covered in the DSI.

Exhibit 5-1 depicts respondents' reported use during the three months prior to their pre-OPTS incarceration. Alcohol, marijuana, and crack cocaine were the three most prevalent substances reportedly used during the 90-day period. Thirteen OPTS clients (i.e., 5 in Kansas City, and 4 each in St. Louis and Tampa, or approximately 14% of the baseline treatment group) and 14 individuals under routine supervision (i.e., 2 in Kansas City, 1 in St. Louis, and 11 in Tampa, or approximately 8% of the control group) reportedly used no substances during the last three months prior to the incarceration that qualified them for inclusion in the OPTS study.

The follow-up survey also captured two time frames: 1) any use within the first year of probation/parole supervision and 2) use within their last three months in the community (street

FIGURE 5-1.

Percentage of Baseline Sample Ever Used Substances, by Type of Substance and Group Assignment (N = 343)

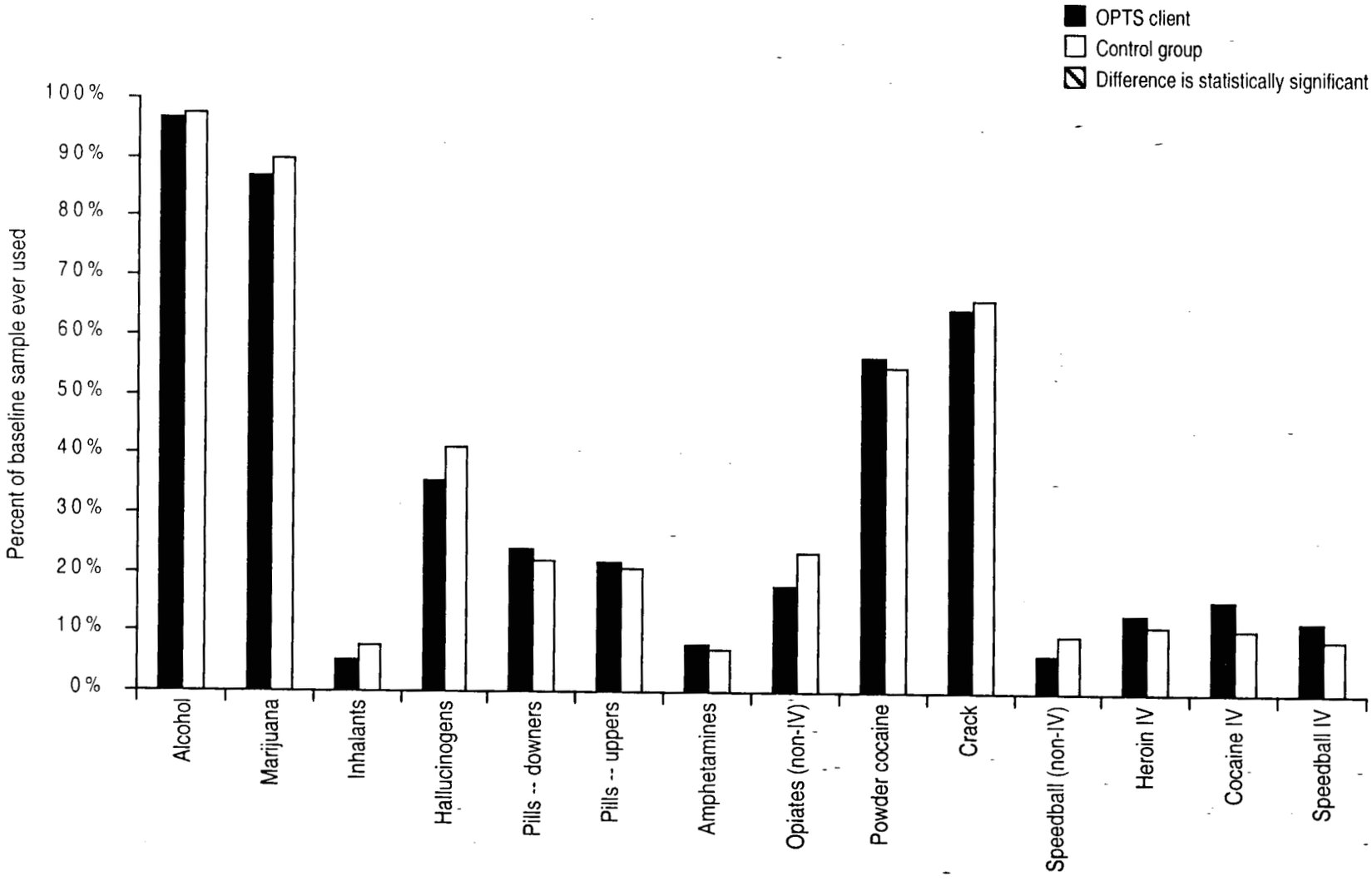


Exhibit 5-1
Pre-OPTS Substance Use in the Three Months Prior to Incarceration, N=343 (%)

DRUG	Not At All		1 to 5 Times Total		1 to 3 Times Per Month		About Once per Week		Several Times Per Week		Once per Day		Several Times Per Day	
	OPTS	Control	OPTS	Control	OPTS	Control	OPTS	Control	OPTS	Control	OPTS	Control	OPTS	Control
Alcohol	21.7	16.7	5.7	3.6	8.6	7.7	5.1	7.1	20.6	13.7	10.3	15.5	28.0	35.7
Marijuana	54.3	44.3	6.3	4.8	6.3	8.4	6.3	6.6	4.6	9.0	4.6	12.0	17.7	15.0
Inhalants	100.0	97.0	0.0	1.8	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0
Hallucinogens	92.6	89.9	1.7	4.2	1.1	1.2	1.1	0.0	1.1	0.6	0.0	0.6	2.3	3.6
Pills (downers)	93.7	92.9	1.1	3.6	0.6	0.0	0.6	0.6	1.7	1.8	1.1	0.0	1.1	1.2
Pills (uppers)	96.6	97.0	0.0	1.2	1.7	1.8	1.1	0.0	0.0	0.0	0.0	0.0	0.6	0.0
Amphetamines*	98.9	97.6	0.0	1.2	0.0	0.0	1.1	0.6	0.0	0.6	0.0	0.0	0.0	0.0
Opiates	92.0	90.5	0.0	0.6	0.6	0.6	0.0	0.6	1.1	1.8	1.7	1.2	4.6	4.8
Cocaine*	75.9	76.5	1.7	3.6	3.4	3.0	0.0	3.6	8.6	2.4	2.3	2.4	8.0	8.4
Crack	50.3	48.5	2.3	4.2	3.4	3.6	4.0	4.2	10.9	7.8	2.3	4.8	26.9	26.9
Speedball	97.7	96.4	1.1	0.6	0.0	0.0	0.6	0.0	0.0	1.2	0.0	0.0	0.6	1.8
Basuco	98.9	100.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0
Heroin (IV)	93.7	96.4	1.1	0.0	0.6	0.0	0.0	0.0	0.6	0.0	0.6	0.6	3.4	3.0
Cocaine (IV)	93.7	96.4	1.7	0.0	1.7	0.6	0.0	0.0	1.1	1.2	0.6	0.0	1.7	1.8
Speedball (IV)	97.7	96.4	0.0	0.0	0.6	0.0	0.0	0.6	1.1	1.8	1.1	0.0	1.7	1.2
Speed (IV)	98.3	99.4	0.6	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6
Other Narcotics (IV)	100.0	99.4	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Illegal Methadone	98.3	98.8	1.1	0.6	0.0	0.0	0.6	0.0	0.0	0.6	0.0	0.0	0.0	0.0

OPTS: N=175
Control: N=168
*N's may be lower due to missing data

months). Figure 5-2 shows the percentage of OPTS clients and the control group who reported using various substances (i.e., relapsing) during the follow-up year, while Exhibit 5-2 presents the frequency with which the sample used each of the DSI substances during their most recent three street months. Alcohol, marijuana, and crack cocaine remained the three most prevalent substances respondents reported using.

Roughly 28% of OPTS clients (i.e., 10 individuals in Kansas City, 19 in St. Louis, and 13 in Tampa) and 22% of the control group (i.e., 3 persons in Kansas City, 14 in St. Louis, and 13 in Tampa) reported they had not used any of the DSI substances during their follow-up year. Focusing only on the most recent three street months, approximately 38% of OPTS clients (i.e., 11 individuals in Kansas City, 26 in St. Louis, and 20 in Tampa) and 26% of the control group (i.e., 4 persons in Kansas City, 15 in St. Louis, and 15 in Tampa) said they had not used any of these substances.

This chapter presents the analysis using multiple measures of substance abuse. Baseline to follow-up changes for the treatment and control groups are reported, but the emphasis is focused on differences in substance use between the OPTS clients and the control group at follow up, after controlling for differences in baseline substance use and attrition.

Measures of Impact on Substance Abuse

The impact analysis measures three types of substance abuse: alcohol use, marijuana use, and hard drug use[1]. For each of these substance abuse categories, three indicators are used: 1) whether there was any use of the substance type, 2) whether there was intense use (defined as several times a week or more frequently) of that type of substance, and 3) the amount of money spent on daily substance use. These measures focus on usage in both the past year (i.e., during the 12-month follow-up period) and the past three months (i.e., the most recent three months on the street for the follow-up period, and the three months before pre-OPTS incarceration for baseline measurements). The measures are detailed in the Glossary.

Treatment and Control Group Changes Between Baseline and Follow-Up Measures

Exhibit 5-3 compares treatment and control group use for the three types of substances at baseline and during the follow-up period. All three measures (i.e., any use in the past year, any use in the past three months, and intense use in the past three months) show sharp declines between the baseline and follow up for the three substance use categories. Also, the

[1] Hard drugs include inhalants, hallucinogens, pills(downers and uppers), amphetamines, opiates, heroin, illegal methadone, basuco, and intravenous and nonintravenous uses of cocaine, crack, and speedball.

FIGURE 5-2.

Percentage of Follow-Up Sample That Used Substances During First Year of Supervision, by Type of Substance and Group Assignment (N = 283)

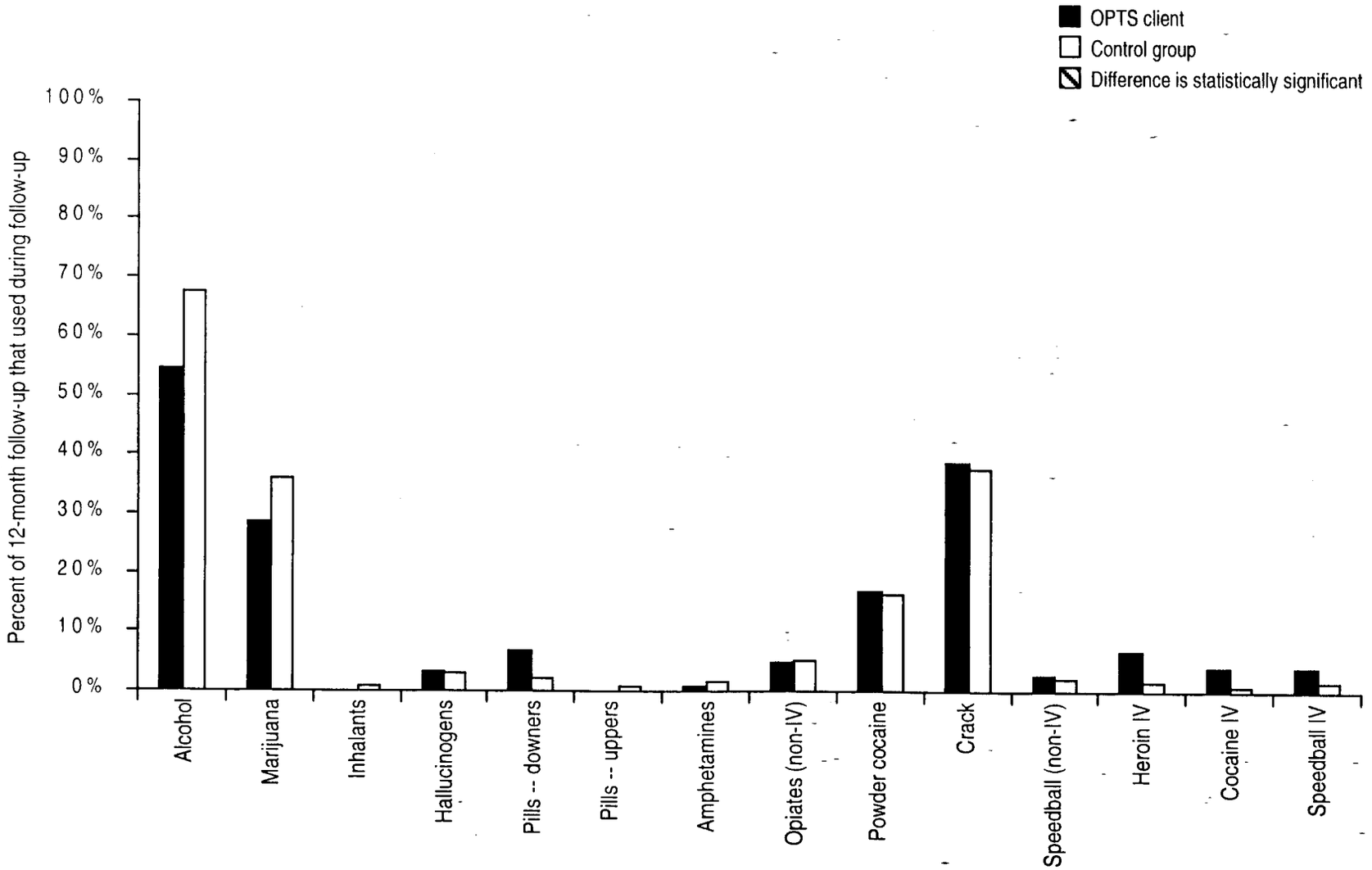


Exhibit 5-2
Substance Use During the Last Three Months of Street Time of the Follow-Up Year, N=283 (%)

DRUG	Not At All		1 to 5 Times Total		1 to 3 Times Per Month		About Once per Week		Several Times Per Week		Once per Day		Several Times Per Day	
	OPTS	Control	OPTS	Control	OPTS	Control	OPTS	Control	OPTS	Control	OPTS	Control	OPTS	Control
Alcohol	59.1	38.6	5.8	8.7	5.1	7.9	6.6	6.3	9.5	15	3.6	4.7	10.2	18.9
Marijuana	76.8	67.2	7.7	4.5	2.1	5.2	2.1	3	1.4	6	1.4	1.5	8.5	12.7
Inhalants	100	99.3	0	0	0	0.7	0	0	0	0	0	0	0	0
Hallucinogens	98.6	97.8	0	0	0	0.7	0	0.7	0.7	0	0.7	0	0	0.7
Pills (downers)	93.2	97.8	0.7	0	2	0.7	1.4	0	2.7	0.7	0	0.7	0	0
Pills (uppers)	100	99.3	0	0.7	0	0	0	0	0	0	0	0	0	0
Amphetamines*	99.3	98.5	0	1.5	0	0	0	0	0	0	0.7	0	0	0
Opiates	97.3	95.6	0	1.5	0.7	0.7	0.7	0.7	0.7	0.7	0	0	0.7	0.7
Cocaine*	90.8	85.8	1.4	3.7	1.4	1.5	1.4	0.7	1.4	4.5	1.4	0	2.1	3.7
Crack	74.8	69.2	2.2	8.3	3.6	2.3	2.2	1.5	4.3	6	2.9	1.5	10.1	11.3
Speedball	98.6	98.5	0.7	0.7	0	0	0.7	0	0	0.7	0	0	0	0
Basuco	100	100	0	0	0	0	0	0	0	0	0	0	0	0
Heroin (IV)	95.2	98.5	0.7	0.7	0.7	0	0	0	0	0	0	0.7	3.4	0
Cocaine (IV)	98	99.3	0.7	0	0	0	0	0	0	0	0	0.7	1.4	0
Speedball (IV)	97.3	98.5	1.4	0	0	0	0	0	0	0	0	0.7	1.4	0.7
Speed (IV)	99.3	100	0	0	0	0	0	0	0	0	0.7	0	0	0
Other Narcotics (IV)	100	100	0	0	0	0	0	0	0	0	0	0	0	0

Exhibit 5-3
Change in Substance Use From Baseline to Follow-Up, For Sample and by Group

	Total Sample		Treatment Group		Control Group	
	Baseline	Follow Up	Baseline	Follow Up	Baseline	Follow Up
Any alcohol use in the past year	------	------	97% (175)	56% (151)	98% (168)	68% (137)
Any alcohol use in the past three months	81% (343)	51% (269)	78% (175)	42% (141)	83% (168)	62% (128)
Intense alcohol use in the past three months	62% (343)	30% (269)	59% (175)	23% (141)	65% (168)	38% (128)
Money spent on daily alcohol use	$13 (340)	$6 (265)	----	----	----	----
Any marijuana use in the past year	----	----	86% (175)	29% (151)	90% (168)	36% (137)
Any marijuana use in the past three months	50% (341)	20% (282)	46% (175)	16% (147)	55% (166)	24% (135)
Intense marijuana use in the past three months	31% (341)	15% (281)	27% (175)	11% (146)	36% (166)	20% (135)
Money spent on daily marijuana use	$11(339)	$7 (280)	----	-----	-----	----
Any hard drug use in the past year	----	----	87% (175)	50% (151)	88% (168)	50% (137)
Any hard drug use in the past three months	70% (341)	39% (273)	68% (174)	36% (140)	73% (167)	43% (133)
Intense hard drug use in the past three months	55% (340)	28% (272)	55% (174)	27% (139)	57% (166)	29% (133)
Money spent on daily hard drug use	$142 (333)	$52 (269)	----	----	----	----

amount of money reportedly spent by the sample on each type of substance decreased from baseline to follow up.

The percentage of both OPTS clients and the control group reporting substance use during the year-long follow-up period, as compared to their pre-OPTS lifetime use, dropped considerably for all three substance categories. The percentage reporting alcohol use during their first year of supervision declined 42% for the treatment group (i.e., from 97% at baseline to 56% at follow up), as compared to a 31% decline for the control group (i.e., from 98% at baseline to 68% at follow up). The results were similar for marijuana (i.e., a 66% decline for the treatment group, and a 60% decrease for the control group) and hard drug use (i.e., a 43% decline for each group).

There are particularly strong declines reported by both the treatment and control groups with respect to intense use of all three types of substances. For example, the percentage of the OPTS clients reporting intense use of alcohol dropped from 59% at baseline to 23% at follow up, a decrease of 61% over time, as compared to the control group, whose use decreased 42% during this same time frame (i.e., from 65% reporting intense use at baseline to 38% reporting intense use at follow up). Similarly, those reporting intense use of marijuana declined 59% for the treatment group and 44% for the control group, while the percentage of the group reporting intense use of hard drugs declined 51% for OPTS clients, and 49% for the controls.

Differences Between Treatment and Control Groups for Substance Abuse Measures at Follow Up

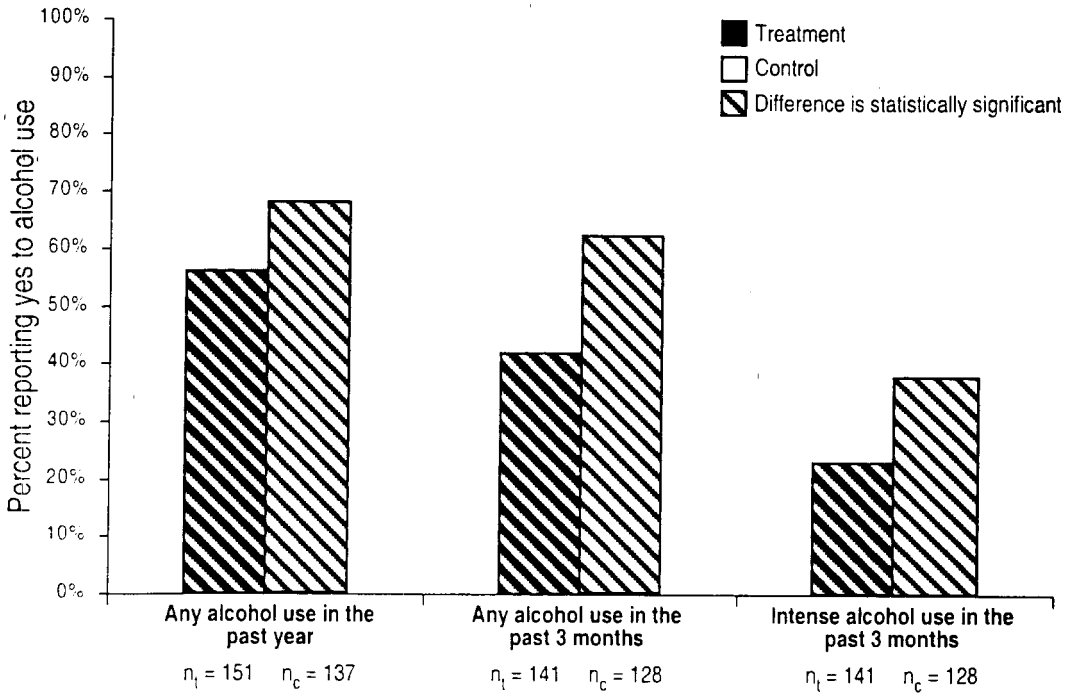
The differences between the treatment and control groups for substance abuse measures for the follow-up period were analyzed using two sample t-tests of equality of means. As shown in Figure 5-3, 56% of OPTS clients, as compared to 68% of the control group, reported using alcohol during the follow-up year; also, 42% of clients and 62% of controls were still reportedly using alcohol during their most recent three street months of the follow-up year. However, OPTS clients were significantly less likely than the control group to report any alcohol use both the follow-up year and last three street months of their follow-up year, as well as reporting significantly less intense alcohol use and less money spent on alcohol in the most recent three-month period.

Approximately 29% of OPTS clients reportedly used marijuana at some time during the follow-up period, as compared to 36% of the control group; and, 16% of clients, as compared to 24% of the controls, were still using marijuana during their last three street months in that year. For the last three street months of the follow-up period, OPTS clients were significantly less likely than the control group to report marijuana use and intense use of marijuana use; however, there were not significant differences reported between the two groups in marijuana use for the follow-up year, or the amount of money spent on marijuana during the most recent three street months, as presented in Figure 5-4.

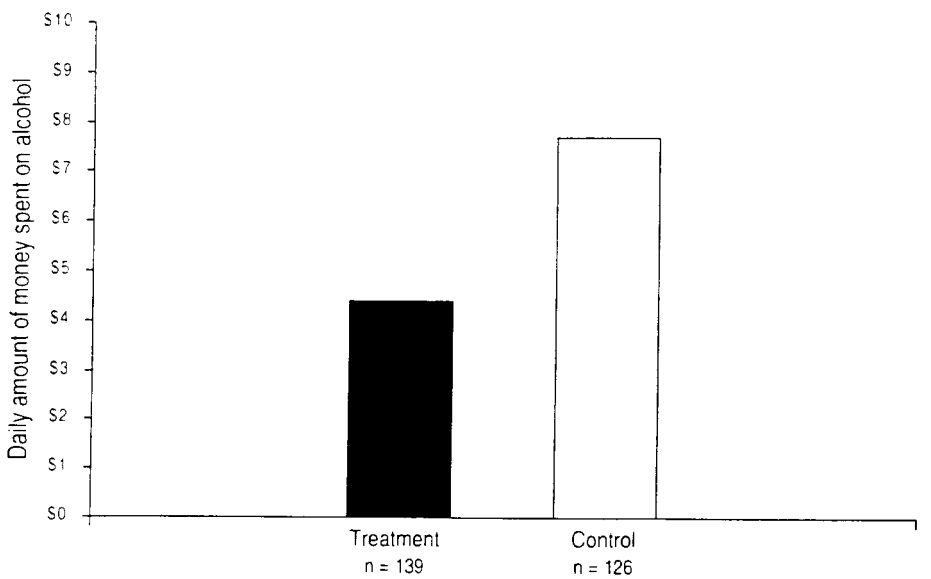
FIGURE 5-3.

Differences Between Treatment and Control Groups for Alcohol Use During Follow-Up Period

ALCOHOL USE



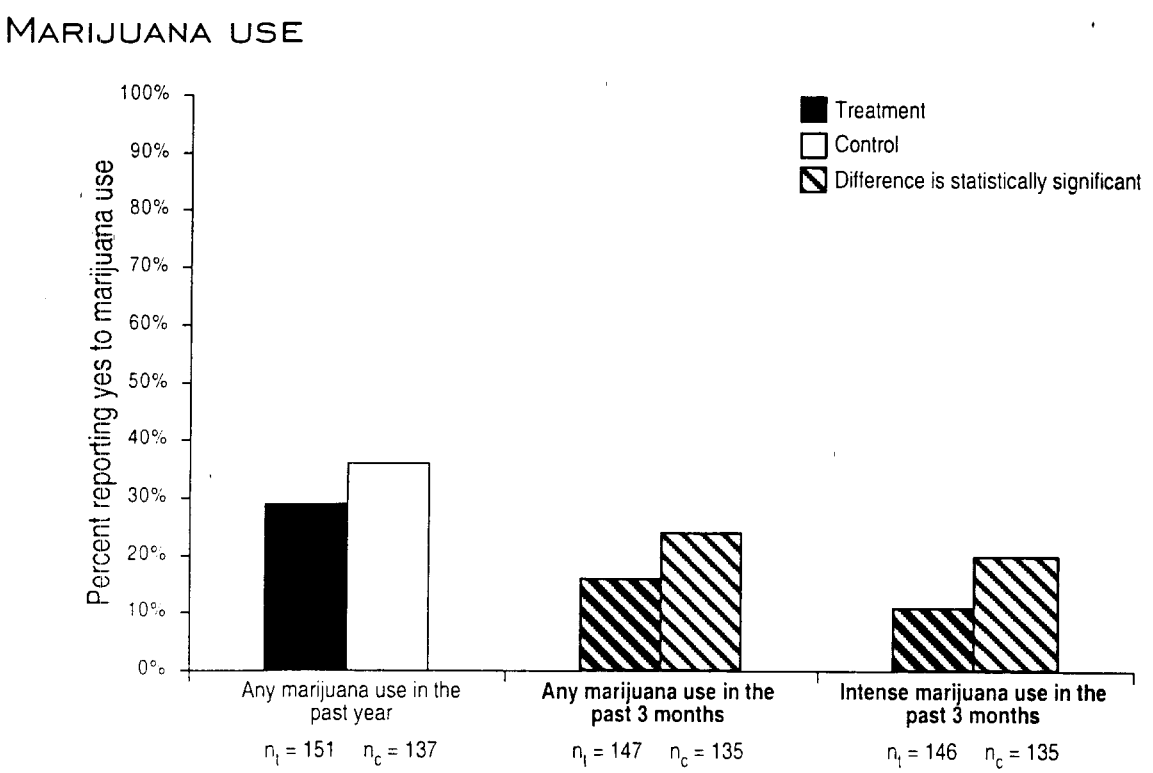
MONEY SPENT ON ALCOHOL IN THE PAST 3 MONTHS*

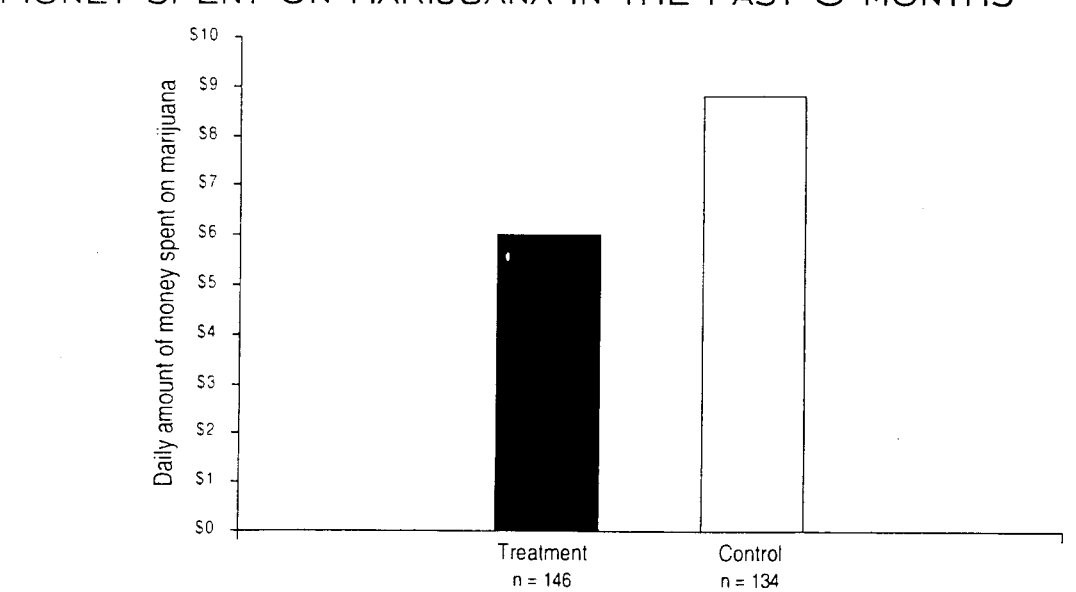


*Difference is statistically significant at the 0.10 level

FIGURE 5-4.

Differences Between Treatment and Control Groups for Marijuana Use During Follow-Up Period





Half of OPTS clients and the control group reportedly used hard drugs at some point during the follow-up year. Approximately 36% of clients and 43% of control group members reported using hard drugs during their most recent three street months of the follow-up year. The differences in hard drug use between treatment and control groups are not statistically different for any of the measures used, as depicted in Figure 5-5.

Exhibits 5-4 and 5-5 present the results of the regression models that were run without and with corrections for attrition (the methodology is described in Chapter 3 and Appendix C). Separate regression models were run for *each* of the outcomes. After controlling for covariates and site effects, statistically significant differences between the treatment and control groups are found with respect to alcohol use, but are not obtained for marijuana and hard drug use.

The interactional effects of OPTS were examined by including an interaction term incorporating membership in OPTS[2] in each of the regression models. In general, very weak relationships were observed: no interactional effects were found at the 0.05 level of significance (using one-tailed tests). A few effects were observed at the 0.10 significance level; these are considered exploratory and are found in Appendix G.

Figures 5-6, 5-7, and 5-8 describe the differences between treatment and control groups' substance use by site. As depicted in Figure 5-6, the treatment groups had lower levels of alcohol use than the control groups for each of the sites; and, the percentage of clients using alcohol during the last three street months of the follow-up year (i.e., 54% used alcohol in Kansas City, 42% in St. Louis, and 24% in Tampa) was significantly less than that of controls (i.e., 74% in Kansas City, 60% in St. Louis, and 54% in Tampa) for all local programs. The differences between OPTS clients and control group members were statistically significant on all alcohol measures only for the Kansas City program.

As depicted in Figure 5-7, although proportionately fewer OPTS clients, than control group members, reported using marijuana during the follow-up year, these differences were not statistically significant in any of the three sites. The percentage reporting marijuana use in the past three months was lower in the treatment groups, as compared to the control groups, primarily for Kansas City and Tampa, although the difference was only statistically significant for the Kansas City program. In St. Louis, the percentage of offenders who used marijuana in that three-month period was fairly comparable between the treatment and control groups (18% and 20%). Fewer OPTS clients, as compared to controls, reported intense marijuana use in the past three months at each of the sites, but this was statistically significant only in Kansas City and St. Louis.

There are interesting site effects for hard drug use, as shown in Figure 5-8. No consistent evidence was found for the effectiveness of OPTS in reducing clients' hard drug usage in Tampa

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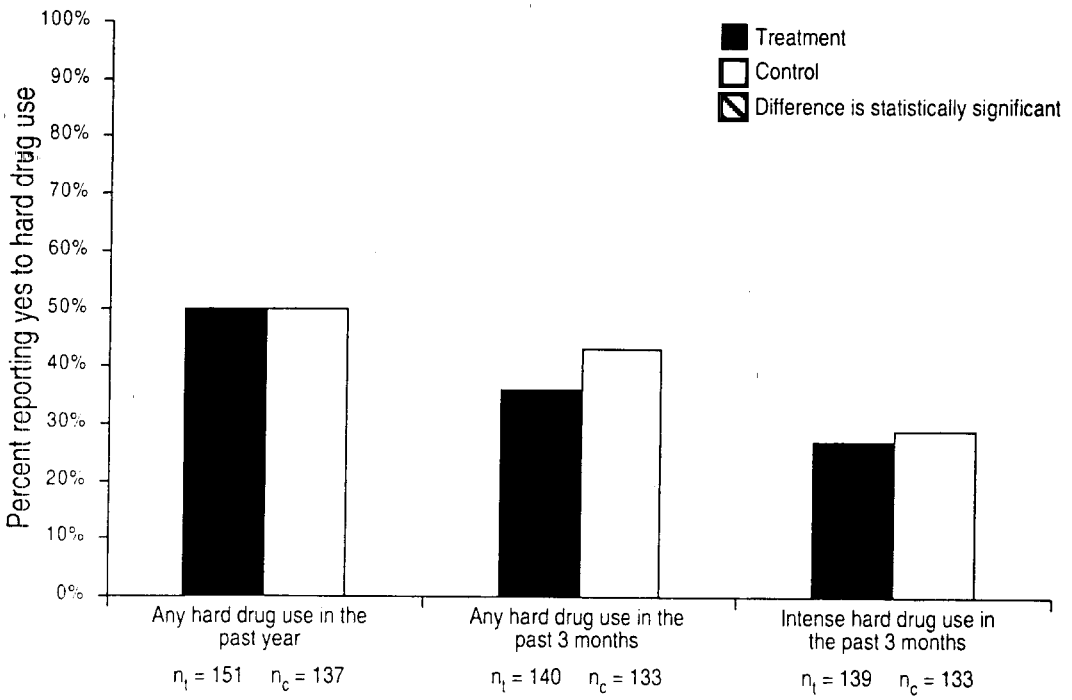
[2] The interaction term was a product of membership in OPTS and the initial baseline measure corresponding to the outcome.

FIGURE 5-5.

Differences Between Treatment and Control Groups for Hard Drug Use During Follow-Up Period

HARD DRUG USE



MONEY SPENT ON HARD DRUGS IN THE PAST 3 MONTHS

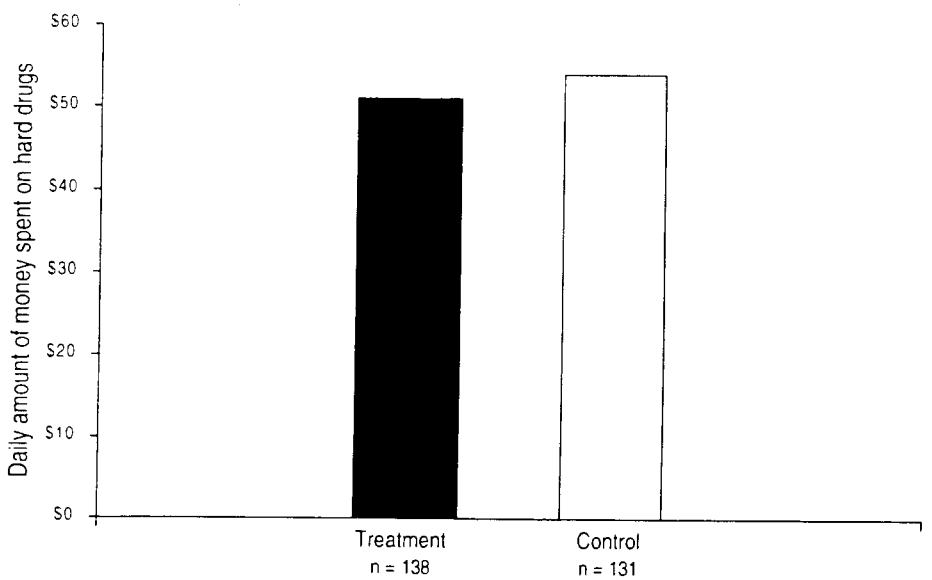


Exhibit 5-4
Regression Models Without Correction for Attrition

Coefficients of the Linear Model[3]

Dependent Measures

	Any Alcohol Use (past year)	Any Marijuana Use (past year)	Any Hard Drug use (past year)	Any Alcohol Use (past three months)	Any Marijuana Use (past three months)	Any Hard Drug use (past three months)	Intense Alcohol Use	Intense Marijuana Use	Intense Hard Drug Use
Membership in OPTS	-0.12**	-0.03	0.05	-0.19**	-0.05	-0.04	-0.14**	-0.05	-0.02
Corresponding Baseline Problem Behavior	0.44**	0.41**	0.48**	0.40**	0.30**	0.38**	0.31**	0.33**	0.24**
Site (Tampa)	-0.08	-0.08*	-0.08	-0.12**	-0.07	-0.11*	-0.12**	-0.06	-0.10**
Site (Kansas City)	0.08*	0.11**	0.01	0.12**	0.08*	0.05	0.03	-0.03	0.05
Constant	0.32**	0.12**	0.15**	0.29**	0.07	0.16**	0.21**	0.11**	0.16**
R^2	0.17	0.22	0.18	0.18	0.18	0.12	0.15	0.18	0.08
N	283	281	281	264	275	266	264	274	264

Note: A negative value for *membership in OPTS* implies a lower level of usage in the treatment group.
** $p < .05$; * $p < .10$

[3] Given the dichotomous nature of these dependent measures, the analysis also was run using logistic regression technique. No substantive differences were observed between the estimates obtained using OLS and logistic regression. As the OLS estimates are easier to interpret they have been reported.

Exhibit 5-5
Regression Models With Correction for Attrition

Coefficients of the Linear Model

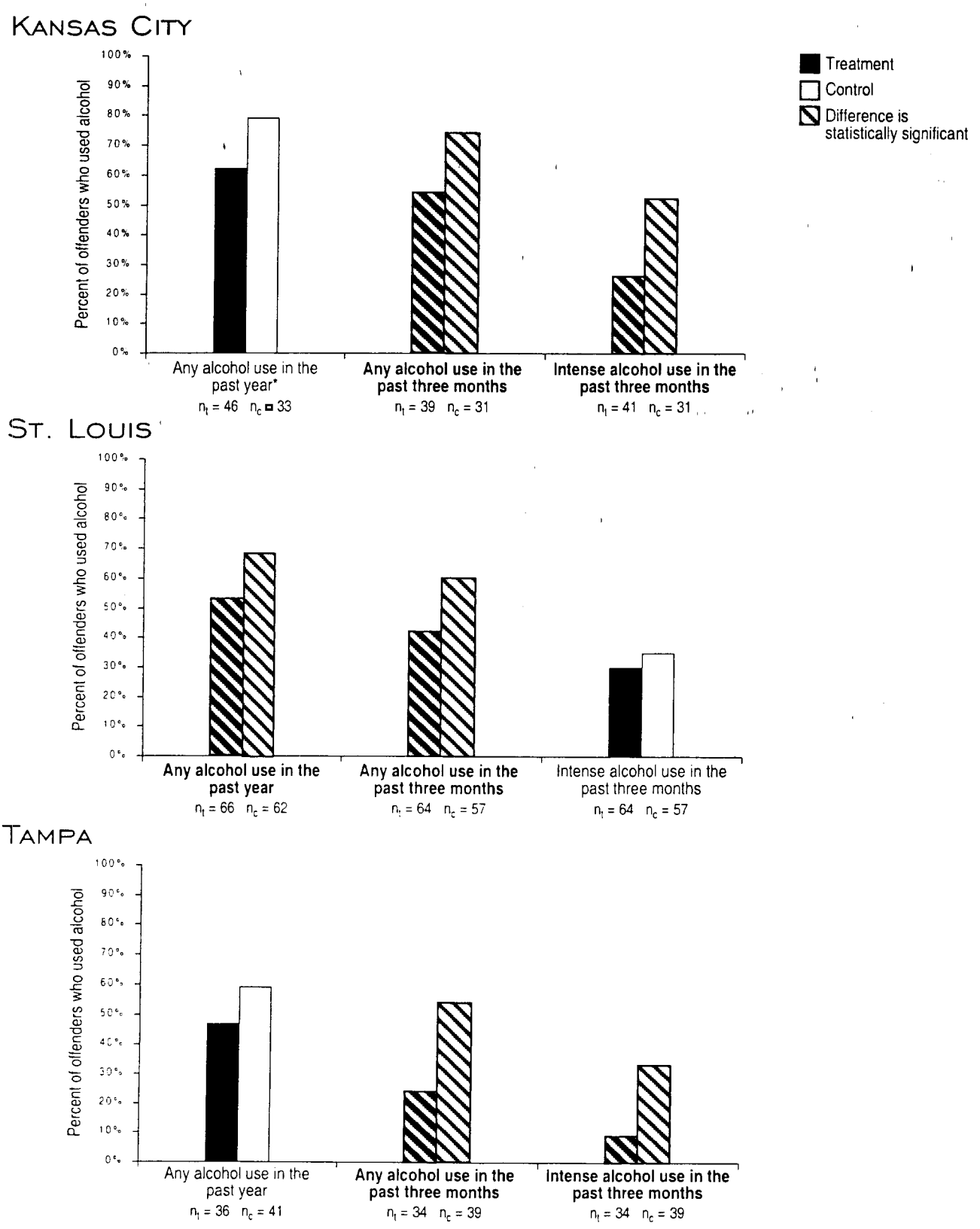
Dependent Measures

	Any Alcohol Use (past year)	Any Marijuana Use (past year)	Any Hard Drug Use (past year)	Any Alcohol Use (past three months)	Any Marijuana Use (past three months)	Any Hard Drug Use (past three months)	Intense Alcohol Use	Intense Marijuana Use	Intense Hard Drug Use
Membership in OPTS	-0.12**	-0.02	0.06	-0.20**	-0.04	-0.04	-0.14**	-0.04	-0.02
Corresponding Baseline Problem Behavior	0.43**	0.41**	0.48**	0.38**	0.30**	0.37**	0.29**	0.34**	0.25**
Site (Tampa)	-0.07	-0.09*	-0.08	-0.12**	-0.06*	-0.11*	-0.12**	-0.06	-0.10**
Site (Kansas City)	0.10*	0.10*	0.01	0.13**	0.08*	0.05	0.04	-0.03	0.06
Constant	0.31**	0.12**	0.14**	0.29**	0.07	0.16**	0.22**	0.10	0.15**
R^2	0.16	0.24	0.19	0.18	0.18	0.13	0.14	0.19	0.08
N	283	281	281	264	275	266	264	274	264

Note: A negative value for *membership in OPTS* implies a lower level of usage in the treatment group
** $p < .05$; * $p < .10$

FIGURE 5-6.

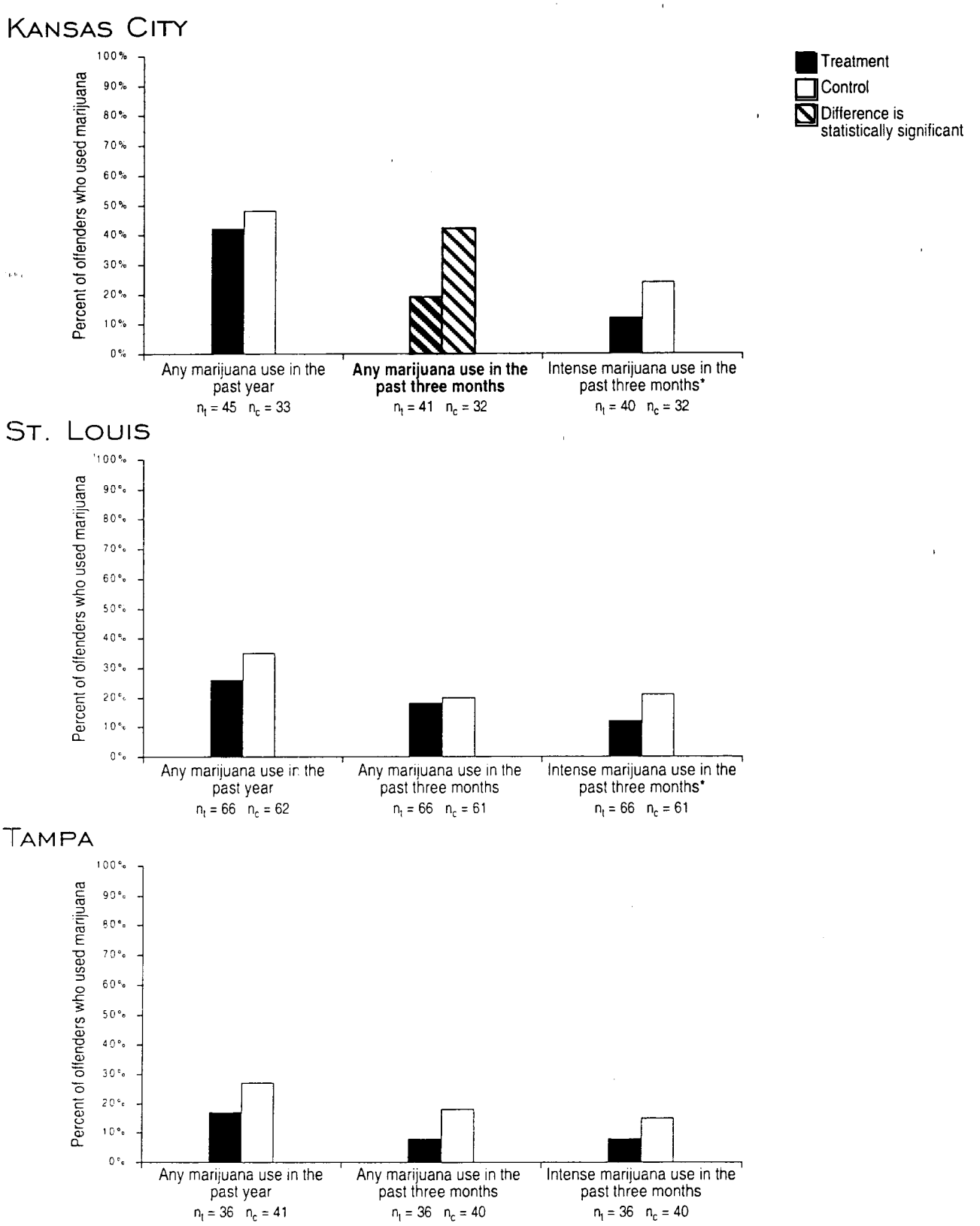
Site-Specific Differences Between Treatment and Control Groups for Alcohol Use



"Difference is statistically significant at the 0.10 level.

FIGURE 5-7.

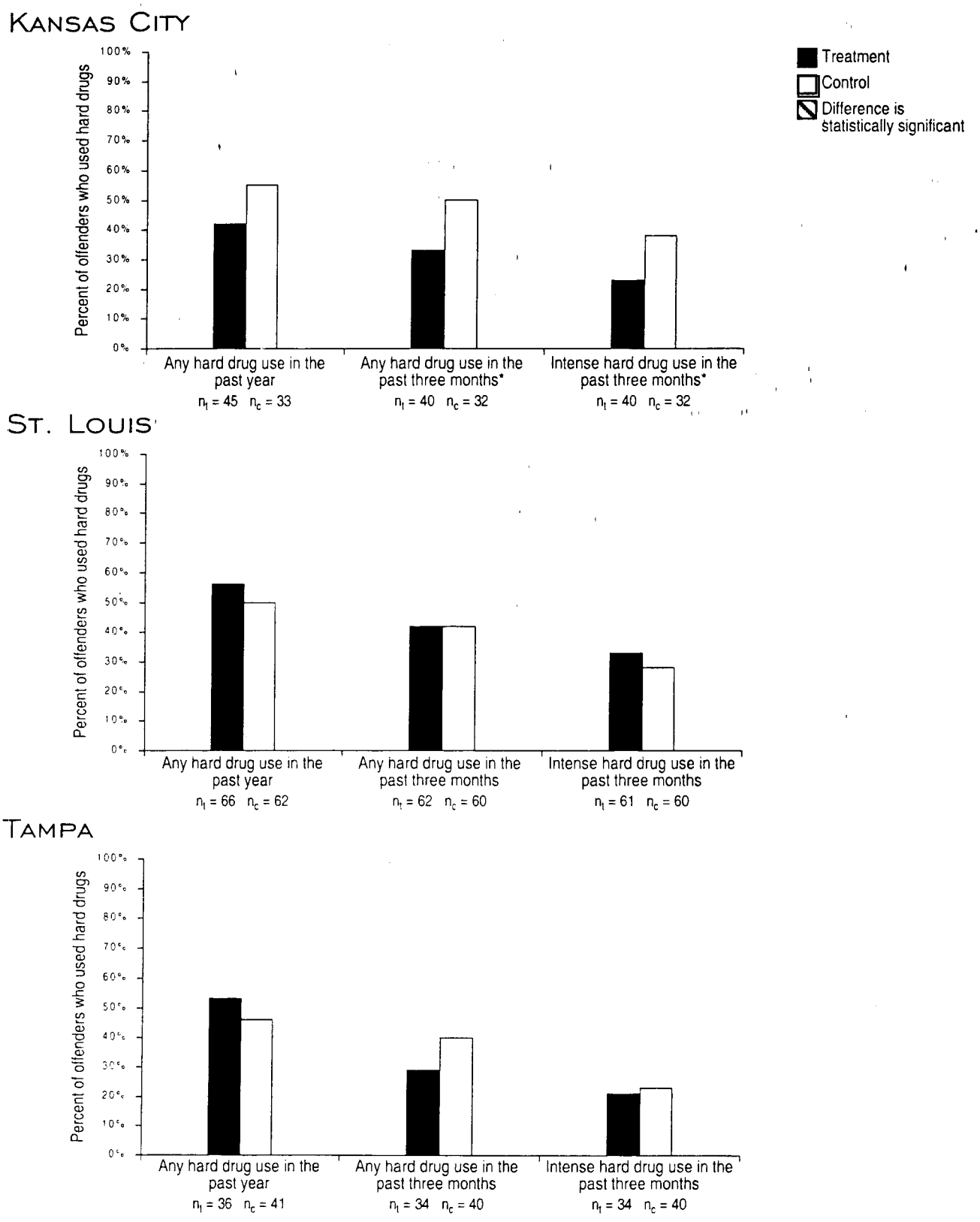
Site-Specific Differences Between Treatment and Control Groups for Marijuana Use



*Difference is statistically significant at the 0.10 level.

FIGURE 5-8.

Site-Specific Differences Between Treatment and Control Groups for Hard Drug Use



*Difference is statistically significant at the 0.10 level.

and St Louis; in fact, more treatment group members in those sites reportedly used hard drugs during the follow-up year than did members of the respective control groups. The percentage of the group reporting hard drug usage was lower for the OPTS clients in Kansas City across the measures, and these differences are statistically significant both for any hard drug use, and intense hard drug use, during the last three street months of the follow-up year.

Summary

Substance use reportedly declined for both OPTS clients and the control group, comparing the period prior to incarceration (i.e., the baseline) to the first year of probation/parole under OPTS or routine supervision (i.e., the follow-up period). At follow up, significantly fewer OPTS clients reported alcohol use than did control group members across a range of measures. OPTS clients also were significantly less likely than the control group to report marijuana use; however, controlling for baseline covariates and attrition reduced the size of these effects, as shown in Exhibits 5-4 and 5-5.

Statistically significant effects were not obtained for hard drug use. Also, treatment group effects were not consistent across the sites.

CHAPTER 6
THE EFFECTS OF OPTS ON CRIMINAL BEHAVIORS

Social learning theories posit that commission of crimes is based on learned behaviors involving learned technical skills, motives, drives, rationalization, and attitudes (Uggen et al., 1992). Also, as Harrison (1992: 216-218) states:

> The requirement for greater income is apparently the basis of the addiction-criminality relationship in contemporary American society...the main motivation for drug abusers engaging in property crimes and drug selling is undoubtedly the desire to obtain money or products (generally drugs). Among drug abusers, the availability of drug-dealing opportunities reduces the necessity of property crimes, since it provides narcotics and/or alternative incomes.

Thus, programs -- such as OPTS -- that simultaneously encourage desistance from substance use and crime, while emphasizing skills building and other pro-social activities, could prove effective in reducing crime.

Self-report and official records data are used to test the general research hypothesis that OPTS clients had lower recidivism rates than did offenders under routine supervision during their first year of probation/parole. This chapter operationalizes multiple measures of criminal behavior. Baseline to follow-up changes in criminal activities for the treatment and control groups are reported, but the main focus of this chapter is on differences in recidivism between the two groups at follow up. Differences in criminal behavior between OPTS clients and the control group are reported, after controlling for attrition.

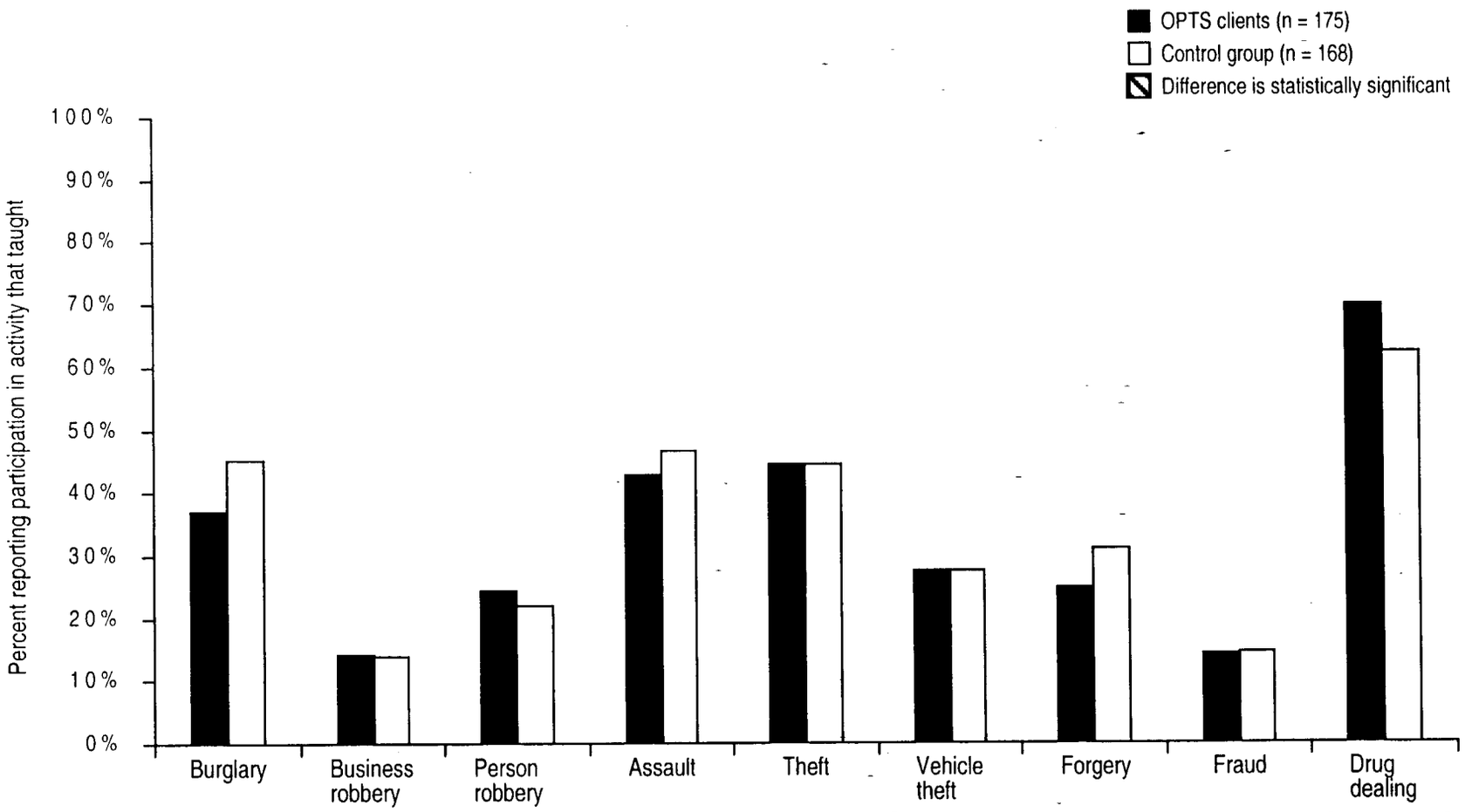
Survey respondents were asked to report on their pre-OPTS criminal histories, as well as their involvement in crime during their first year of supervision. At the baseline, they were asked whether they had engaged in crimes, regardless of whether such activities resulted in arrests, during: 1) their lifetime and 2) the one-year period prior to the incarceration that qualified them for inclusion in the OPTS study. Figure 6-1 depicts the sample's lifetime criminal activities prior to OPTS with respect to burglaries, robberies of businesses or persons, assaults, thefts, vehicle thefts, forgeries, frauds, and drug dealing. At the time of their baseline interviews, approximately 7% of both OPTS clients and the control group reported never having committed any of these crimes.

Measures of Impact on Crime

Criminal activity based on self-reported data is measured in three ways:

FIGURE 6-1.

Lifetime Criminal Activity, by Group



- Participation -- whether respondents committed any of the specific types of crime during a 12-month period. Measures include: burglaries, robberies of businesses, robberies of persons, assaults, thefts, vehicular thefts, forgeries, frauds, drug dealing. In addition, participation measures whether respondents owned or carried guns, were arrested for disorderly conduct, or were stopped for, or charged with, a DWI/DUI incident.

- Frequency -- the numbers of: burglaries, robberies of businesses, robberies of persons, assaults, thefts, vehicular thefts, forgeries, frauds, and incidents of disorderly conduct, DWI/DUI, or crimes in which individuals were hurt or killed.

- Crime calendar information -- uses monthly information to measure the number, and percentage of, streets months in which respondents engaged in criminal behavior. These data also are used to calculate the percentage of street months (i.e., months in which offenders are in the community and not re-incarcerated) during which respondents committed crimes. Crimes are collapsed into three categories: 1) crimes against persons (i.e., robberies and assaults), 2) crimes against property (i.e., burglaries, thefts, car thefts, frauds, and forgeries, and 3) drug dealing.

Baseline measures refers to the 12 months before incarceration that qualified individuals for inclusion in the OPTS study, while follow-up measures refer to the first 12 months of supervision after incarceration.

In addition to these indicators, four measures of criminal activity were derived from official records. These include: 1) number of arrests; 2) number of technical violations; and 3) time to first arrest and 4) time to first technical violation, which are defined as the number of days from the OPTS entry date until date of arrest or the date on which a technical violation report was written.

Measures are further detailed in the Glossary.

Comparison of Key Crime Measures Between Baseline and Follow Up

Exhibit 6-1 compares the differences between baseline and follow-up measures of participation in criminal activity for OPTS clients and the control group. In general, commission of crimes was down for most offenses at the follow-up period as compared to the baseline. Participation in crime reportedly declined dramatically for several items; for example, nearly 53% fewer OPTS clients reported drug dealing at follow up (i.e., dropping from 45.7% to 21.8%) and the control group similarly reported reduction of 42% in participation in that type of crime. The percentage of each group reporting fraud increased slightly from baseline to follow up; also, the control group exhibited a small increase in the percentage reporting assaults.

Exhibit 6-1
Baseline and Follow Up Measures for Participation in Criminal Activity, by Group

Type of Crime	Percentage of OPTS Clients Committing Crime		Percentage of Control Group Committing Crime		Percentage of Sample Committing Crime	
	Baseline (N=175)	Follow Up (N=147)	Baseline (N=168)	Follow Up (N=137)	Baseline (N=343)	Follow Up (N=284)
Burglary	7%	4%	14%	6%	11%	5%
Robbery of Business	2%	1%	1%	0%	2%	0%
Robbing a Person	6%	1%	3%	4%	4%	2%
Assault	14%	12%	12%	14%	13%	13%
Theft	17%	8%	17%	8%	17%	8%
Vehicular Theft	6%	2%	4%	2%	5%	2%
Forgery	5%	3%	7%	2%	6%	3%
Fraud	4%	4%	5%	5%	4%	4%
Drug Dealing	46%	22%	42%	24%	44%	23%

Exhibit 6-2 compares the differences between OPTS clients and the control group for the self-reported crime calendar measures at baseline and follow up. These data provide further evidence of the results presented in Exhibit 6-1: the average number of months and percentage of street time spent committing crimes against property and drug dealing are much lower in the follow-up period than at baseline for both groups. Baseline to follow-up measures for crimes against persons declined for the treatment group, but increased for the controls.

Differences Between Treatment and Control Groups for Criminal Activity at Follow Up

Exhibit 6-1 presented the differences between the treatment and control groups at follow up for measures of participation in specific crimes: there was little substantive or statistical difference between the two groups on these measures. Similarly, there was little difference between OPTS clients and the controls with respect to measures for reported frequency of criminal activity during their first year of supervision. As shown in Figure 6-2, only two statistically significant differences (at the .10 level) between treatment and control groups were demonstrated -- OPTS clients committed fewer robberies of persons and engaged in less disorderly conduct.

OPTS clients reported somewhat fewer months in which they committed crimes against persons (.19 months), against property (.51 months), and drug dealing (1.09), than reported by the control group (.25, .53, and 1.34 months, respectively) during their first year of supervision. Similarly, the treatment group reported a somewhat smaller percentage of street time engaged in committing crime against persons and property (2.3% and 7.3%, as compared to 3.9% and 7.8%, respectively, for the controls.) Statistically significant differences between the treatment and control groups were obtained for the percentage of street time spent dealing drugs, as depicted in Figure 6-3.

Exhibits 6-3 and 6-4 summarize the results of the regression models that were run without and with correction for attrition (the methodology is described in Chapter 3). A negative value for *membership in OPTS* in these exhibits indicates that follow-up criminal activity is lower in the treatment group as compared to the control group. Separate regression models were run for *each* of the outcomes. For the most part, the results mirror those discussed above: the only significant effect of OPTS is on the percentage of street time with drug dealing activity.

As noted in Chapter 5, the interactional effects of OPTS were examined by including an interaction term incorporating membership in OPTS[1] in each of the regression models. In general, very weak relationships were observed: no interactional effects were found at the 0.05

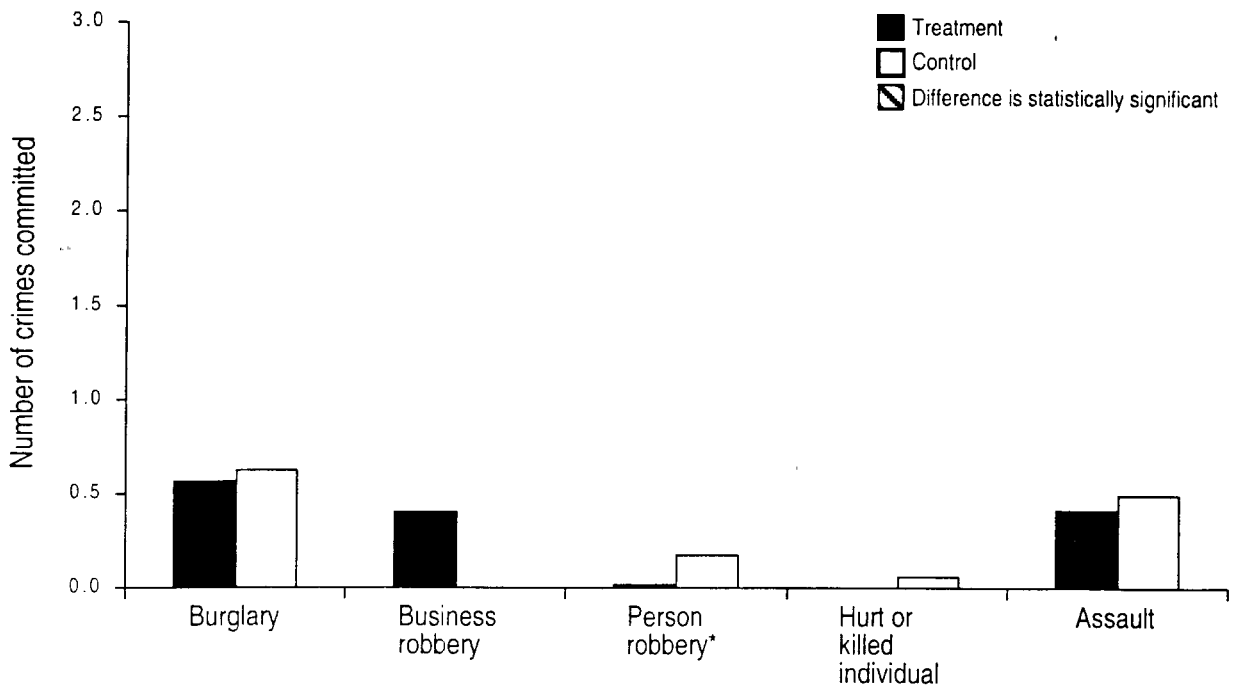
[1] The interaction term was a product of membership in OPTS and the initial baseline measure corresponding to the outcome.

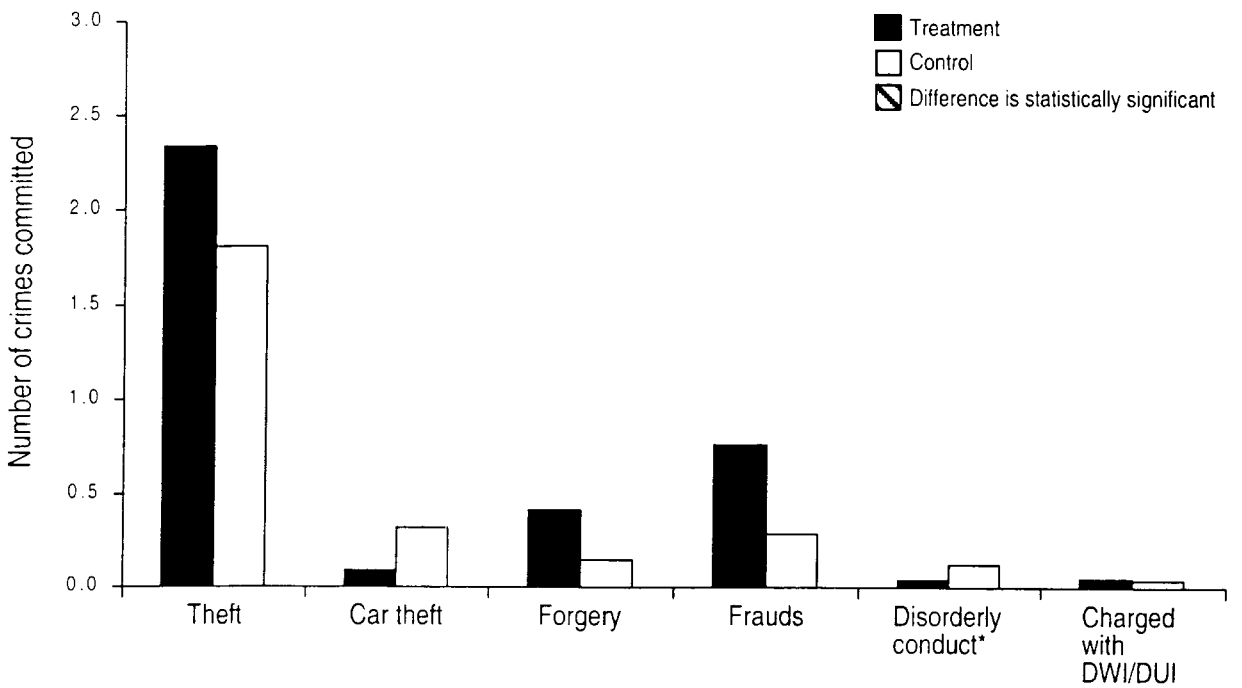
Exhibit 6-2
Comparison of Key Crime Measures Between Baseline and Follow Up Using Crime Calendar Data
Sample Sizes are in Parenthesis

	Total Sample		OPTS Clients		Control Group	
	Baseline	Follow Up	Baseline	Follow Up	Baseline	Follow Up
Number of months of the crime calendar in which offender committed crimes against persons	0.24 months (327)	0.22 months (283)	0.26 months (166)	0.19 months (149)	0.22 months (161)	0.25 months (134)
Number of months of the crime calendar in which offender committed crimes against property	1.33 months (327)	0.52 months (285)	1.36 months (164)	0.51 months (150)	1.32 months (163)	0.53 months (135)
Number of months of the crime calendar in which offender dealt drugs	3.46 months (329)	1.21 months (287)	3.63 months (166)	1.09 (151)	3.29 months (163)	1.34 (136)
Percentage of street time spent on committing crimes against persons	2% (327)	3% (283)	2.5% (166)	2.3% (149)	2.2% (161)	3.9% (134)
Percentage of street time spent on committing crimes against property	13% (327)	8% (285)	13.6% (164)	7.3% (150)	12.9% (163	7.8% (135)
Percentage of street time spent dealing drugs	32% (329)	15% (287)	33.2% (166)	13.0% (151)	30% (163)	17.9% (136)

FIGURE 6-2.

Number of Crimes Committed by Treatment and Control Groups During the Follow-Up Year



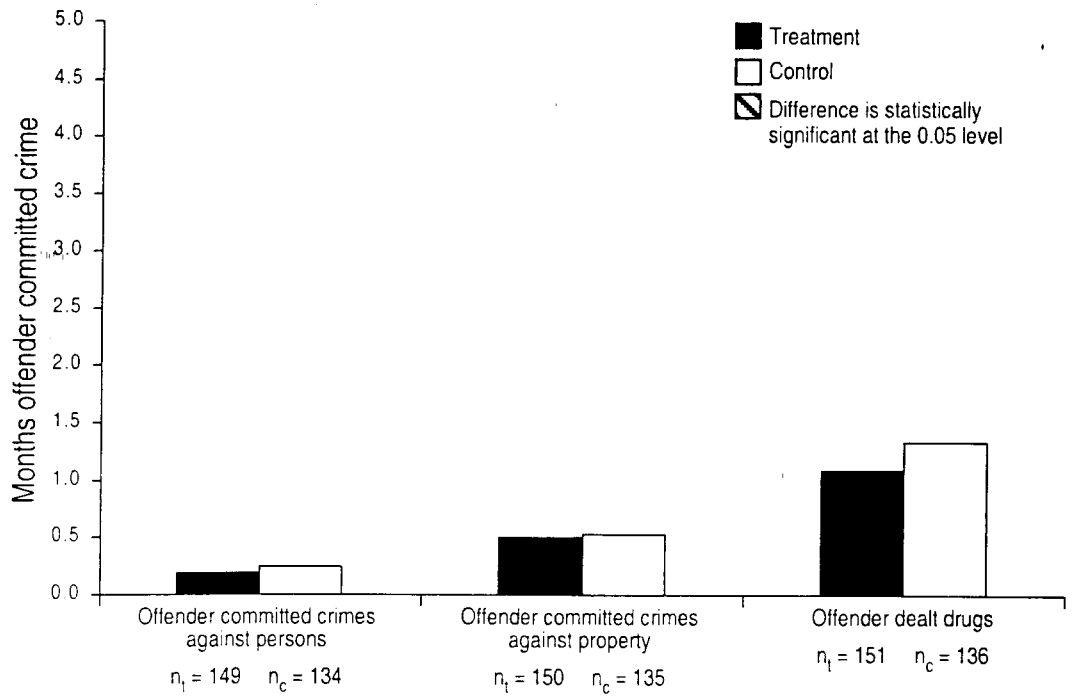


*Difference is statistically significant at the 0.10 level

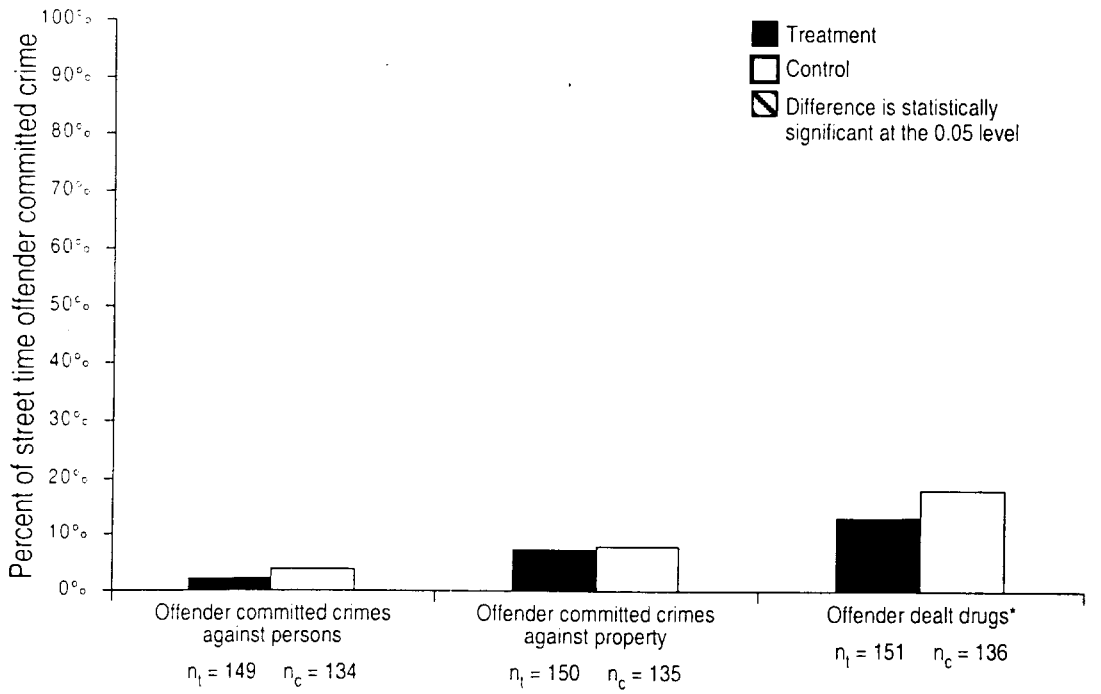
FIGURE 6-3.

Differences Between Treatment and Control Groups for Key Crime Measures

MONTHS IN WHICH OFFENDER COMMITTED CRIME IN THE 12 MONTHS AFTER INCARCERATION



PERCENT OF STREET TIME OFFENDER SPENT ON COMMITTING CRIME



*Difference is statistically significant at the 0.10 level

Exhibit 6-3
Regression Models Without Correction for Attrition

Coefficients of the Linear Model

Dependent Measures

	Number of Months: Crimes Against Person	Number of Months: Crimes Against Property	Number of Months: Dealing Drugs	Percentage of Street Time: Crimes Against Person	Percentage of Street Time: Crimes Against Property	Percentage of Street Time: Drug Dealing Crimes
Membership in OPTS	-0.08	0.04	-0.30	-2.07*	0.50	-5.43*
Corresponding Baseline Problem Behavior (dichotomous measure)	0.17	0.99**	1.13**	3.84**	14.61**	18.02**
Site (Tampa)	0.00	-0.05	-0.17	0.85	-2.19	-3.56
Site (Kansas City)	0.05	-0.10	0.21	0.17	-3.65	-1.51
Constant	0.22**	0.23	0.87**	3.21**	4.42**	11.80**
R^2	0.01	0.08	0.05	0.02	0.10	0.08
N	277	278	280	277	278	280

Note: A negative value for *membership in OPTS* implies a lower level of criminal activity in the treatment group.
** $p < .05$; * $p < .10$

Exhibit 6-4
Regression Models With Correction for Attrition

Coefficients of the Linear Model

Dependent Measures

	Number of Months: Crimes Against Person	Number of Months: Crimes Against Property	Number of Months: Dealing Drugs	Percentage of Street Time: Crimes Against Person	Percentage of Street Time: Crimes Against Property	Percentage of Street Time: Drug Dealing Crimes
Membership in OPTS	-0.07	0.03	-0.30	-1.84	0.28	-5.39*
Corresponding Baseline Problem Behavior (dichotomous measure)	0.17*	0.95**	1.09**	3.74*	14.16**	17.80**
Site (Tampa)	-0.02	-0.07	-0.18	0.55	-2.38	-3.64
Site (Kansas City)	0.04	-0.10	0.22	0.16	-3.57*	-1.28
Constant	0.22**	0.25	0.89**	3.24**	4.59*	11.88**
R^2	0.01	0.07	0.05	0.02	0.09	0.08
N	277	278	280	277	278	280

Note: A negative value for *membership in OPTS* implies a lower level of criminal activity in the treatment group.
** $p < .05$; * $p < .10$

level of significance (using one-tailed tests). A few effects were observed at the 0.10 significance level; these are considered exploratory and are found in Appendix G.

Figures 6-4 and 6-5 illustrate the site differences between treatment and control groups for criminal activity measures using the crime calendar data. In general, no consistent pattern is discernible: the treatment groups in St. Louis and Kansas City have slightly reduced levels of drug dealing activity as compared to the control groups -- this pattern is not observed in Tampa. No consistent and strong effects are observed for measures of crimes against persons and crimes against property.

Monthly Criminal Behavior in the Years Before and After Incarceration

Additional analyses examined the percentage of individuals committing crimes using the crime calendar data for the year before incarceration (pre-OPTS) and in the year after incarceration (the first year of supervision). The focus was on the percentage of the respective groups committing crimes in any given month of the crime calendar. Figure 6-6 uses baseline and follow-up calendar data to show the percentage of the group committing crimes against persons. In general, no clear differences are discernible in the trend of the crimes against persons between the baseline and follow up, and between the treatment and control groups. Figure 6-7 repeats the analysis conducted in Figure 6-6, but includes only those individuals who were not locked-up in any specific month.[2] The pattern depicted in Figure 6-7 is very similar to that observed in Figure 6-6.

Figures 6-8 and 6-9 repeat the above analysis for crimes against property. There are reductions in crimes against property at the follow-up period for both the treatment and the control groups. However, no differences are discernible between the two groups.

Figures 6-10 and 6-11 examine the above patterns for drug-dealing crimes. Again, there is a reduction in drug-dealing activity at the follow-up period. Further, OPTS clients show a slightly lower level of drug dealing than the control group until 10 months after incarceration.

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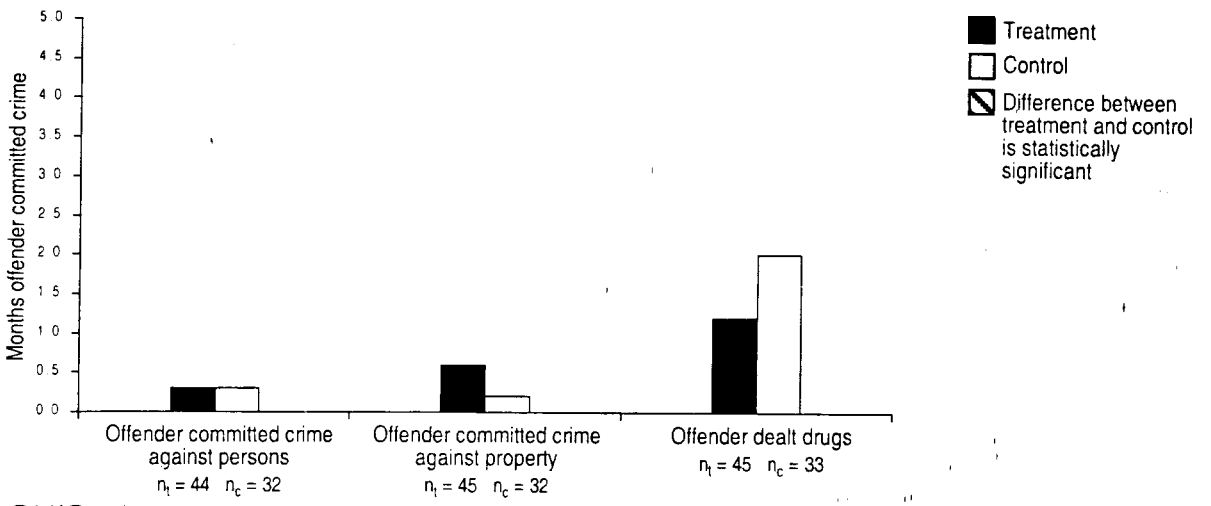
[2] This second approach controls for the individuals who were incarcerated during a given month, during which time they would not have had the opportunity to engage in criminal activities. However, since individuals may spend part of a month in the community and the rest in jail or prison, this approach runs the risk of undercounting crime in the first (or last) month of incarceration attributable to individuals who engaged in criminal behavior just prior to, or immediately after, their confinement. By contrast, the first approach runs the risk of including those who had no opportunity to commit crime in months when they were incarcerated for the full month.

FIGURE 6-4.

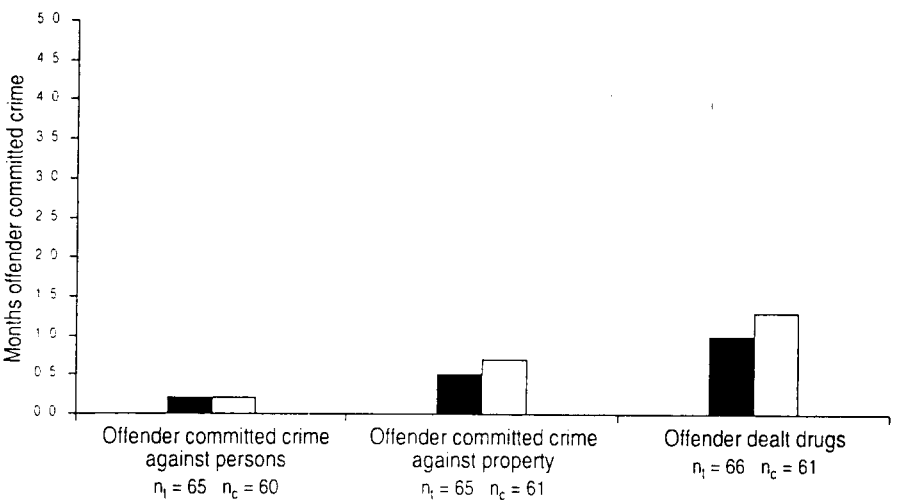
Site-Specific Differences Between Treatment and Control Groups for Key Crime Measures

AVERAGE NUMBER OF MONTHS OFFENDER COMMITTED CRIME

KANSAS CITY



ST. LOUIS



TAMPA

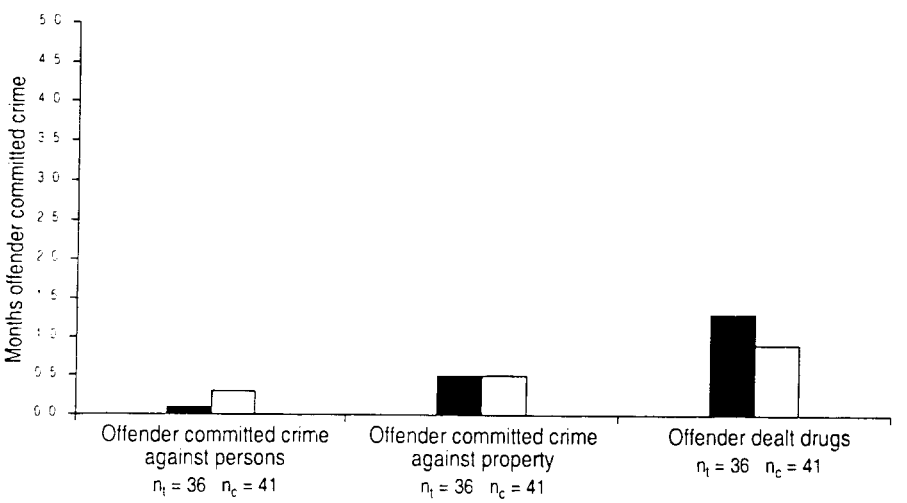
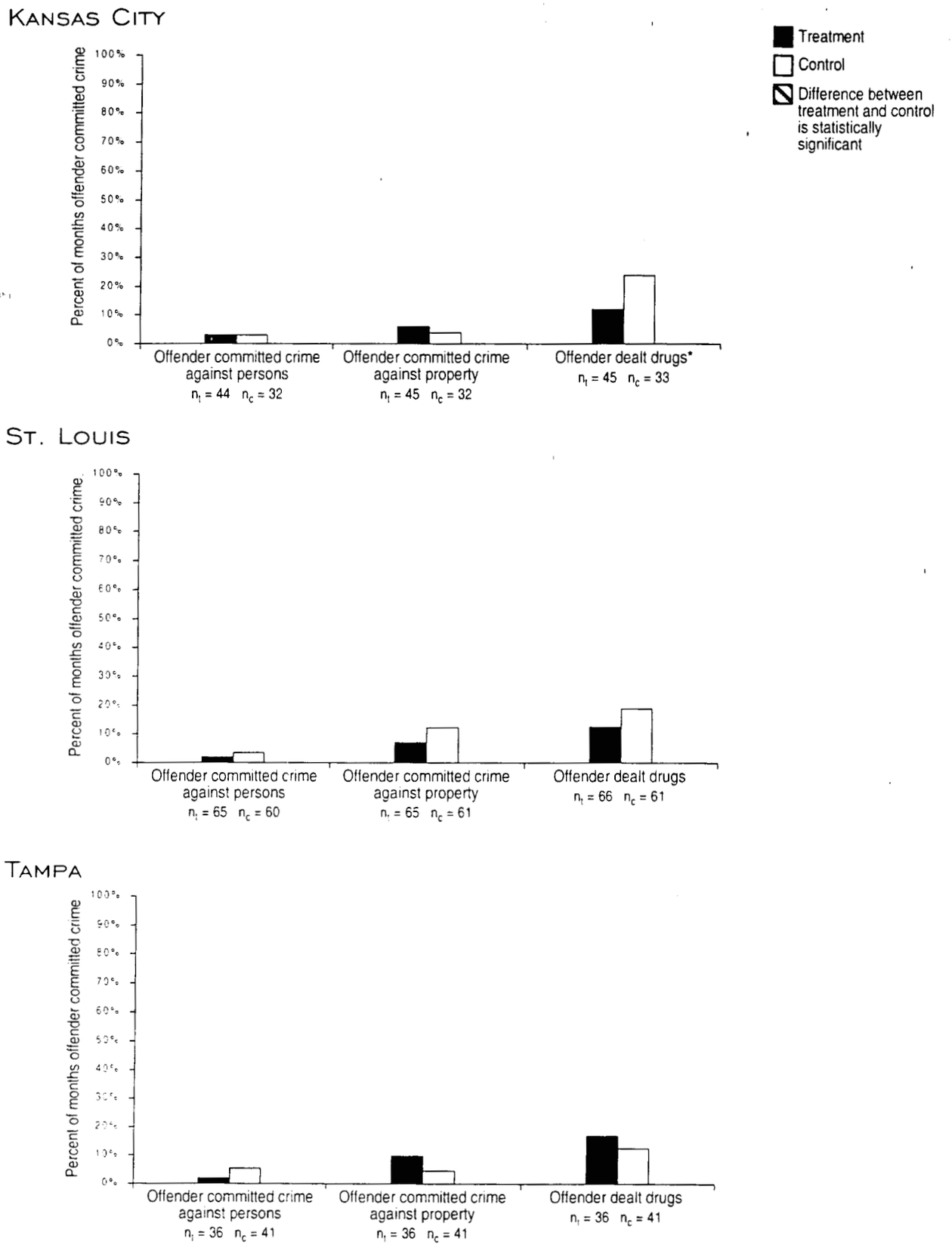


FIGURE 6-5.

Site-Specific Differences Between Treatment and Control Groups for Key Crime Measures

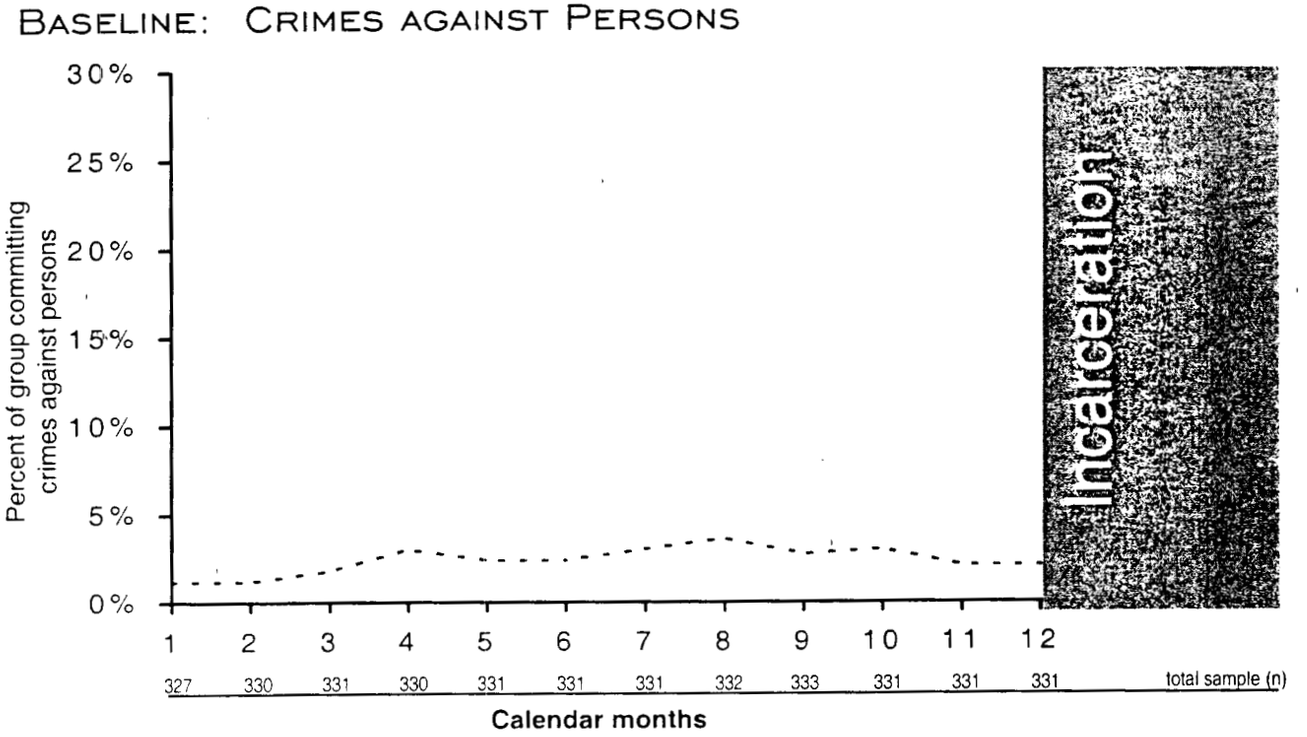
PERCENT OF STREET MONTHS OFFENDER COMMITTED CRIME



Difference is statistically significant at the 0.10 level

FIGURE 6-6.

Percentage of Group Committing Crimes Against Persons in the Crime Calendar During Baseline and Follow-Up



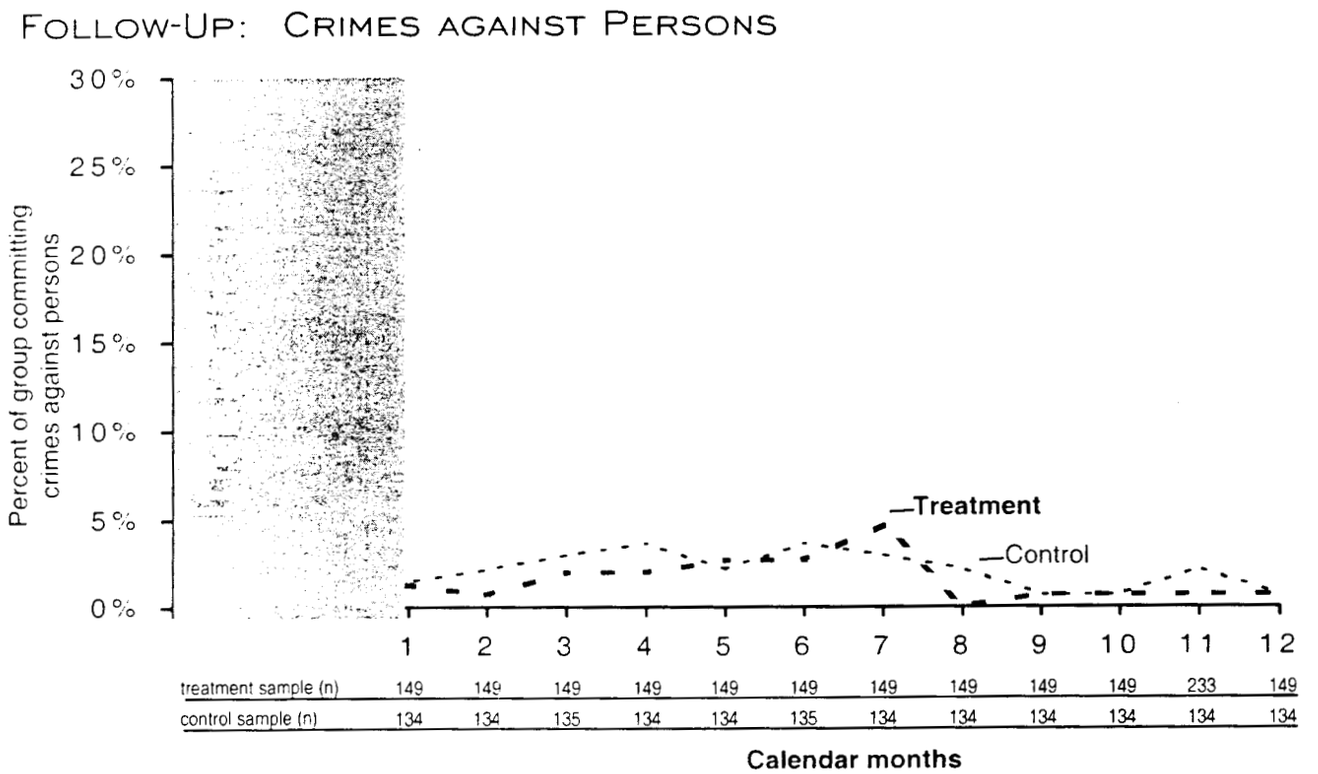
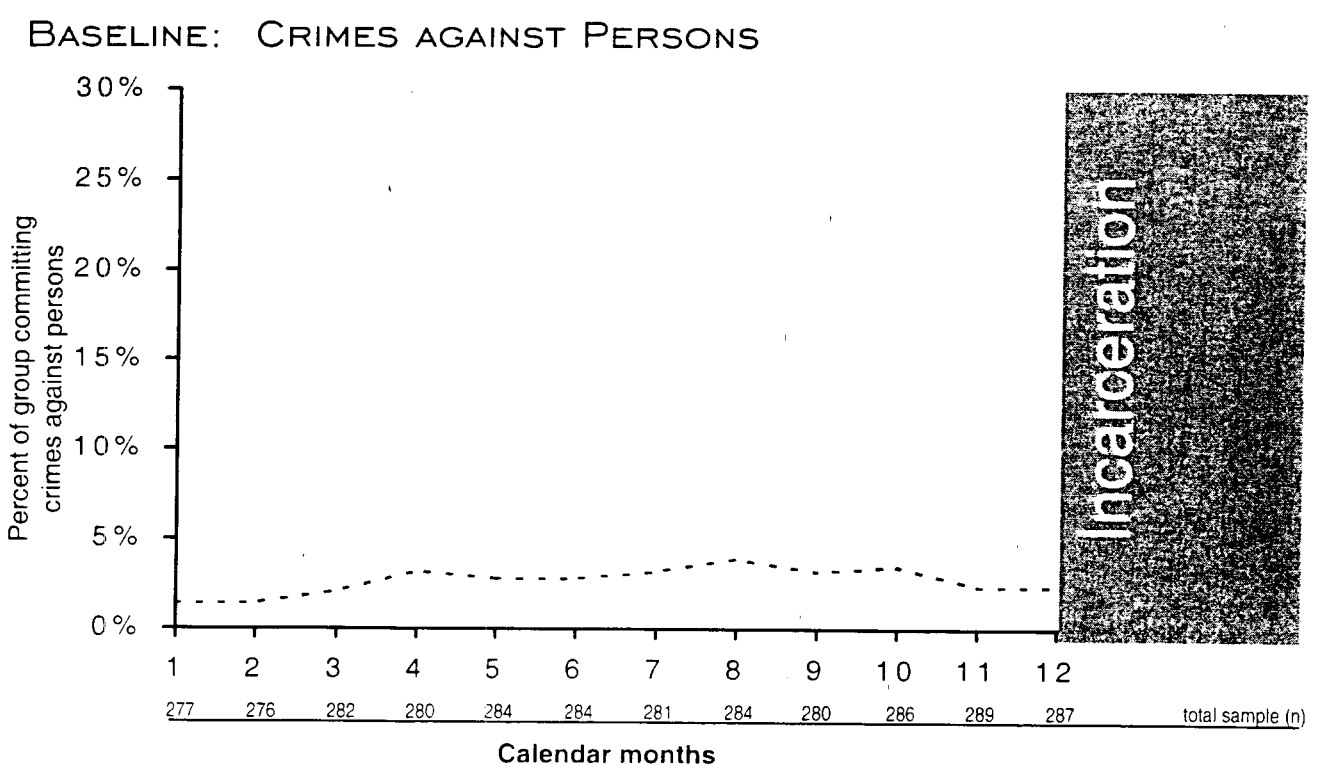


FIGURE 6-7.

Percentage of Group Committing Crimes Against Persons in the Crime Calendar During Baseline and Follow-Up

Analysis does not include individuals who were locked up in any specific month



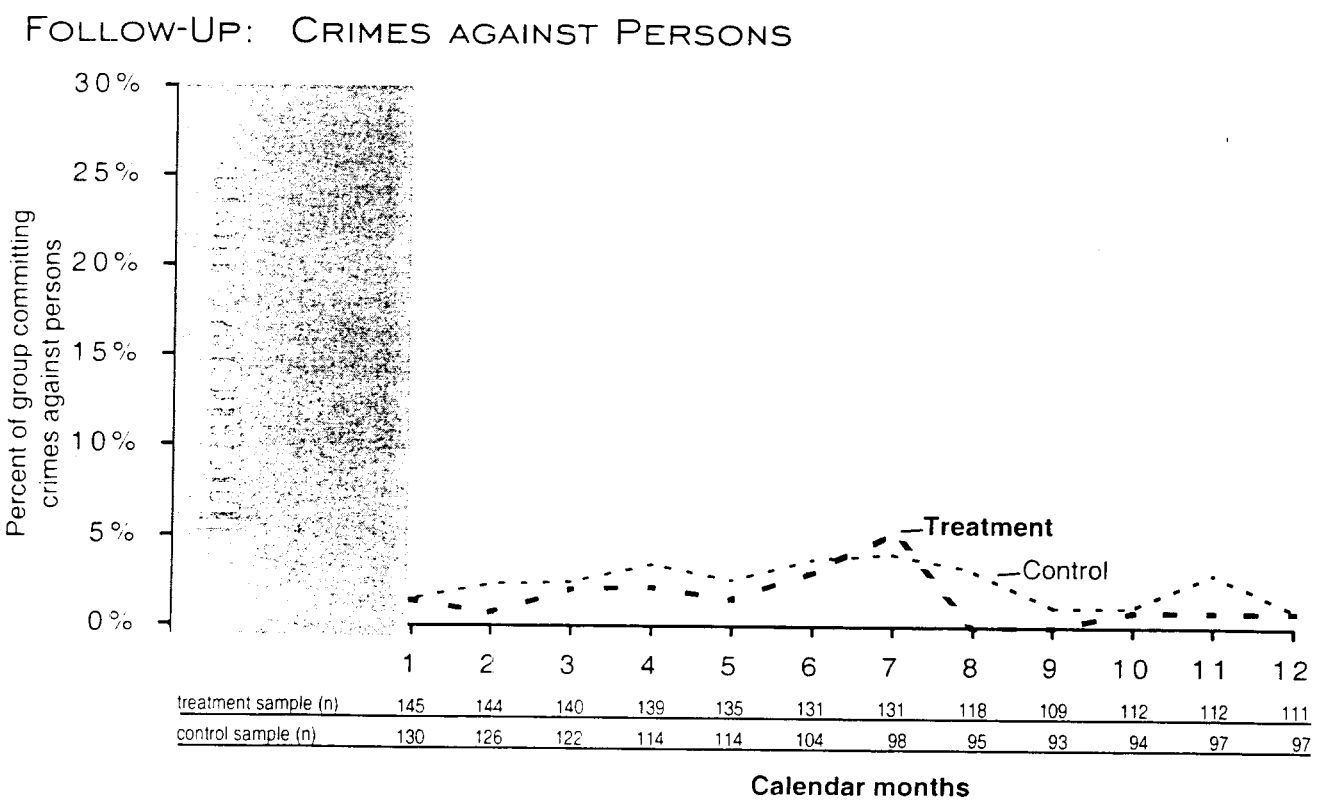


FIGURE 6-8.

Percentage of Group Committing Crimes Against Property in the Crime Calendar During Baseline and Follow-Up

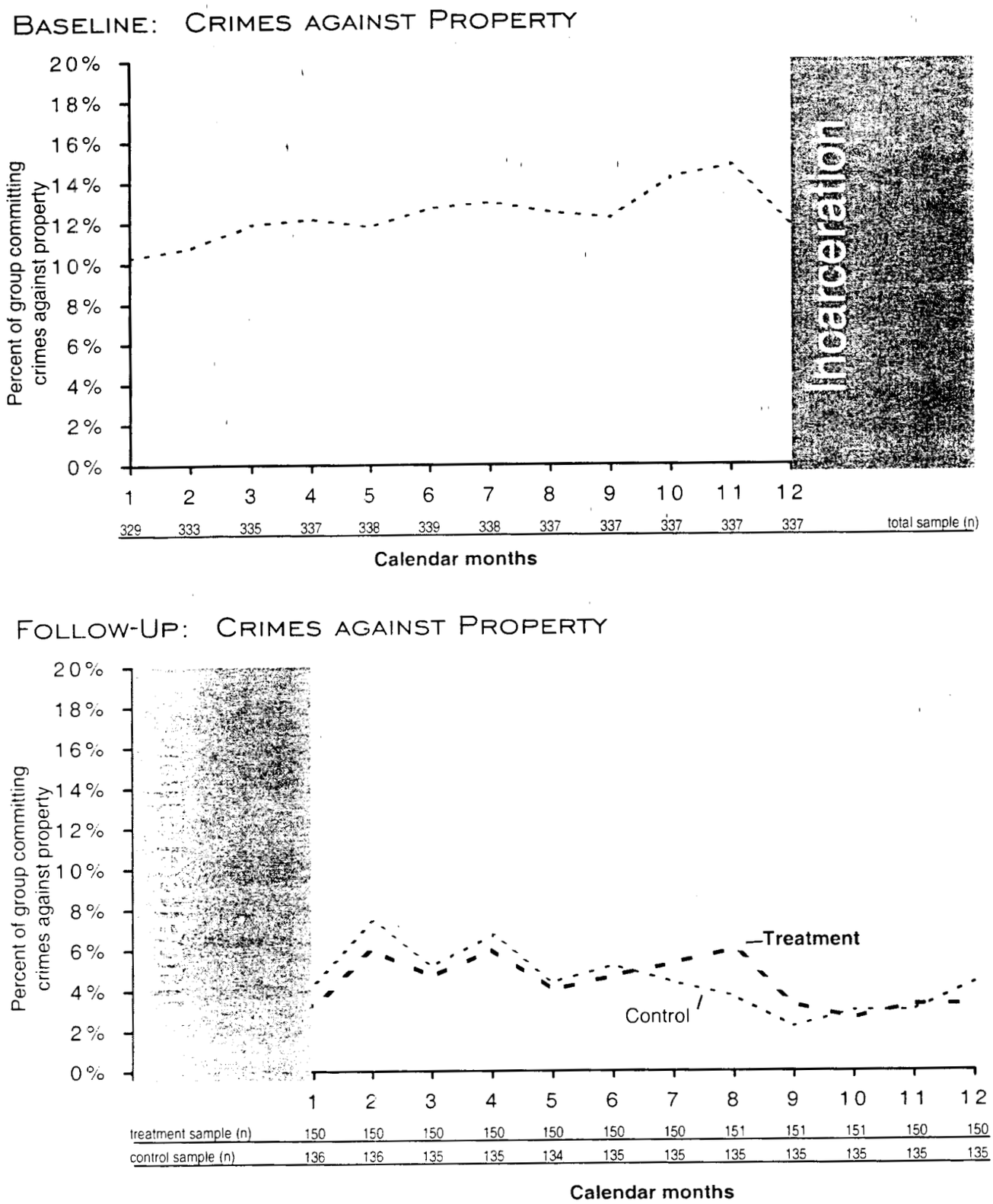
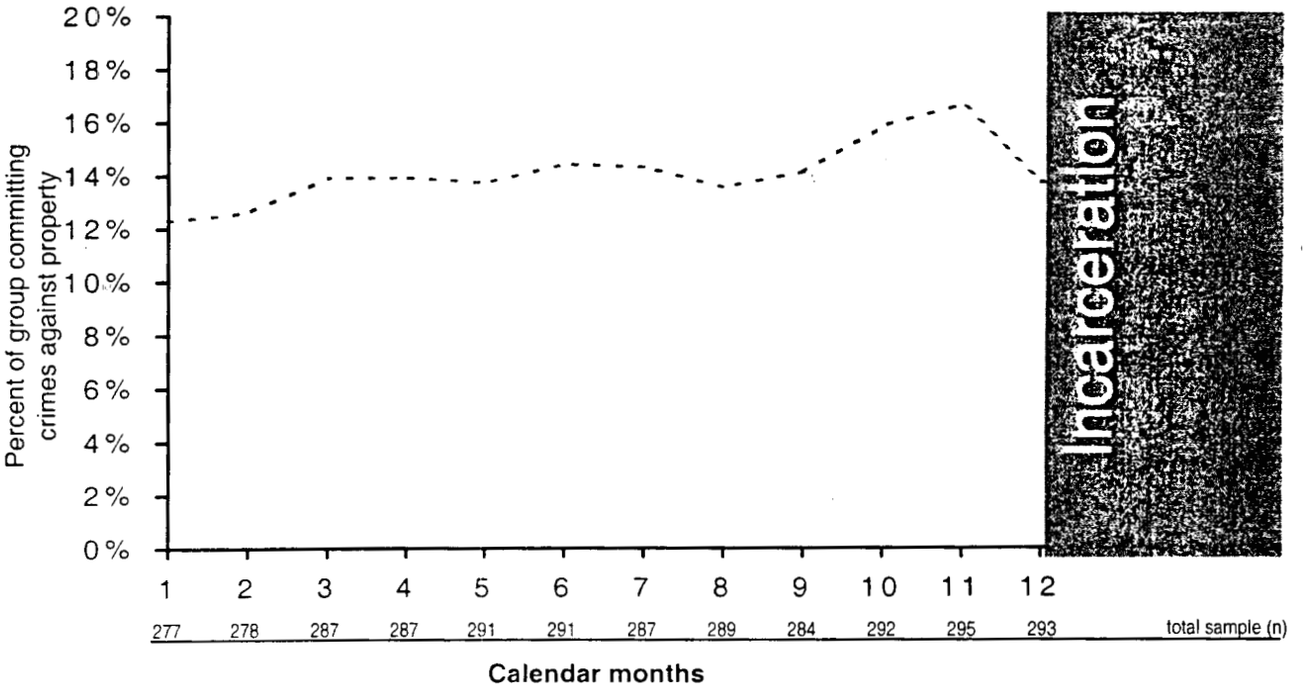


FIGURE 6-9.

Percentage of Group Committing Crimes Against Property in the Crime Calendar During Baseline and Follow-Up

Analysis does not include individuals who were locked up in any specific month

BASELINE: CRIMES AGAINST PROPERTY



FOLLOW-UP: CRIMES AGAINST PROPERTY

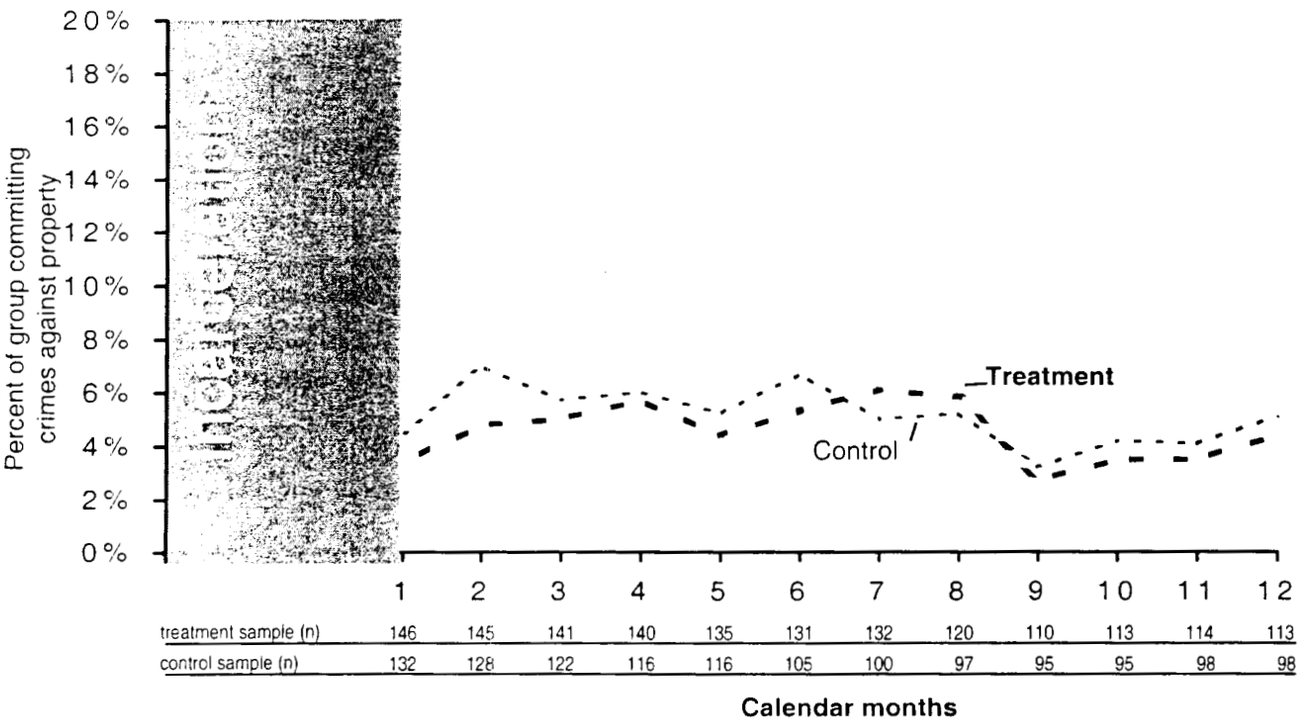
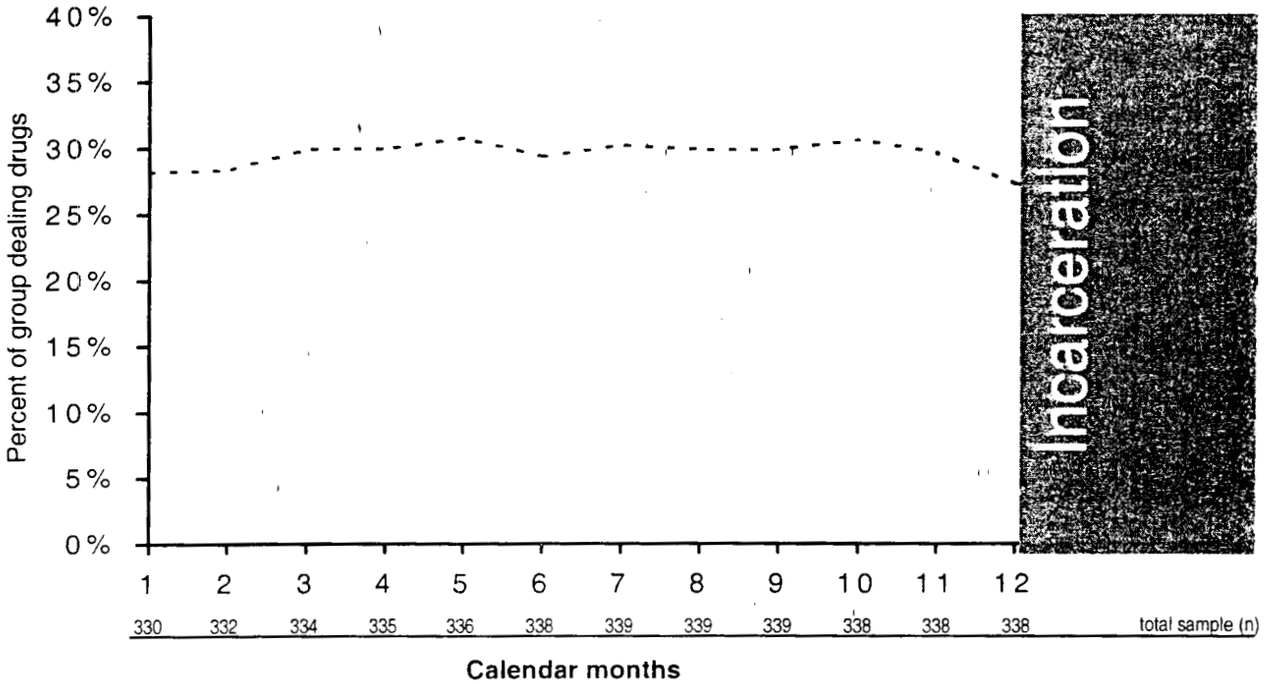


FIGURE 6-10.

Percentage of Group Dealing Drugs in the Crime Calendar During Baseline and Follow-Up

BASELINE: DEALING DRUGS



FOLLOW-UP: DEALING DRUGS

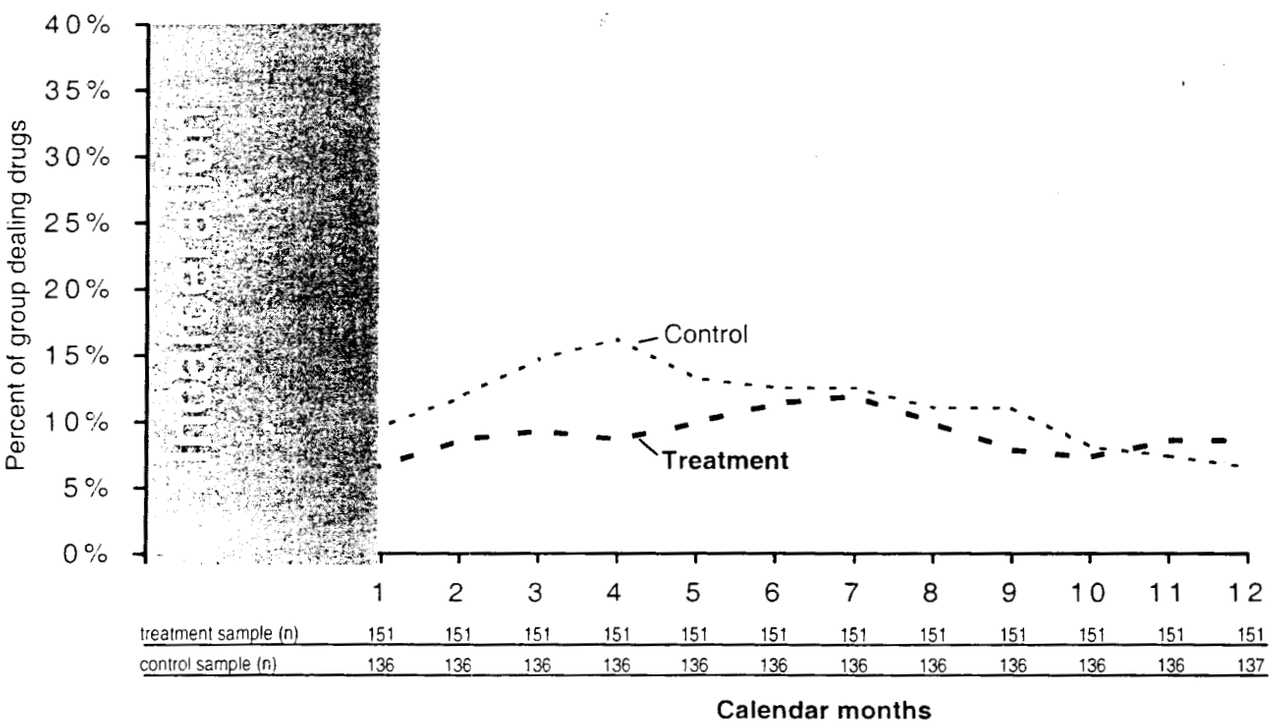
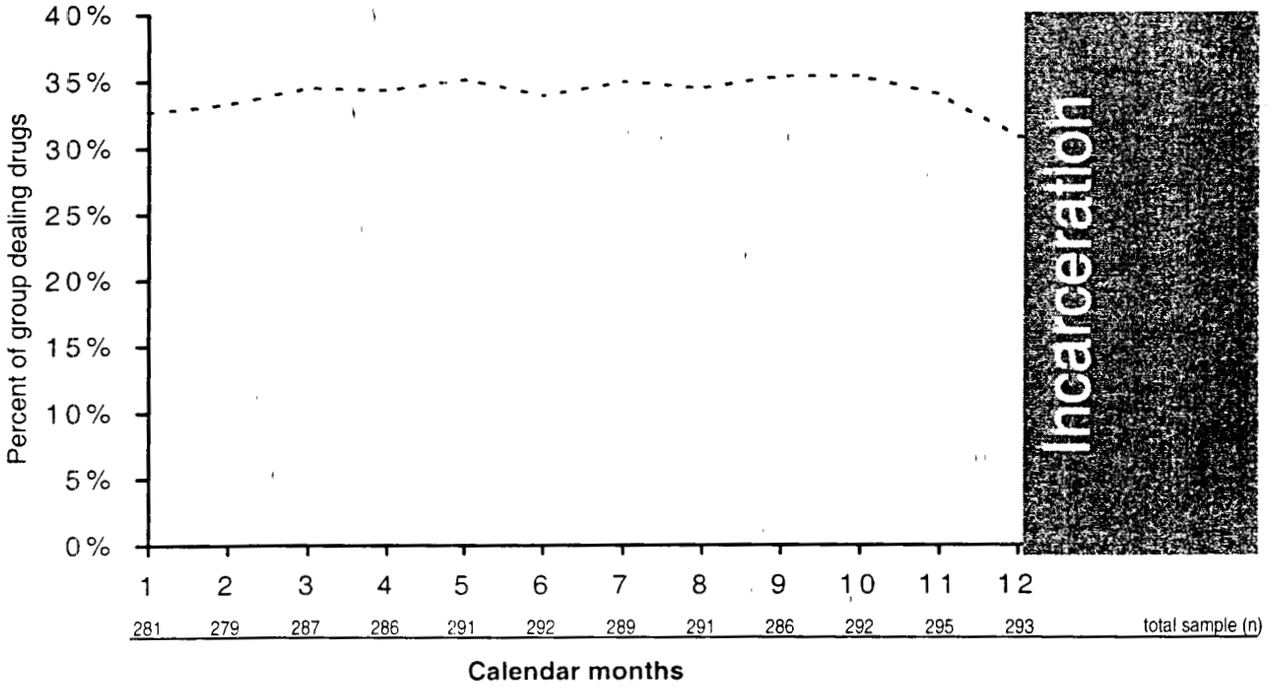


FIGURE 6-11.

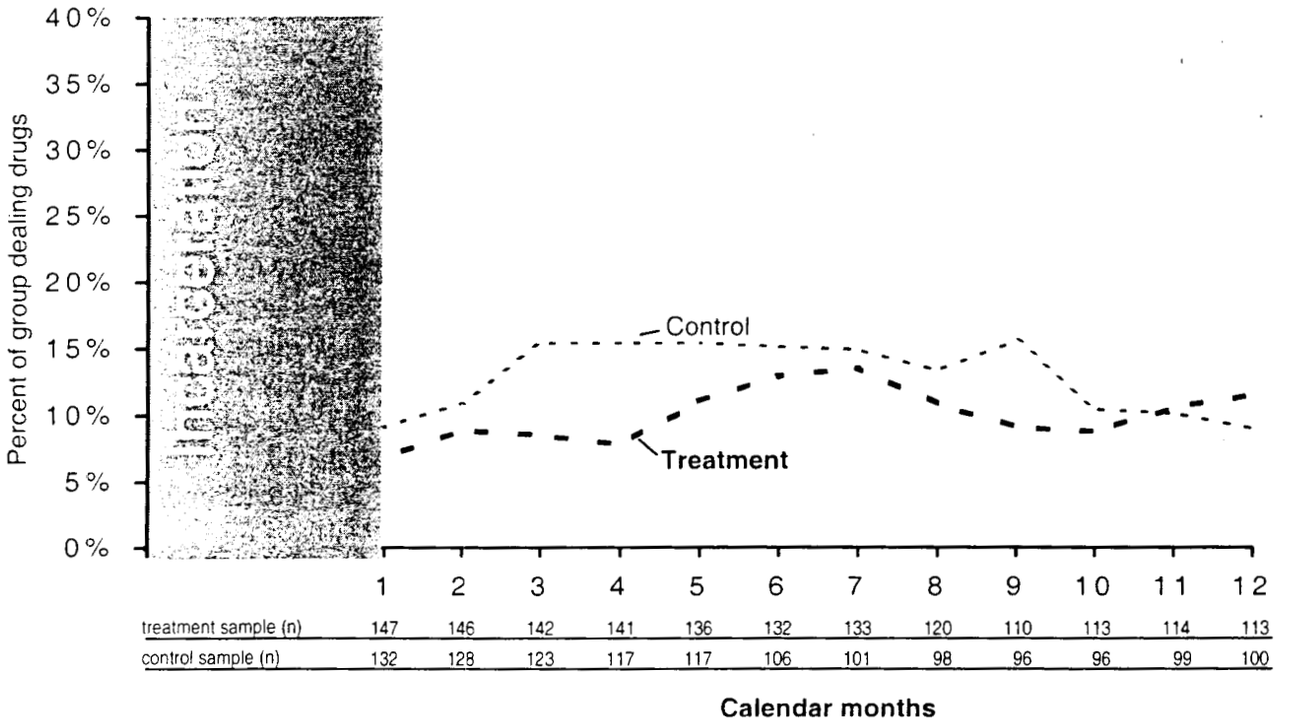
Percentage of Group Dealing Drugs in the Crime Calendar During Baseline and Follow-Up

Analysis does not include individuals who were locked up in any specific month

BASELINE: DEALING DRUGS



FOLLOW-UP: DEALING DRUGS



Analysis of Official Records

Analysis of the official records focused on the numbers of arrests and technical violations, as well as the time to first arrest and the time to first technical violation. The official records further provide evidence for the relative ineffectiveness of OPTS in reducing crime outcomes during the first year of community-based aftercare and supervision.

The model examining criminal justice outcomes using the official records data is similar to the regression models used for the self-report data:

Follow-Up Outcome Behavior = Constant $+\beta_1$ *Baseline Outcome Behavior + β_2 * Site (Tampa) + β_3*Site(Kansas City) $+\beta_4$ * Group Membership $+ \varepsilon$

The dependent variables used are: 1) the number of arrests during the first year of OPTS (or the first year after enrolling in the research for the control group) and 2) the number of technical violations recorded during the first year in the research. There was no baseline measure of technical violations, and therefore, a measure was not included in the regression model. Because there is some lag in official reporting, the follow-up period was defined as 400 days, instead of 365. Figure 6-12 shows the mean number of arrests and technical violations for the treatment and control groups during the first year. The sample used to compute the difference in means is taken from the subset of individuals for whom baseline survey information (N=343) was available.[3] Keep in mind that since violations information was extracted from different databases than those that furnished arrest information, the N's may represent different individuals. For instance, from the subset of baselined individuals (343), arrest records were located for 289 individuals and technical violation information was found for 288 individuals; however, the 289 and 288 are not all the same individuals.

The mean number of officially-recorded arrests was 1.47 for both the treatment and control groups. Broken down by site (not shown), Kansas City clients experienced the most arrests per client, with OPTS clients having 2.04 arrests, while the control group had 2.63. The mean for St. Louis clients OPTS clients was 1.22 arrests, and controls had 1.20; for Tampa: 1.17 for OPTS clients and .96 for the control groups. The difference in mean arrests was not significant in any site.

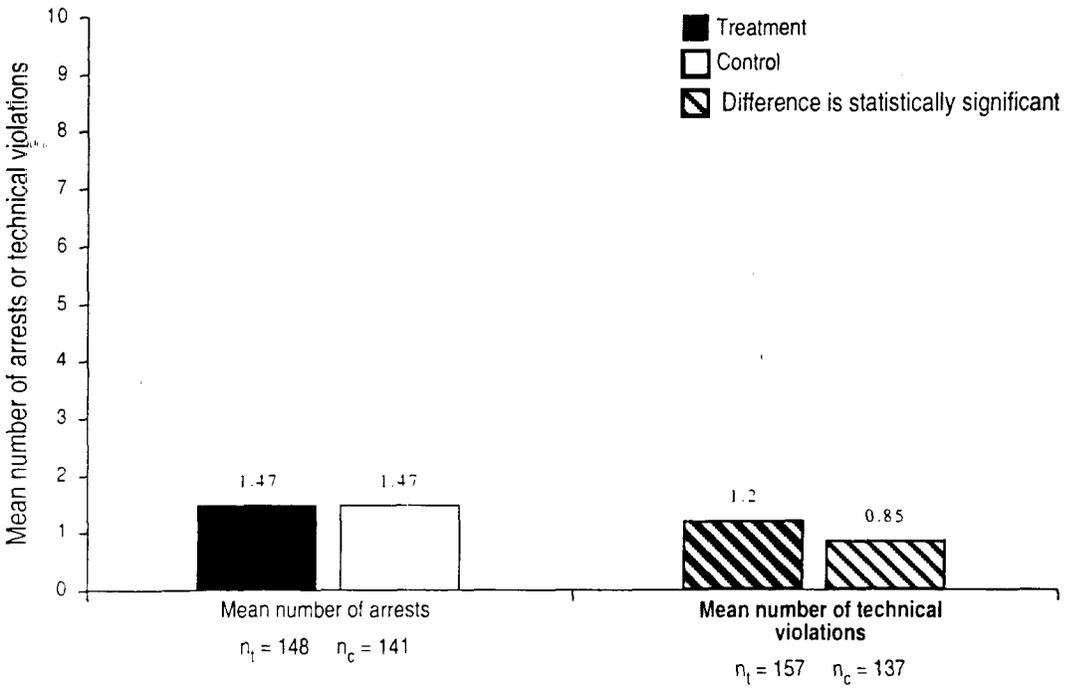
OPTS clients across the sites experienced an average of 1.2 technical violations, while control group members had .85 technical violations. The difference in mean scores is significant at the 0.05 level. The higher mean for the treatment group may be a function of the increased supervision and testing experienced by the treatment group, as compared to the controls. Such an

[3] Regression results on the total sample for whom official records data were found regardless of whether these individuals completed baseline surveys (i.e..in 336 cases of arrest records, and 335 cases of technical violations data) are shown in Appendix H.

FIGURE 6-12.

Official Records: Follow-Up Criminal Behavior

Mean Numbers of Arrests and Technical Violations, Based on One Year Follow-Up Period



explanation is consistent with earlier studies that concluded that the heightened surveillance, which was part of an intensive supervision program model, actually led to offenders in ISP having higher rates of technical violations and re-incarceration than were exhibited by offenders receiving regular probation, despite that fact there were no differences between the two groups in new criminal arrests (Pearson, 1988; Petersilia and Turner, 1990; Petersilia et al., 1992). When technical violations are examined at the site level, Kansas City is the only site where the treatment clients had significantly fewer technical violations on average than control group members (.35 for treatment group; 1.20 for the control group). The difference in means is significant at the $p < .01$ level. St. Louis OPTS clients had significantly more technical violations than control group members: an average of 1.94 technical violations compared to .58 for the control group. In Tampa, there was no significant difference between the number of technical violations experienced by either group. OPTS clients averaged .92 technical violations compared to .94 for the control group.

Looking at the regression analysis results, Exhibit 6-5 shows that controlling for site differences and baseline arrests, the treatment group had fewer arrests during the follow-up period. However, this result was not statistically significant. The treatment group had more technical violations, and the relationship was statistically significant ($p < .05$). There was a statistically significant relationship between baseline arrests and arrests during the follow-up period: clients with more baseline arrests had more follow-up arrests. In terms of site differences, participants in Kansas City had significantly more arrests and less technical violations than participants in other sites (as discussed earlier in reference to Figure 6-12).

Exhibit 6-6 runs the same model as above, but corrects for attrition, using the methods described in Chapter 3 for the self-report data. Statistically significant differences in the proportion of individuals for whom official records on arrests were available were found for two measures: Tampa and Kansas City. Statistically significant differences in the proportion of individuals for whom there were official records on technical violations were found for four measures: Tampa, Kansas City, being married, and having any illicit income. In other words, we were more likely to find technical violation records for those individuals living in Tampa and Kansas City, for those who were married, and for those who had any illicit income at baseline. Exhibit 6-6 demonstrates that the attrition did not greatly bias the estimates. The remaining regressions are run without correction for attrition.

Because the more detailed analyses using hierarchical models did not use the official records data, but concentrated on self-reported information (as shown in later chapters), additional relationships were explored in this chapter using the official records data as the dependent variable. The regression models below incorporate a range of variables from the self-report data that extant research has shown to be related to criminal justice outcomes. The models shown in Exhibit 6-7 include age and the commission of any violent crime during the baseline year. Number of days on the street also was added as a control, since many of the participants were incarcerated for a good portion of the follow-up period. The results show that, in terms of

Exhibit 6-5
Regression Models for Official Records Without Correction for Attrition
Basic Model

Coefficients of the Linear Model

Dependent Measures

	Arrests	Technical Violations
Membership in OPTS	-.07	.35**
Corresponding Baseline Problem Behavior	.04**	n.a.
Site (Tampa)	-.03	-.33*
Site (Kansas City)	.86**	-.65**
Constant	.76**	1.11**
R^2 (adjusted)	0.12	.04
N	289	288

** $p < .05$; * $p < .10$

Exhibit 6-6
Regression Models for Official Records With Correction for Attrition: Basic Model

Coefficients of the Linear Model

	Dependent Measures	
	Arrests	**Technical Violations**
Membership in OPTS	-.07	.43**
Corresponding Baseline Problem Behavior	.04**	n.a.
Site (Tampa)	-.03	-.30*
Site (Kansas City)	.87**	-.66**
Constant	.77**	1.05**
R^2 (adjusted)	0.12	.05
N	289	284

** $p < .05$; * $p < .10$

Exhibit 6-7
Regression Models for Official Records Without Correction for Attrition
Model with Controls

Coefficients of the Linear Model

	Dependent Measures	
	Arrests	**Technical Violations**
Membership in OPTS	.07	.28*
Corresponding Baseline Problem Behavior	.05**	n.a.
Site (Tampa)	.11	-.38*
Site (Kansas City)	.66**	-.65**
Age	-.04**	-.003
Any Violent Crime	-.64**	-.40*
Street Days	-.004**	.00
Constant	3.14**	1.24**
R^2 (adjusted)	.21	.05
N	243	240

** $p < .05$; * $p < .10$

arrest, when one controls for street days and the other variables, the control group still has significantly fewer technical violations.

Because the R^2 was so small (.05) for the model examining technical violations, a few additional variables were included to increase the fit of the model (e.g., it was hypothesized that the more stable an individual was in terms of their family life and living situation, the less likely they would be to break probation rules). The regression models were re-run to include if a respondent was married at baseline (BMARRIED), had children at baseline or during the follow up (BCHDLRN), had lived in the same place for more than one year at the time of the baseline questionnaire (BSTABLE), had a full-time job at baseline (BFULLJOB), and had a high school degree or GED (BEDUCATN). The results are shown in Exhibit 6-8. Variables that are significantly related to the number of technical violations when controlling for number of days on the street, include Kansas City, high school degree, married, and any violent crime. The expanded model shows that those without a high school degree or GED are significantly more

likely to have technical violations, as are those individuals who are married (this latter result is not in the expected direction). The adjusted R^2 increased slightly to .08.

Exhibit 6-8
Regression Models for Technical Violations Without Correction for Attrition

Coefficients of the Linear Model

	Dependent Measures
	Technical Violations
Membership in OPTS	.23
Corresponding Baseline Problem Behavior	n.a.
Site (Tampa)	-.27
Site (Kansas City)	-.53**
Age	-.01
Any Violent Crime	-.49**
BCHLDRN	.15
BEDUCATN	-.39**
BFULLJOB	-.26
BMARRIED	.52**
BSTABLE	.05
Street Days	.00
Constant	1.43**
R^2 (adjusted)	.08
N[a]	232

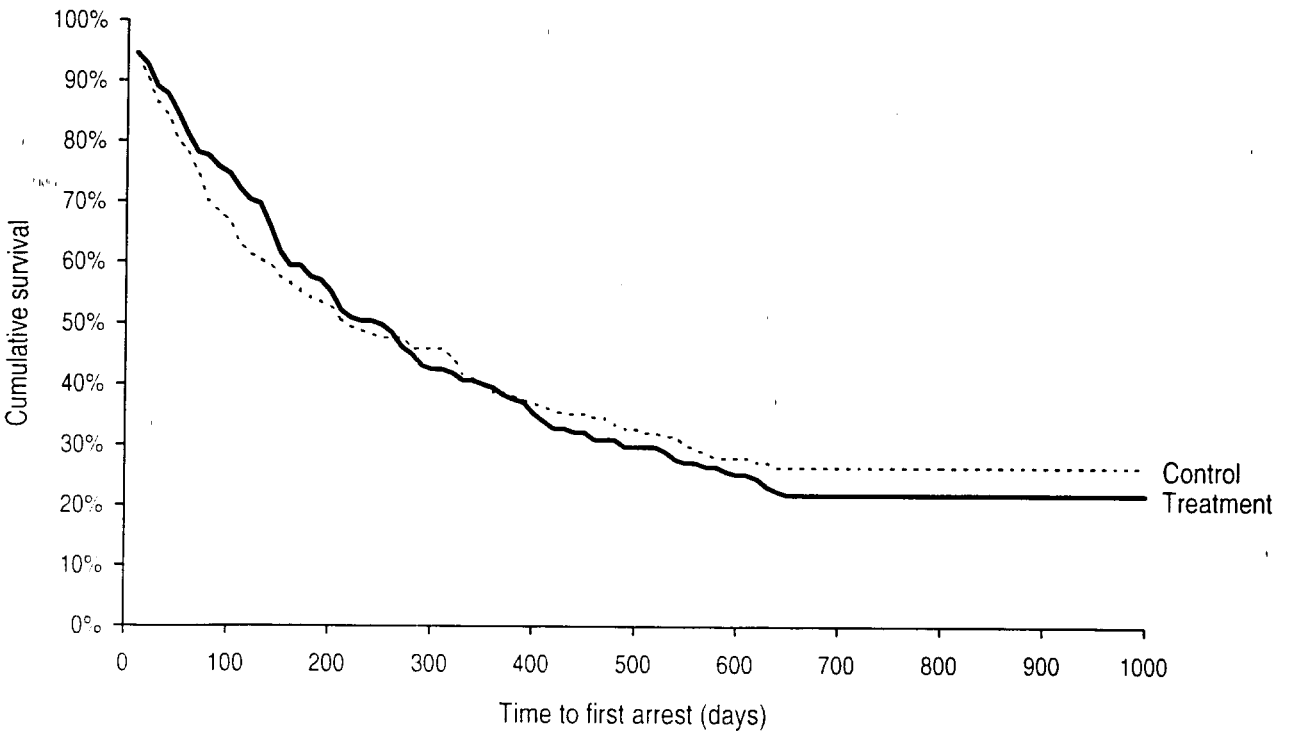
** $p < .05$; * $p < .10$.
[a] The N is smaller then in previous models because we did not have street days data on all participants.

Figure 6-13 describes the cumulative survival pattern for the *time to first arrest* for the treatment and control groups. Unlike the previous analysis with official records data, this analysis

FIGURE 6-13.

Official Records: Follow-Up Criminal Behavior

Time to First Arrest



is not limited to a one year follow up. Official data were collected for all clients at a finite period in time that was ranged from December 1997 for Tampa individuals and April 1998 for St. Louis and Kansas City individuals. Hence, for some of the early participants who came into the research in January 1995, more than three years of records data was available. The survival analysis automatically controls for the number of days in the reporting period (i.e., takes account of the differential enrollment status of various participants). The Log rank, the Breslow, and the Tarone-Ware tests were used to test the equality of the survival functions for the treatment and control groups. Statistically significant differences were not obtained between the survival functions of the treatment and control groups.

Figure 6-14 describes the cumulative survival pattern for the *time to first technical violation* for the treatment and control groups. Again, statistically significant differences were not found between the survival functions of the treatment and control groups.

Summary

Both OPTS clients and the control group reported considerably less criminal activity during their first year of supervision than in the year prior to the incarceration that qualified them for inclusion in the study. However, there is very little evidence supporting the effectiveness of OPTS in reducing criminal behavior based on data from either the self-report surveys or official records. The only statistically significant differences between OPTS clients and the control group were with respect to the self-reported:

- Average number of robberies of persons during the follow-up period.
- Average number of disorderly conduct incidents during the follow-up period.
- Percentage of street time spent in dealing drugs.

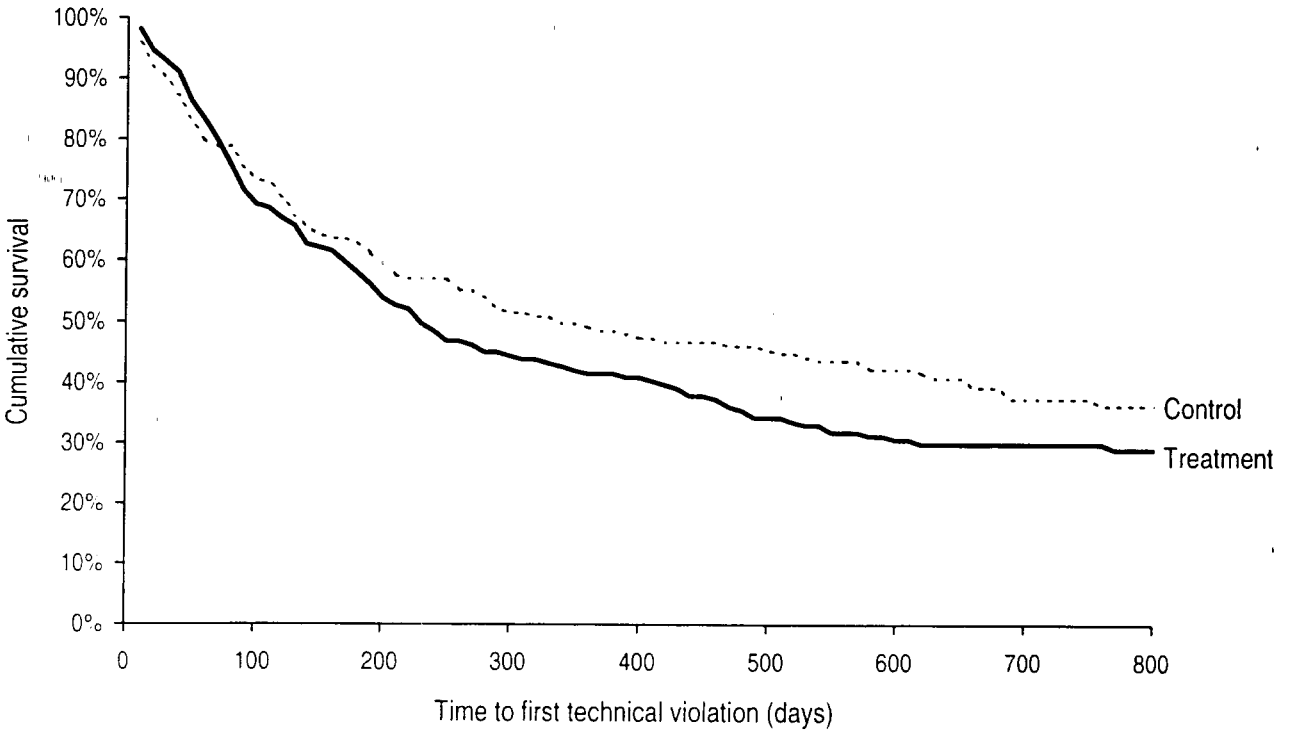
However, each of these was only significant at the 0.10 level.

Further, from the official records, the mean numbers of technical violations tended to be worse for the OPTS treatment group. One explanation for these results was that increased contact among case managers, probation officers, and OPTS clients may have led to increased detection of technical violations; anecdotal evidence suggested that in at least a few cases, OPTS clients were technically violated for failure to comply with a service plan requirement (e.g., attend counseling, take prescribed medication). In any case, there is little evidence to argue that OPTS was effective in reducing criminal behaviors.

FIGURE 6-14.

Official Records: Follow-Up Criminal Behavior

Time to First Technical Violation



CHAPTER 7
THE EFFECTS OF OPTS ON EMPLOYMENT

Considerations of economic stability play a central role in numerous theories of (and related research on) criminal behavior. For example, social strain theory posits that crime is the result of blocked opportunity, such as limited economic and educational opportunities (see Cohen, 1955, and Cloward and Ohlin, 1960, as cited in Sullivan and Wilson, 1995). Studies of both juvenile delinquents and adult offenders have found that both economic and educational factors influence an individual's involvement in crime. Similarly, Uggen et al. (1992) studied the link between crime and unemployment, suggesting that both economic and ethical considerations factor into crime.

Farrington et al. (1986) found that unemployment could lead to higher crime rates. However, the causal direction between unemployment and crime and the consequent imprisonment may not be uni-directional: imprisonment may have powerful negative effects on the prospects of future employment and job stability (Sampson and Laub,1993; Wilson, 1987; Sampson, 1987).

This chapter uses self-report data to test the general hypothesis that OPTS clients demonstrate better employment outcomes than the control group, after controlling for attrition. As with Chapters 5 and 6, changes over time are reported for the treatment and control groups, but the emphasis is placed on differences between the two groups at the end of their first year of community-based supervision.

During their first year of supervision, 88% of OPTS clients, as compared to 85% of the control group, reportedly had at least some period of either full- or part-time employment. Put another way, this means that -- despite the fact that employment is a requirement of probation and parole -- 12% of OPTS clients and 15% of controls were unemployed throughout this entire time frame.

Measures of Impact on Employment

The focus of the analysis is primarily on part- and full-time employment in the year before the incarceration that resulted in eligibility for OPTS (baseline), and in the first year of probation/parole supervision post-incarceration (follow up). Part-time jobs were defined as working 17 to 35 hours per week. Working in excess of 35 hours per week was defined as full-time employment. Calendar data are used to examine monthly variations in full- and part-time employment both in the years before and after incarceration.

Key measures include: 1) whether respondents had full-time work in the year before/after incarceration; 2) whether respondents had part-time work in the year before/after incarceration;

3) the number of months in the year before/after incarceration in which respondents had full-time jobs, and 4) the number of months in the year before/after incarceration in which they had part-time jobs; 5) the percentage of street months in the year before/after incarceration in which respondents had full-time jobs, and 6) the percentage of street months in the year before/after incarceration in which they had part-time jobs; 7) whether respondents were currently working at a job for pay at the time of the follow-up interview; and 8) the weekly take-home pay earned by respondents at their current job. These are detailed in the Glossary.

Differences Between Pre-OPTS and Follow-Up Employment Measures for Treatment and Control Groups

Exhibit 7-1 describes respective differences between baseline and follow-up economic measures for the treatment and control groups. The percentage of the treatment group employed full time increased 72% from baseline to follow up (i.e., from 47% to 81% reporting full-time work), as compared to the control group, which reported a 54% increase during the same period (i.e., from 48% employed full time at baseline to 74% at follow up). The control group reported a larger increase (80%) in part-time employment than OPTS clients (who increased 33.6%, from 21.7% who were employed part-time at baseline to 29% who were similarly employed during the follow-up period). Similar differences were found regarding months of full- (and part-) time employment, and the percentage of street months employed with either full- or part-time jobs.

Comparison of Key Economic Measures Between Treatment and Control Groups for the Follow-Up Period

Figures 7-1 and 7-2 describe the differences between OPTS clients and control group members for the follow-up economic measures. In terms of full-time employment, 81% of the treatment group, as compared to 74% of controls, reported some full-time employment; this difference, as well as the difference in percentages reporting part-time employment, was statistically significant at the .10 level, as shown in Figure 7-1. No statistically significant differences were found between the percentages of each group that reported any employment during the calendar period, the percentage reporting employment at the time of the follow-up interview, or their average weekly income.

Statistically significant differences were obtained between treatment and control groups in terms of number of months employed with full-time jobs and percentage of months with full-time employment, as presented in Figure 7-2. Much weaker differences were obtained for part-time jobs: only the percentage of months with part-time jobs was statistically significant (but at the 0.10 level). Interestingly, the control group had higher levels of part-time jobs.

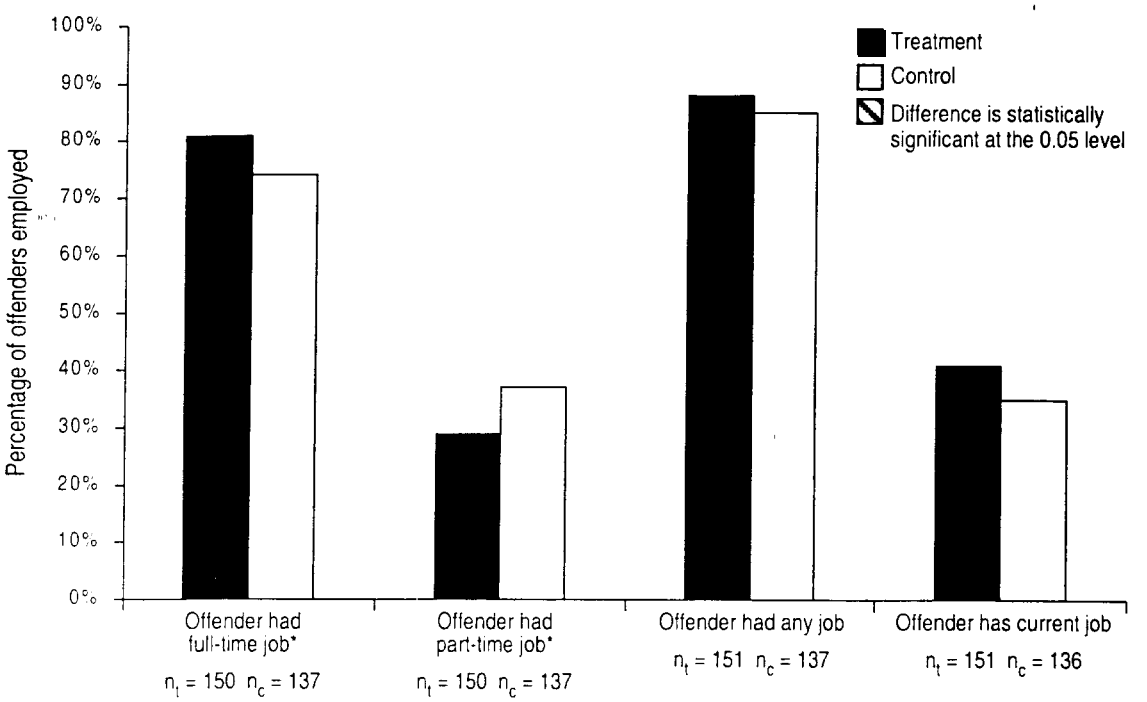
Exhibit 7-1
Comparison of Key Economic Measures Between Baseline and Follow Up, By Group

	OPTS Clients		Control Group		Total Sample	
	Baseline	Follow Up	Baseline	Follow Up	Baseline	Follow Up
Full-time job in the calendar period	47% (175)	81% (150)	48% (168)	74% (137)	48% (340)	78% (287)
Part-time job in the calendar period	21.7% (175)	29% (150)	20% (168)	37% (137)	22% (340)	32% (287)
Number of months with full-time job	3.6 months (167)	6.4 months (149)	3.6 months (162)	5.1 months (136)	3.6 months (329)	5.8 months (285)
Number of months with part-time job	1.1 month (169)	1.4 months (150)	1.2 month (166)	1.9 months (133)	1.2 months (335)	1.6 months (283)
Percentage of street months with full-time job	34% (167)	62% (149)	35% (162)	51% (136)	34% (329)	56% (285)
Percentage of street months with part-time job	10% (169)	13% (150)	11% (166)	18% (132)	11% (335)	15% (282)

FIGURE 7-1.

Differences Between Treatment and Control Groups for Employment Measures

PERCENTAGE OF OFFENDERS EMPLOYED IN CALENDAR PERIOD



*Difference is statistically significant at the 0.10 level

AVERAGE WEEKLY SALARY IN CURRENT JOB

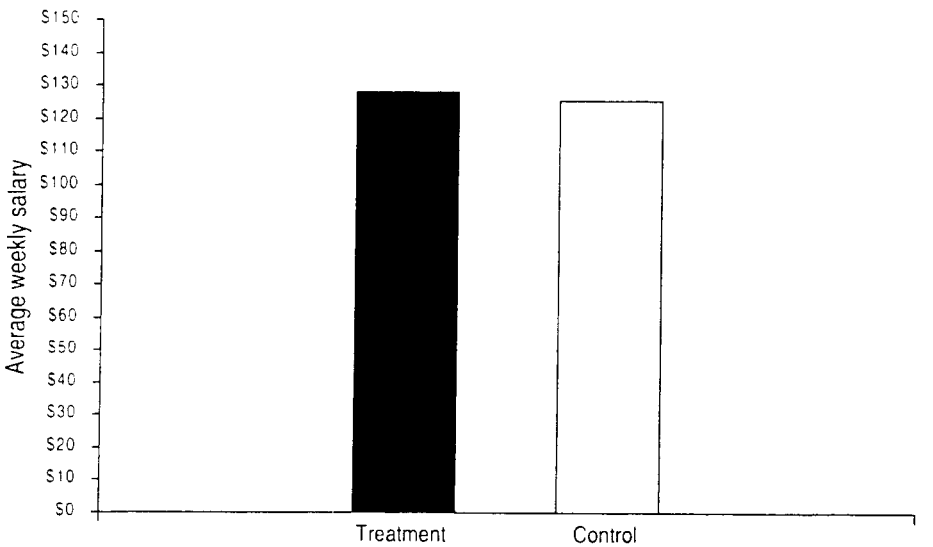
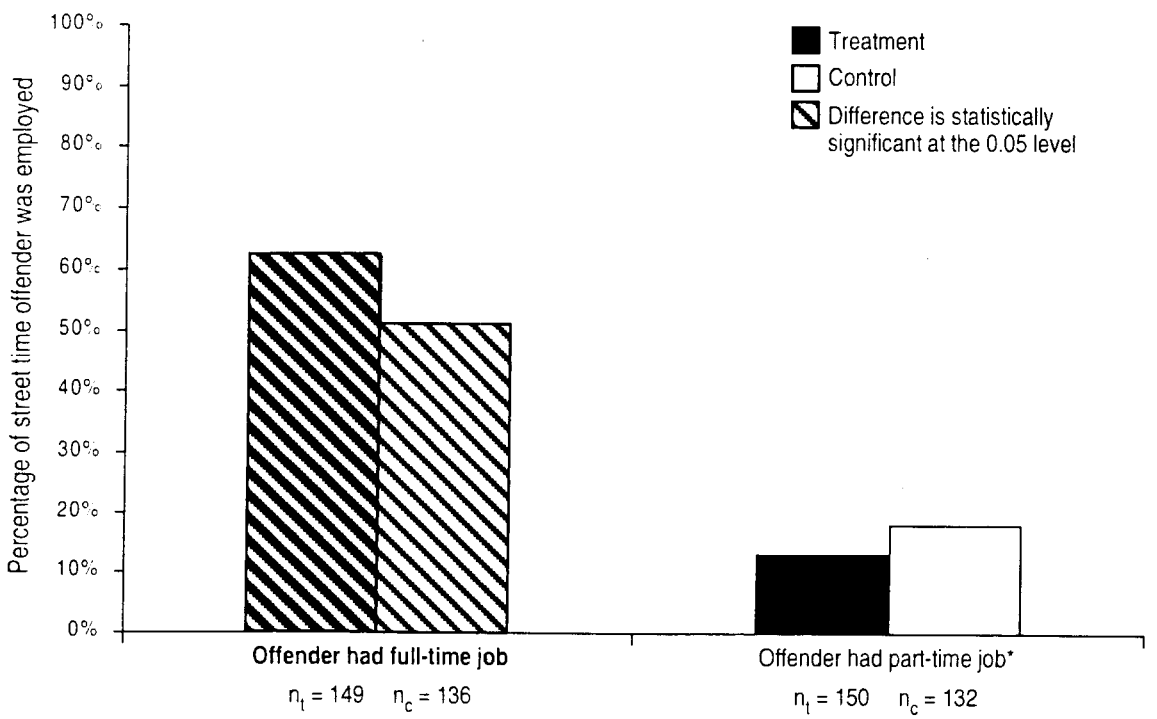


FIGURE 7-2.

Differences Between Treatment and Control Groups for Employment Measures

MONTHS IN WHICH OFFENDER WAS EMPLOYED IN THE 12 MONTHS AFTER INCARCERATION

PERCENTAGE OF STREET TIME OFFENDER WAS EMPLOYED



Difference is statistically significant at the 0.10 level

Exhibits 7-2 and 7-3 summarize the results of the regression models that were run without and with correction for attrition (see Chapter 3 for discussion of the methodology). A positive value for *membership in OPTS* in these exhibits indicates that the level of employment is higher in the treatment group than in the control group. For the most part, the results mirror those discussed above. The treatment group had higher levels of street time spent with full-time employment. This is also confirmed by Figure 7-3, which examines the percentage of the group with full-time jobs in the street calendar during the baseline and the follow up.

Exhibit 7-2
Regression Models Without Correction for Attrition

Coefficients of the Linear Model[1]

Dependent Measures

	Full-Time Job in the Calendar Year	Part-Time Job in the Calendar Year	Number of Months With Full-Time Job	Number of Months With Part-Time Job	Percentage of Street Calendar With Full-Time Job	Percentage of Street Calendar With Part-Time Job
Membership in OPTS	0.05	-0.07	1.06**	-0.36	9.36**	-4.35
Corresponding Employment Behavior at Baseline (dichotomous measure)	0.27**	0.16**	2.82**	0.92**	31.93**	8.37**
Site (Tampa)	-0.02	-0.11*	0.35	0.20	5.53	0.60
Site (Kansas City)	-0.02	-0.09*	0.01	-0.43	-0.25	-3.94
Constant	0.63**	0.38**	3.74**	1.72**	34.53**	17.11**
R^2	0.11	0.04	0.11	0.02	0.18	0.03
N	279	278	278	274	278	273

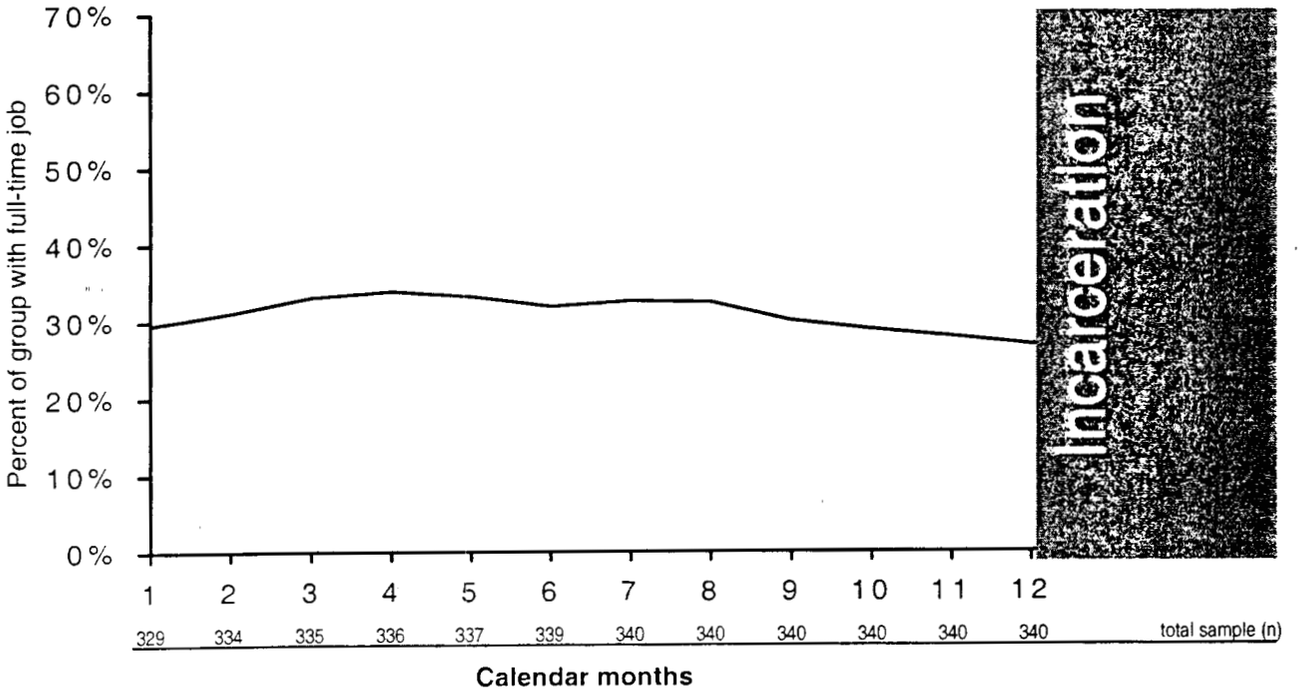
Note: A positive value for *membership in OPTS* indicates that the level of employment is higher in the treatment group.
** $p < .05$; * $p < .10$

[1] Given the dichotomous nature of some of the dependent measures (full-time and part-time job in the street calendar), the analysis was also run using logistic regression technique. No substantive differences were observed between the estimates obtained using OLS and logistic regression. As the OLS estimates are easier to interpret they have been reported.

FIGURE 7-3.

Percentage of Group With Full-Time Jobs in the Calendar Period During Baseline and Follow-Up

BASELINE: FULL-TIME JOB



FOLLOW-UP: FULL-TIME JOB

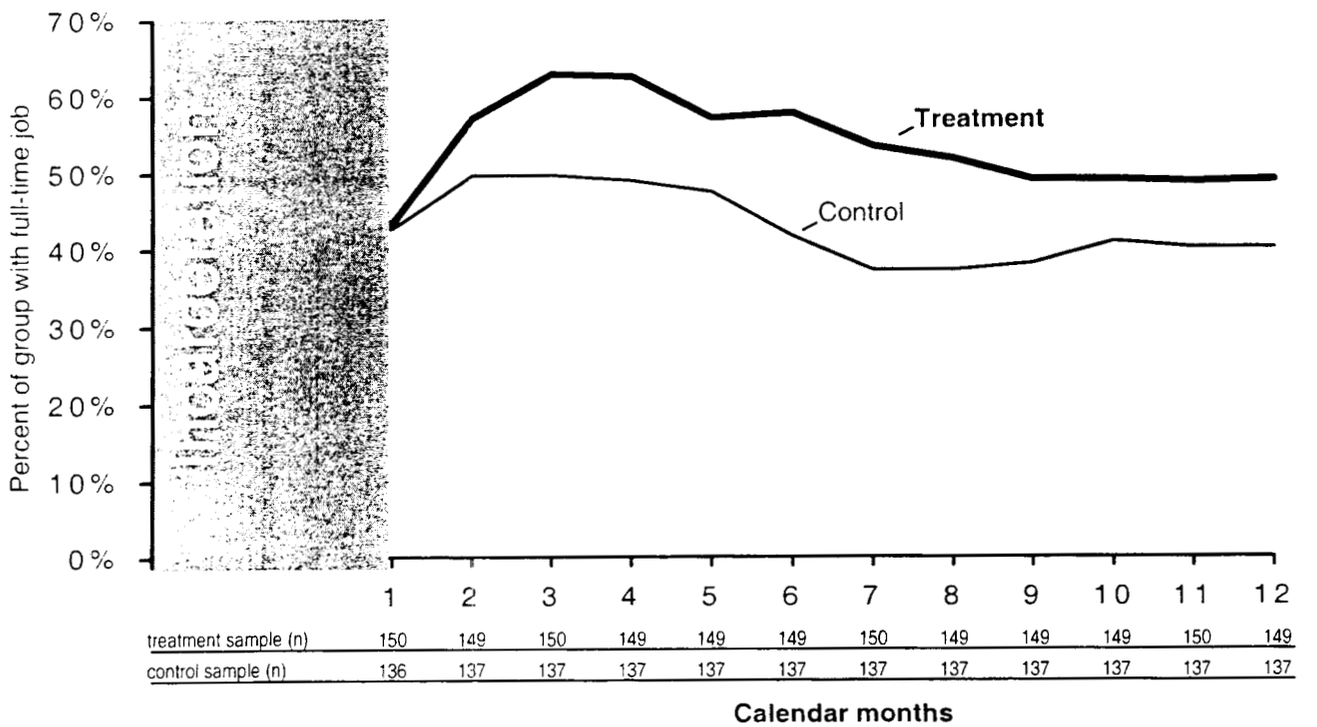


Exhibit 7-3
Regression Models With Correction for Attrition

Coefficients of the Linear Model

Dependent Measures

	Full-Time Job in the Calendar Year	Part-Time Job in the Calendar Year	Number of Months With Full-Time Job	Number of Months With Part-Time Job	Percentage of Street Calendar With Full-Time Job	Percentage of Street Calendar With Part-Time Job
Membership in OPTS	0.05	-0.06	1.06**	-0.31	9.44**	-3.82
Corresponding Employment Behavior at Baseline (dichotomous measure)	0.27**	0.18**	2.79**	1.09**	31.89**	9.84**
Site (Tampa)	-0.03	-0.10*	0.28	0.27	4.45	1.05
Site (Kansas City)	0.02	-0.09*	0.02	-0.44	-1.17	-4.07
Constant	0.63**	0.37**	3.84**	1.65**	35.34**	16.53**
R^2	0.11	0.04	0.11	0.03	0.18	0.03
N	279	278	278	274	278	273

Note: A positive value for *membership in OPTS* indicates that the level of employment is higher in the treatment group.
** $p < .05$; * $p < .10$

Figure 7-4 repeats the analysis conducted in Figure 7-3, but confines the analysis to only those individuals who were not locked-up in any specific month.[2] The pattern observed in Figure 7-4 is very similar to that observed in Figure 7-3. Even though statistically significant relationships were not obtained between part-time employment and participation in OPTS, Figures 7-5 and 7-6 confirm that the treatment group had lower levels of part-time jobs.

No interactional effects of OPTS were found for employment behaviors.

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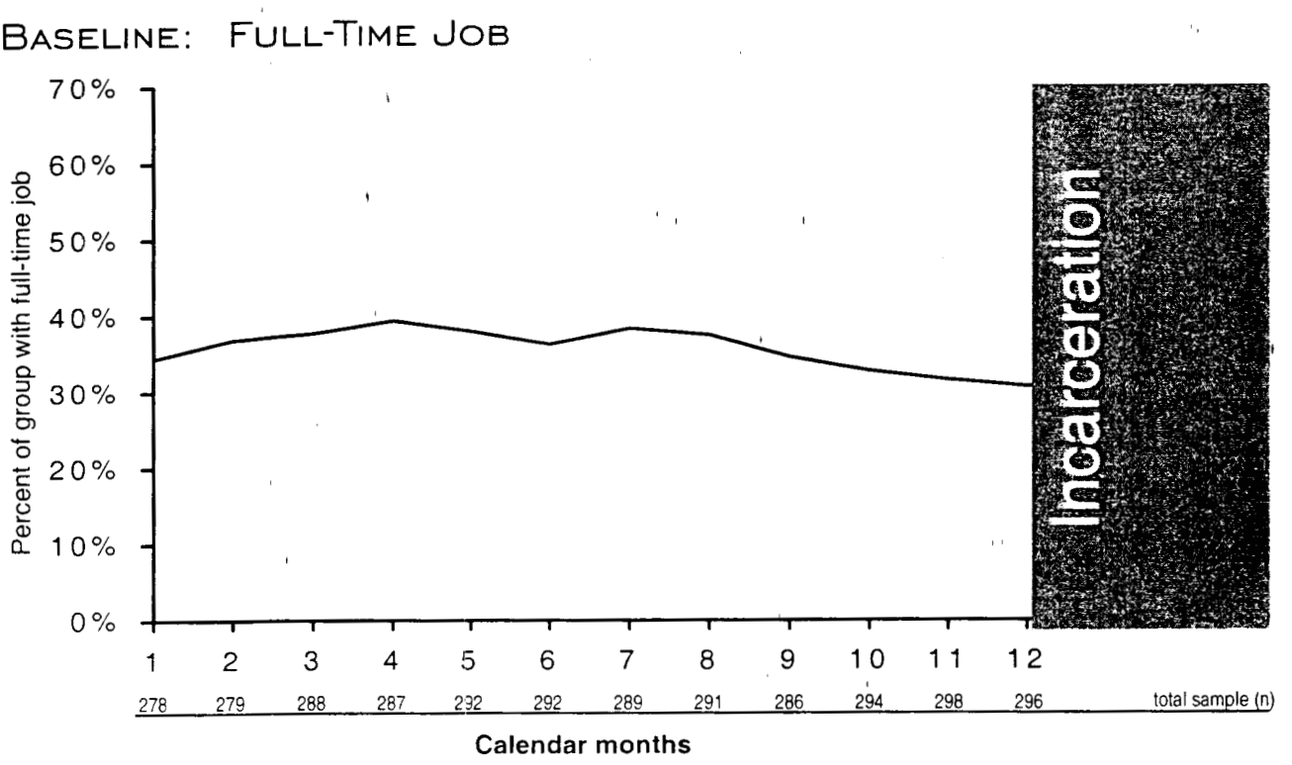
[2] As noted in Chapter 6, the second analysis controls for the individuals who were incarcerated during a given month, during which time they may not have had the opportunity to be gainfully employed in the community. However, since individuals may spend part of a month in the community and the rest in jail or prison, this approach runs the risk of undercounting employment in the first (or last) month of incarceration attributable to individuals who had jobs just prior to, or immediately after, their confinement. By contrast, the first approach runs the risk of including those who had no opportunity to be employed in months when they were incarcerated for the full month.

FIGURE 7-4.

Percentage of Group With Full-Time Jobs in the Calendar Period During Baseline and Follow-Up

Analysis does not include individuals who were locked up in any specific month



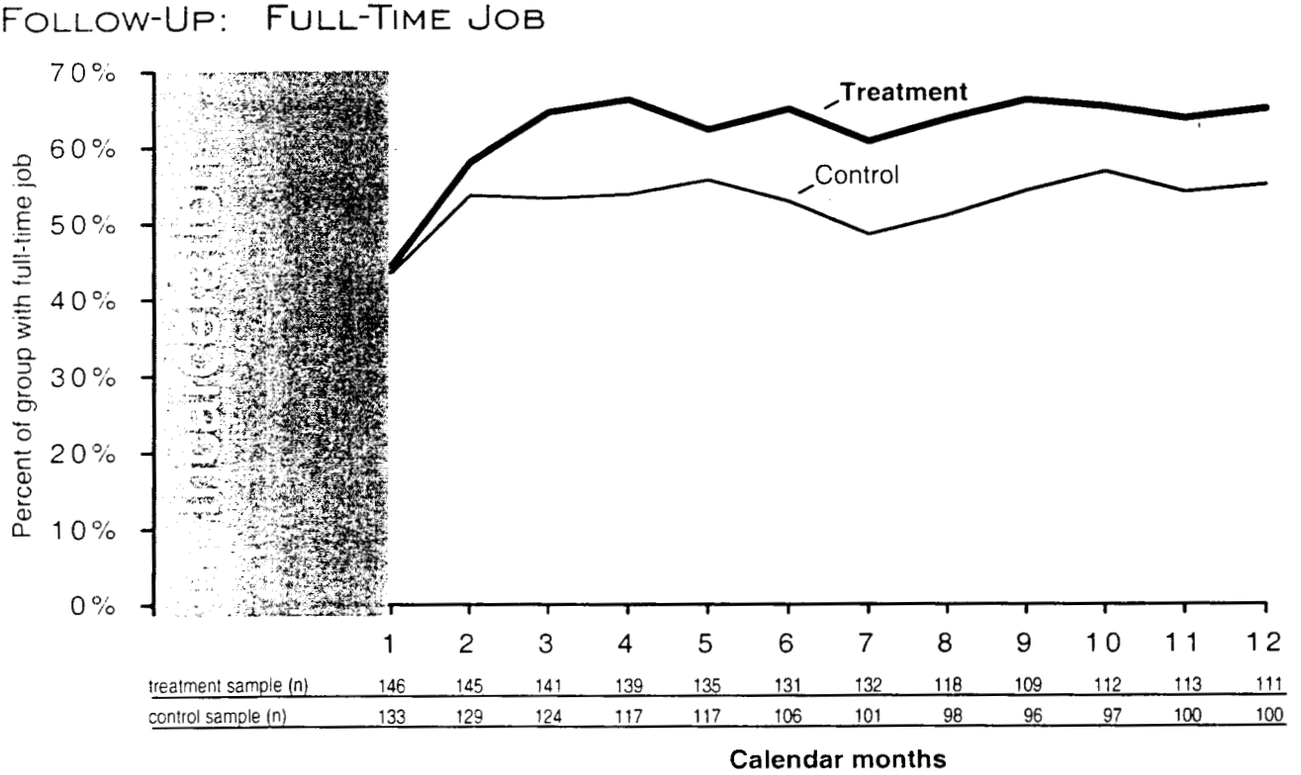
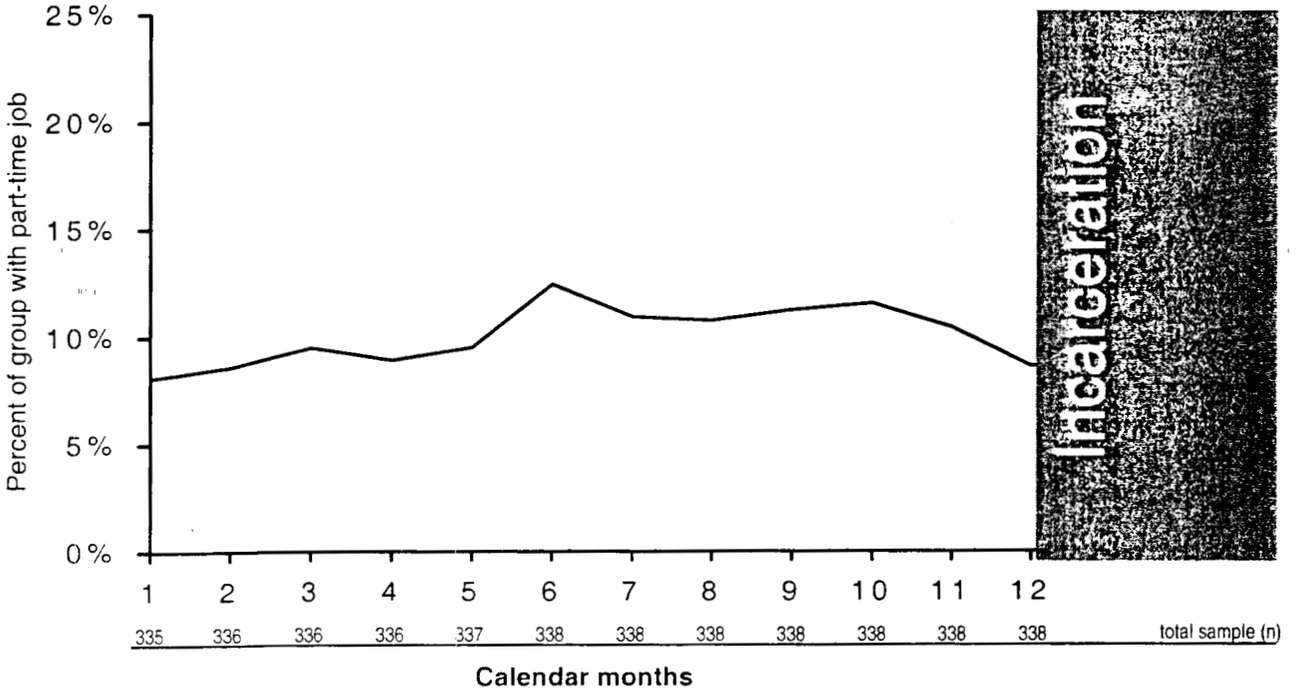


FIGURE 7-5.

Percentage of Group With Part-Time Jobs in the Calendar Period During Baseline and Follow-Up

BASELINE: PART-TIME JOB



FOLLOW-UP: PART-TIME JOB

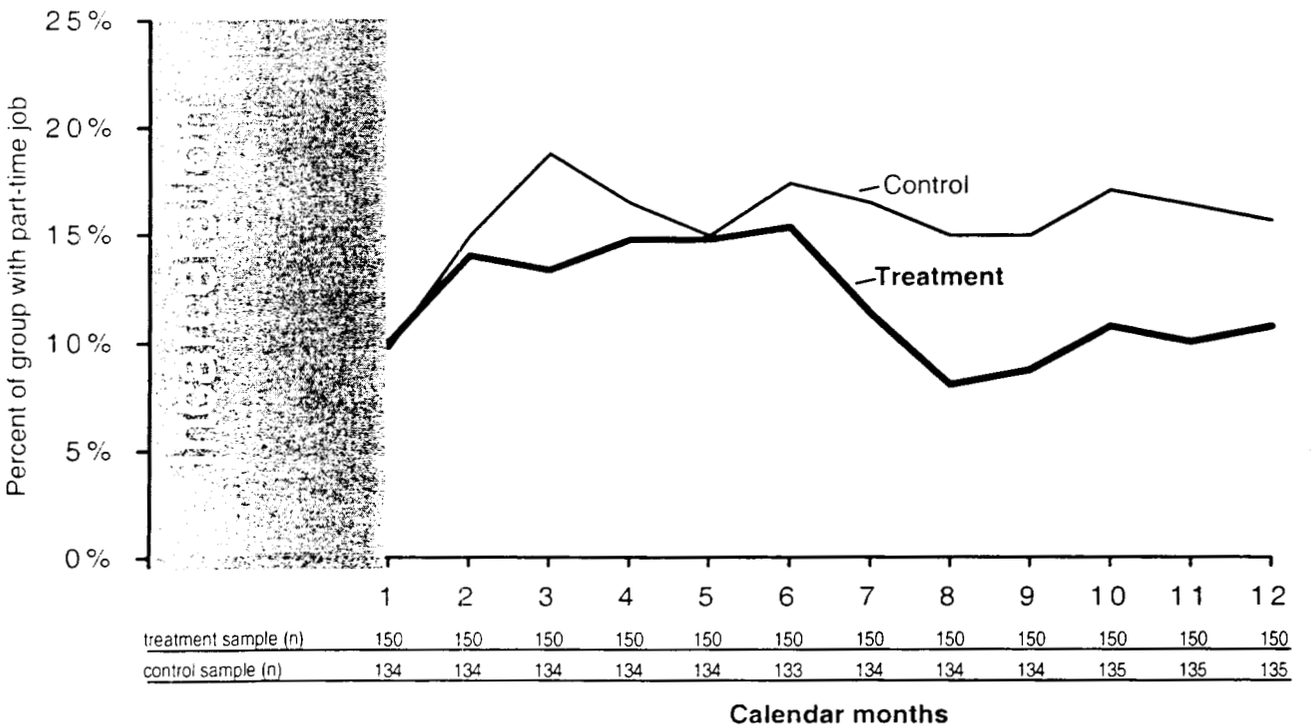
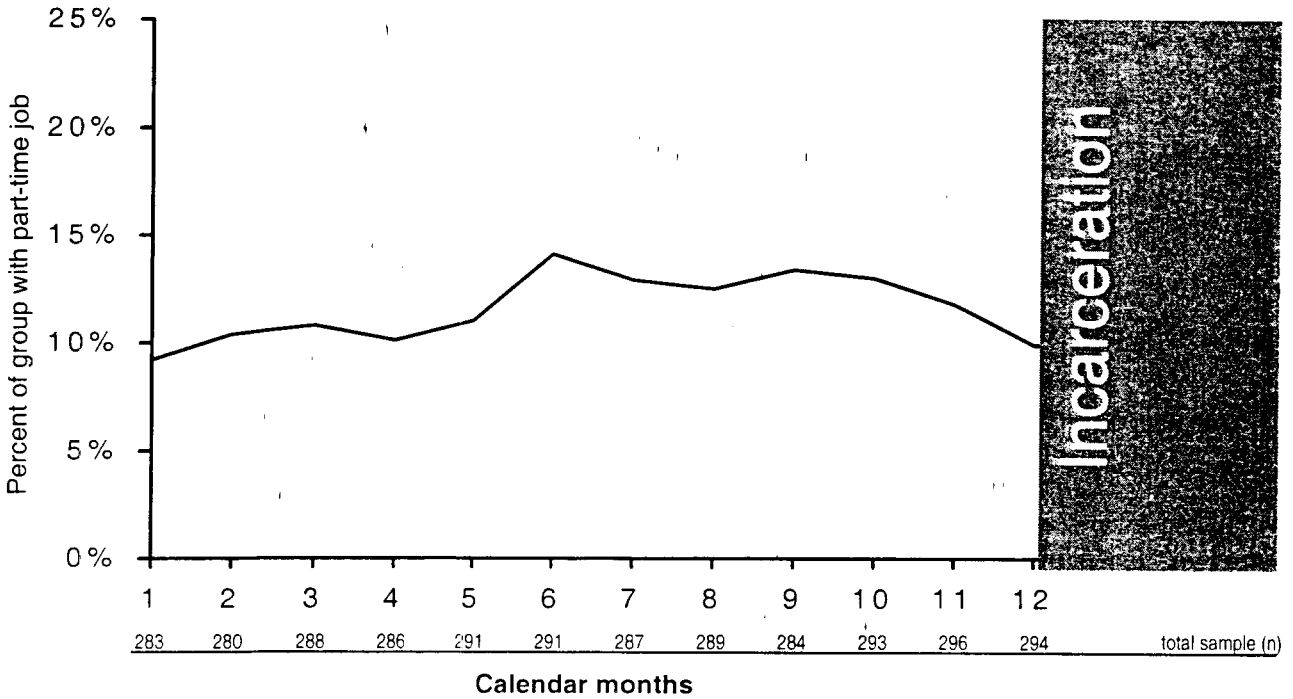


FIGURE 7-6.

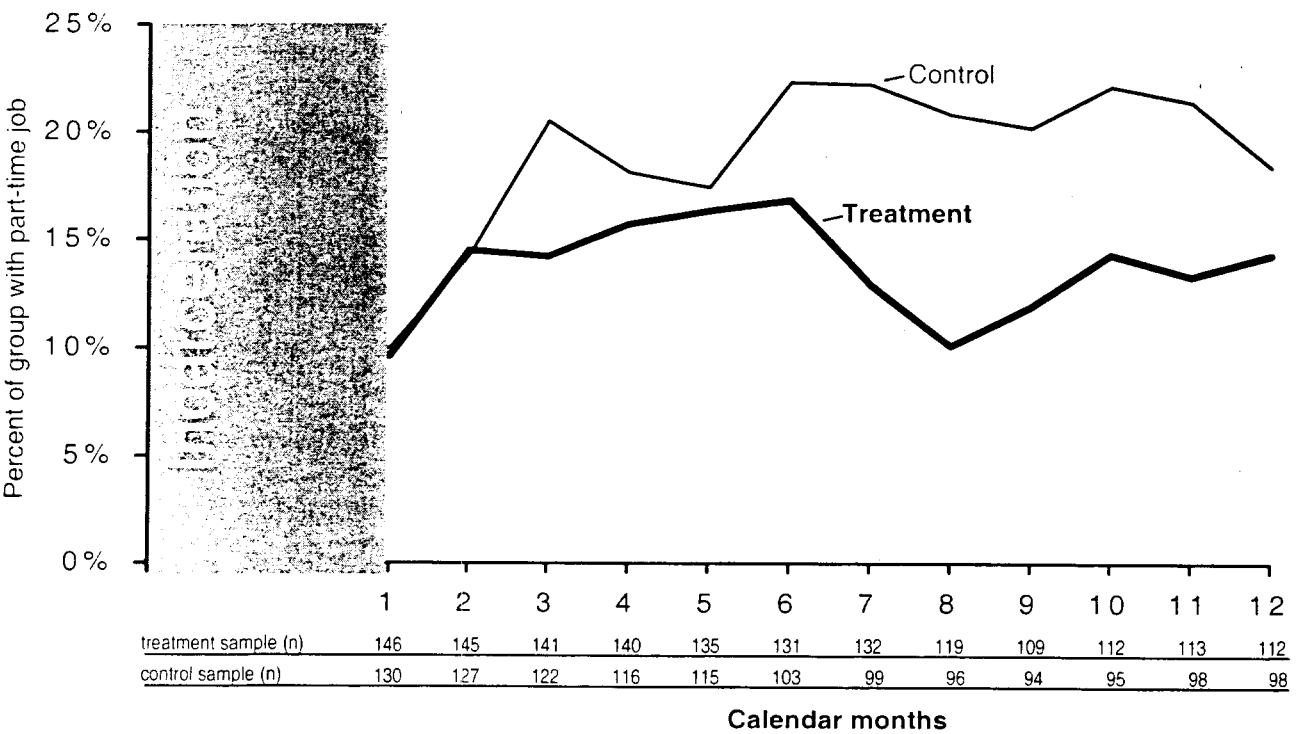
Percentage of Group With Part-Time Jobs in the Calendar Period During Baseline and Follow-Up

Analysis does not include individuals who were locked up in any specific month

BASELINE: PART-TIME JOB



FOLLOW-UP: PART-TIME JOB



Figures 7-7, 7-8, and 7-9 present the differences between OPTS client and control groups' employment behavior, by site. The percentage of clients reporting full-time employment is consistently higher than controls in all three sites (and the difference is statistically significant at the .10 level in Kansas City). The percentage of controls reporting part-time work is higher in St. Louis and Tampa, but identical to the treatment group in Kansas City.

The number of months with full-time employment is higher for the treatment group, as compared to the control group -- and the difference is statistically significant -- in both Missouri sites; however, Tampa clients reported somewhat fewer months of full-time employment than did the controls. The control groups in all sites, as compared to the treatment groups, consistently reported more months with part-time employment, but these differences were not significant statistically.

The percentage of months with full-time employment is consistently higher in the treatment group as opposed to the control group (these differences are statistically significant at the .10 level for Kansas City and St. Louis). The percentage of street months with part-time jobs is higher for the control groups in all sites.

Summary

Both full- and part-time employment reportedly increased for OPTS clients and the control group, comparing their work histories during the supervision year to that in the year prior to pre-OPTS incarceration. Nevertheless, 12% of OPTS clients and 15% of the control group remained unemployed throughout the follow-up year despite the supervision requirement that offenders on probation/parole be gainfully employed.

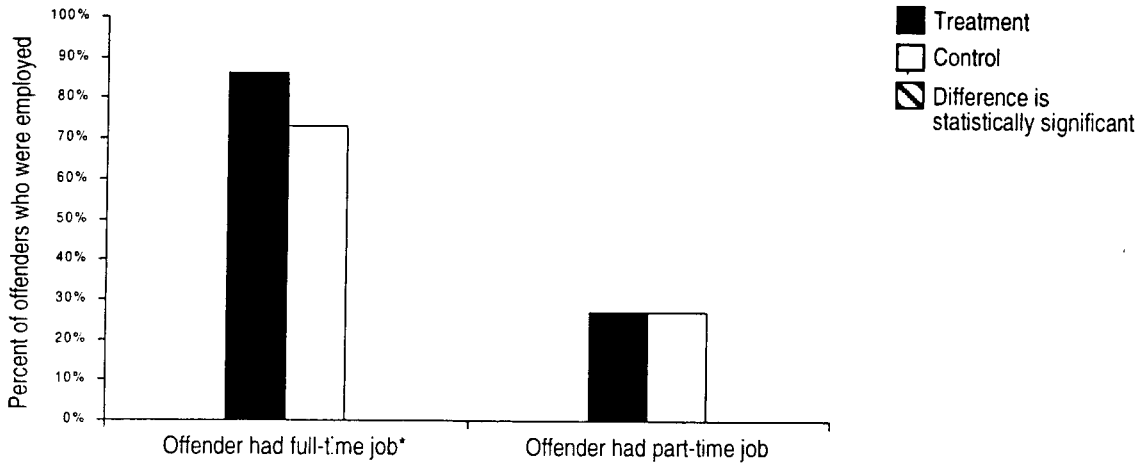
The differences between the two groups in the percentages of each that were employed were generally not significant statistically. However, at follow up, OPTS clients demonstrated significantly longer periods of full-time employment (in terms of numbers of months of employment and percentage of months with employment) than did the controls. The linkages between employment and crime are further examined in analyses using more comprehensive modeling in Chapters 10 and 11.

FIGURE 7-7.

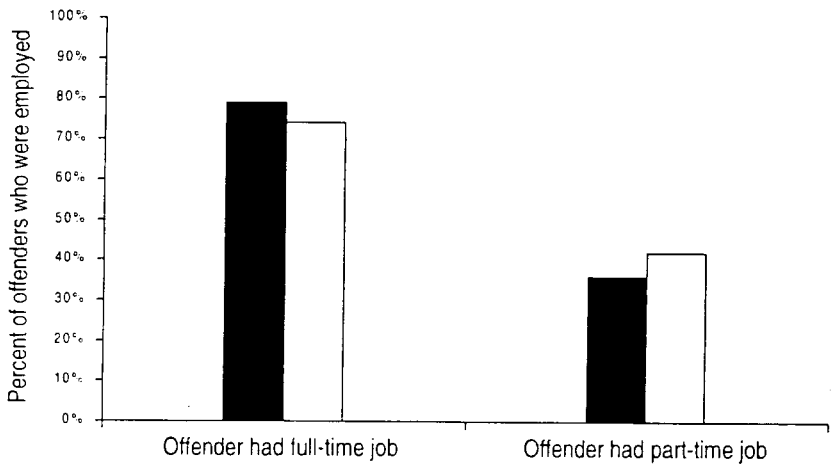
Site-Specific Differences Between Treatment and Control Groups for Employment Measures

PERCENTAGE OF OFFENDERS WHO WERE EMPLOYED IN THE CALENDAR PERIOD

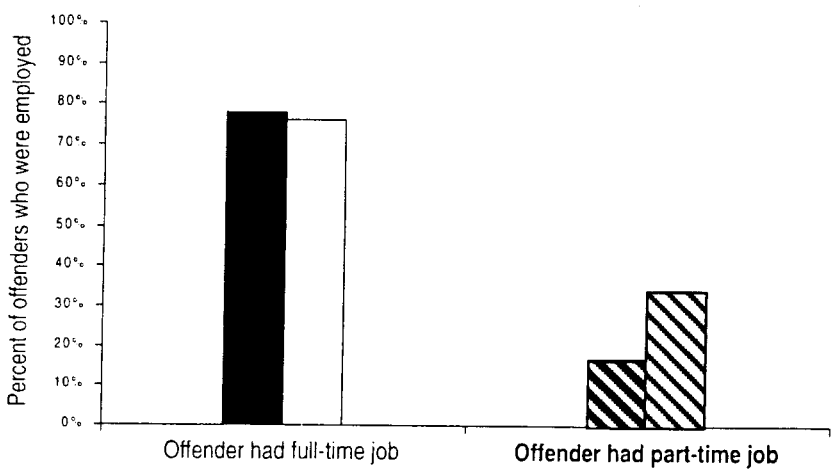
KANSAS CITY



ST. LOUIS



TAMPA



Difference is statistically significant at the 0.10 level

FIGURE 7-8.

Site-Specific Differences Between Treatment and Control Groups for Employment Measures

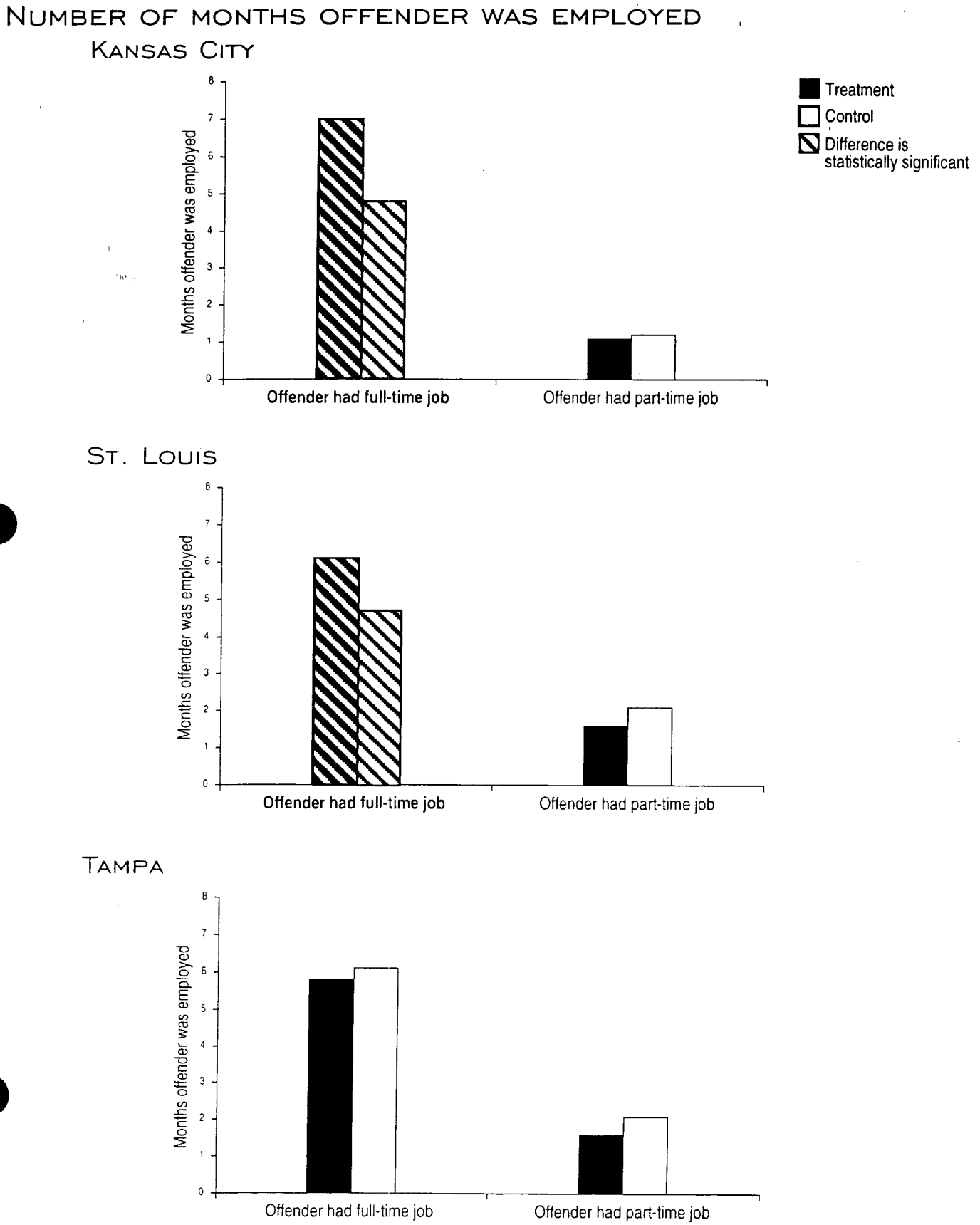


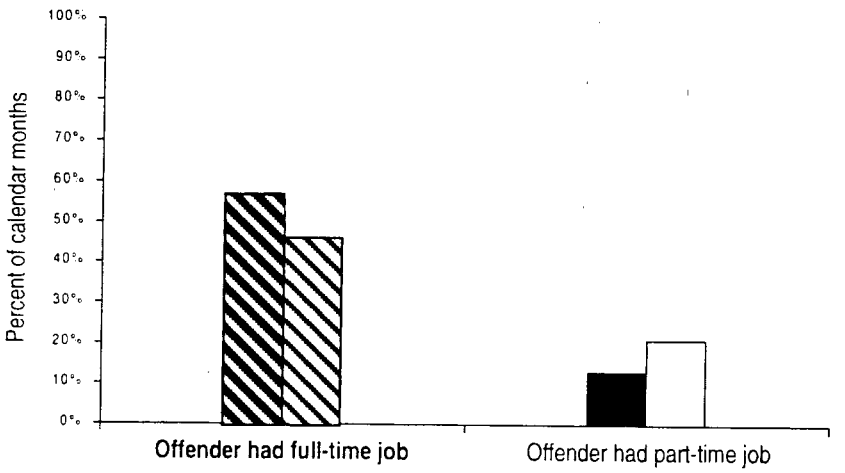
FIGURE 7-9.

Site-Specific Differences Between Treatment and Control Groups for Employment Measures

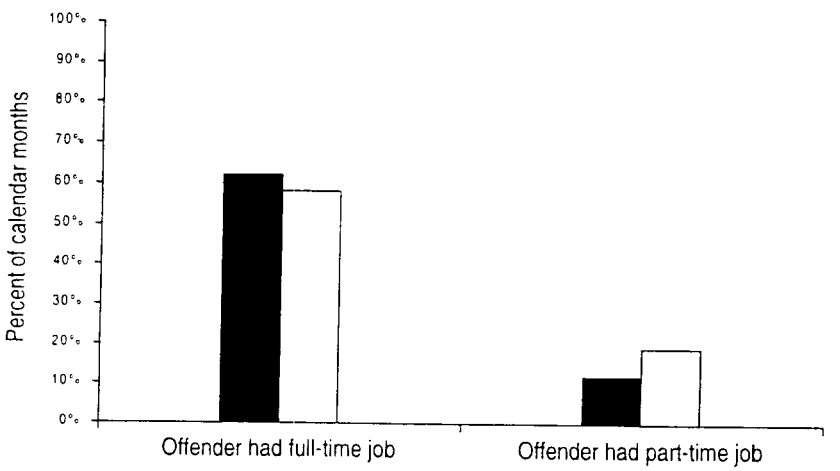
PERCENTAGE OF CALENDAR MONTHS OFFENDER WAS EMPLOYED

KANSAS CITY

ST. LOUIS



TAMPA



*Difference is statistically significant at the 0.10 level

CHAPTER 8
FAMILY, SOCIAL, AND HEALTH FACTORS

The initial OPTS strategy incorporated risk reduction in family, social, and health domains to mitigate circumstances that could trigger substance abuse relapse or criminal behavior. Originally, family strengthening, as noted in Chapter 4 (and detailed in Rossman et al., 1999), was viewed as a mechanism to promote positive social interaction, particularly as it encouraged increased parental responsibility for one's children. However, since OPTS programs were broadly intended to strengthen probationers/parolees' self-sufficiency and pro-social bonds, while reducing family and peer risk factors, the local programs expanded family services to enhance a range of other related factors. To this end, OPTS clients were encouraged to: 1) re-engage with adult and child family members (e.g., increased contact with and financial support of dependents), 2) learn new patterns of interaction supportive of family stability and reduced family conflict, 3) avoid risky associations that could trigger relapse and recidivism, and 4) generally improve their positive social behaviors. In addition to such family strengthening, other program services, as described earlier, were introduced to promote more positive social and physical environments, and to reduce strains associated with compromised mental or physical health.

The literature details various antecedents associated with substance abuse and crime. For example, Cummings et al. (1980) identified two major categories of risk determinants that may trigger relapse: intrapersonal and interpersonal. Intrapersonal determinants are events that occur primarily within the individual (e.g., physical and emotional states, and personal control), while interpersonal determinants are those where other people can exert an influence (Marlatt and Gordon, 1980). Cummings et al. (1980) found that relapse to heroin use was most often associated with social pressure. On the other hand, Schonfield et al. (1989) found that the antecedents to relapse after treatment were both interpersonal and intrapersonal.

Impaired health, for example, constitutes one type of intrapersonal risk factor. In that regard, a study of Canadian parolees (Zamble and Quinsey, 1991), which examined offenders' level of psychosocial functioning, the nature and severity of life problems, and the relationship of the problems to re-offending (measured depression, anger and anxiety, and socialization), found that depression, followed by anger and anxiety, represented the predominate emotion at the time of offense. Looking at the last 48 hours preceding revocation offenses, they found that anger, followed by depression and anxiety, were the most common emotions at the time.

Interpersonal factors include relationships with family and friends, as well as the larger social environment in which one functions. The literature about family and peer risks focuses primarily on adolescent relationships (Agnew, 1991; Case and Katz, 1990; Elliot et al., 1985; Cernkovich and Giordano, 1987; Huizinga et al., 1989; Jessor and Jessor, 1977). Various family factors, including composition and size of the family unit, parental involvement in crime, and

sibling/parental substance abuse, are reported to positively correlate with delinquent criminal behaviors (Blumstein et al., 1986; Farrington et al., 1990; Hawkins et al., 1988).

Crime and delinquency research affirms the strong correlation between negative peer influences and other forms of deviant behaviors including crime and substance abuse (Blumstein et al., 1986; Elliot et al., 1985; Farrington et al., 1990; Hawkins et al., 1988). In the peer risk literature, a consistent finding is that the greater the number of delinquent friends a youth has, the more likely the person is to commit delinquent acts (Warr and Stafford, 1991). Clayton and Lacy (1982) examine the risk factors associated with male drug use, while Jurich et al. (1985) highlight the family risk factors involved in the lives of drug users and drug abusers.

Both family and peer risks point to the relevance of "social environments" in influencing individuals' behavior (Sampson and Laub, 1993). As Dannefer states:

> The contributions of sociological research and theory provide the basis for understanding human development as socially organized and socially produced, not only by what happens in early life, but also by the effects of social structure, social interaction, and their effects on life chances throughout the life course (1984: 106).

In addition to family and peers, other aspects of the social environment (such as drug-infested or crime-ridden housing and open-air drug markets) constitute risk factors for populations such as adult substance abusers.

This chapter uses self-report data to broadly examine six hypotheses that OPTS clients, compared to probationers/parolees under routine supervision, had higher levels of family stability and parental skills, and lower levels of family conflict, and family, peer, health, and other social risks factors. Following the approach used in earlier chapters, the focus is on differences between OPTS clients and the control group at follow up, although changes within each group from baseline to follow up also are addressed. Much of the data used to measure risk reduction is based on exposure to services during the first year of supervision. As noted earlier, service referrals (aside from substance abuse treatment) were made on an as-needed basis, rather than "across-the-board" for all probationers/parolees. Given the relatively smaller number of responses for many of these indicators, neither site-specific, nor regression analyses were performed. Additional information for all indicators is found in the Glossary.

Family Stability

The baseline and follow-up surveys document the nature of offenders' interactions with family members, and the average amount of time spent with their families in the year prior to incarceration, as well as during the follow-up period. Similarly, respondents were asked to report on interaction with, and financial support for, their own children during both time frames.

Measures of family stability include: 1) the amount of time spent with family members, 2) two indicators of financial support: the extent of child support for dependent children, and whether respondents' failed to support their families, and 3) faithfulness to one's partner. Other measures of cohesion include reported improvements in re-establishing contact with adult and child family members due to assistance received through OPTS or only from one's PO for those under routine supervision.

At baseline, 56% of the treatment group and 51% of the control group reportedly had spent some time with family members in a typical week prior to their incarceration. At follow up, 73% of OPTS clients and 81% of the controls indicated they typically spent some time with their families during their first year under supervision. Both groups, at follow up, reportedly spent an average of slightly more than 17 hours per week doing things with their family members. Although this represented an average of nearly four more hours per week for OPTS clients, and approximately three additional hours for the controls, there was no significant difference in the amount of time OPTS clients spent with their families, as compared to that of the control group.

As noted in Chapter 3, although nearly 70% of the sample had never been married, the majority had children; however, many were not living with some or all of their children, and a small percentage of these offspring already had reached adulthood and therefore were not considered dependent children. Family size ranged from one to seven children; for example, 42% of the OPTS clients and 47% of the control group had one or two children, while 22% of the treatment group and 18% of the controls had three to five children. During the follow-up period, approximately 71% of the treatment group, and 73% of the controls, had children under the age of 18 -- youth under 18 were considered dependents for whom parents should assume some financial responsibility, regardless of whether they were a custodial parent.

At both the baseline and follow-up interviews, respondents were asked the extent to which they financially supported (i.e., fully, partially, or not at all) their dependent children, regardless of whether they were a custodial parent for those offspring. As presented in Figure 8-1, the percentage of both the treatment and control groups reporting no financial support for some or all of their dependent children declined from baseline to follow up. However, there was no significant difference within each group from baseline to follow up, or comparing OPTS clients to the controls, with respect to the percentage who were fully supporting their children.

Nearly half of the sample at baseline reported they had failed to support their family at some time in the past, as presented in Figure 8-2. At follow up, each group was asked whether they had failed to support their family during the year. Both groups demonstrated statistically significant improvement over time (i.e., the percentage of OPTS clients reporting they had not failed to support their families increased from 55% to 83%, while the percentages for the control group increased from 52% to 76%). However, OPTS clients were not significantly different from the control group with respect to financially supporting their families at follow up.

FIGURE 8-1.

Financial Support of Children

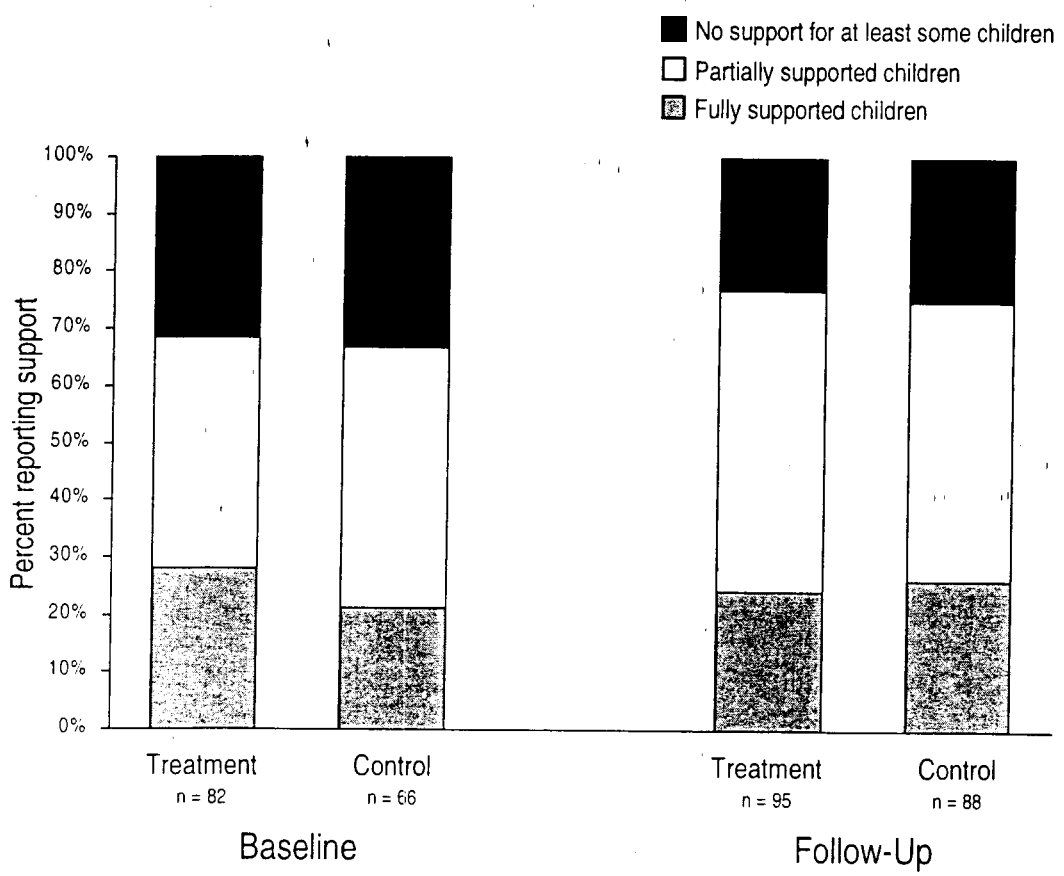
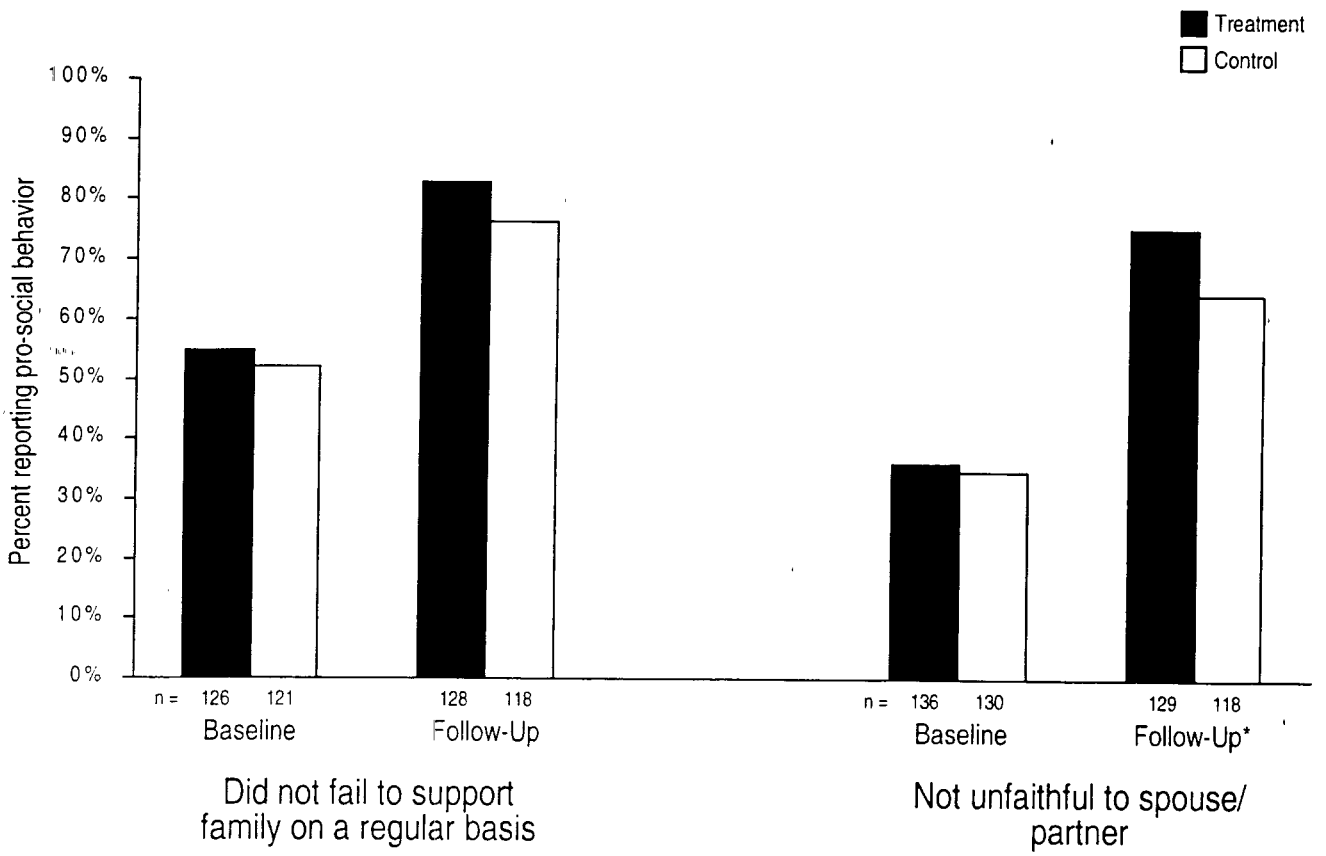


FIGURE 8-2.

Family Stability



*Difference is statistically significant at the 0.10 level.

At the baseline, high percentages of both treatment (64%) and control group (65%) members reported they had been unfaithful to partners in the past, as shown in Figure 8-2. Both groups were reportedly more faithful to their partners during the follow-up year; however, OPTS clients were more likely (significant at the .10 level) than the controls to report they had been faithful to their partners during that period.

As reported in Chapter 4, the majority of the sample reported neither problems with, nor referrals for, re-establishing contact with adult family members or with their children. However, 98 individuals (54 OPTS clients and 44 controls) reported on their circumstances with respect to re-establishing relationships with adult family members, and 74 respondents (45 OPTS clients and 29 controls) reported on their situations regarding re-establishing contact with their children. Of these, treatment group members were significantly more likely than control group members to report improvement in both circumstances due to intervention by a case manager, PO, or service provider to whom they were referred through OPTS (Figure 8-3).

Family Conflict

Measures of family conflict include whether respondents reportedly: 1) really enjoyed being together with their family members and 2) had engaged in physical fighting or assaultive behavior with their spouses or domestic partners. Also, four items were used to measure perceived improvements in family/social relations -- 1) getting along better with spouses/partners, 2) children, and 3) other family members, and 4) controlling anger or expressing it without resorting to violent behavior -- because of help received from case managers, probation/parole officers, or any services respondents were referred to as part of their participation in OPTS (for the treatment group) or routine supervision (for the controls).

At both the baseline and follow-up interviews, sample members who reported they spent time with their families were asked the extent to which they usually enjoyed these interactions (i.e., almost always, sometimes, never). As shown in Figure 8-4, OPTS clients were significantly more likely than control group members at follow up to report enjoying time spent with their family.

At baseline, respondents were asked whether they had often been in physical fights or assaults with their spouses or partners; at follow up, they were asked the same question pertaining to their first year under supervision. Both groups improved significantly from baseline to follow up in terms of reported domestic violence, as depicted in Figure 8-5. Further, prior to OPTS, the treatment group tended to report more physical fighting with their partners than did the control group (significant at the .10 level); however, there was no significant difference on this measure for the follow-up period.

Most respondents had not indicated they had problems with the four family/social relations items, nor did they report having been referred for related services (see Chapter 4 for

FIGURE 8-3.

Improvements in Family Cohesion Due to Assistance From OPTS or Routine Supervision

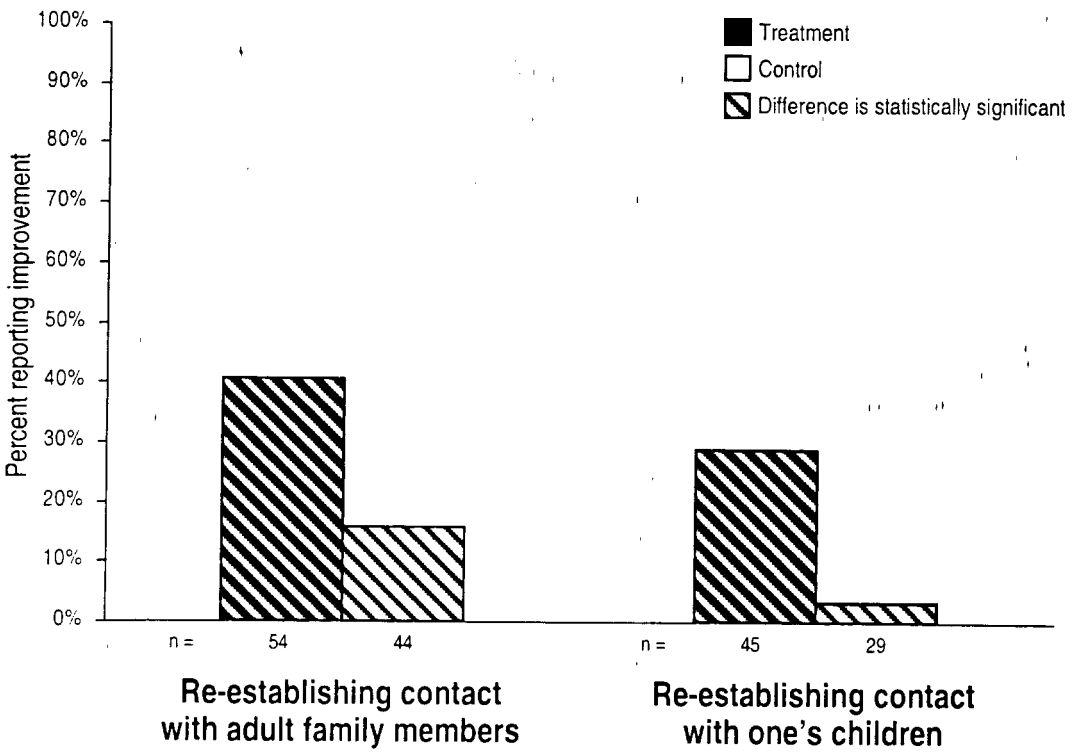
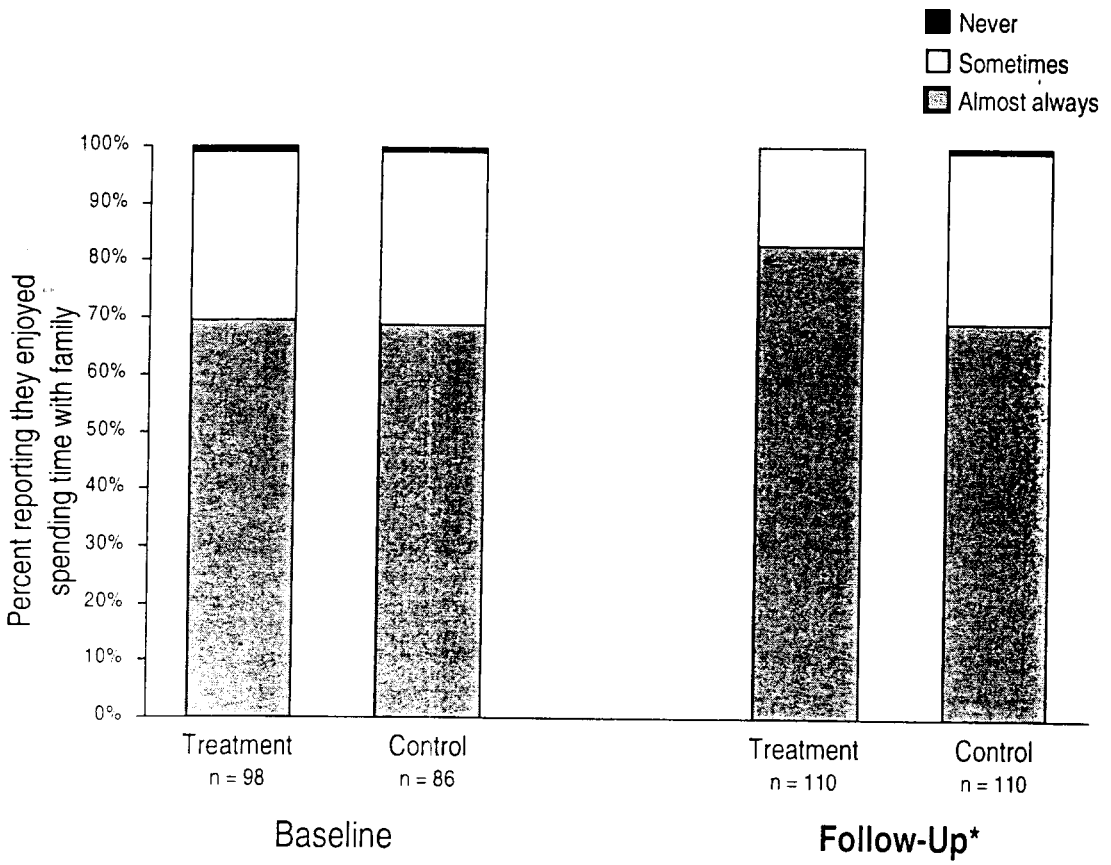


FIGURE 8-4.

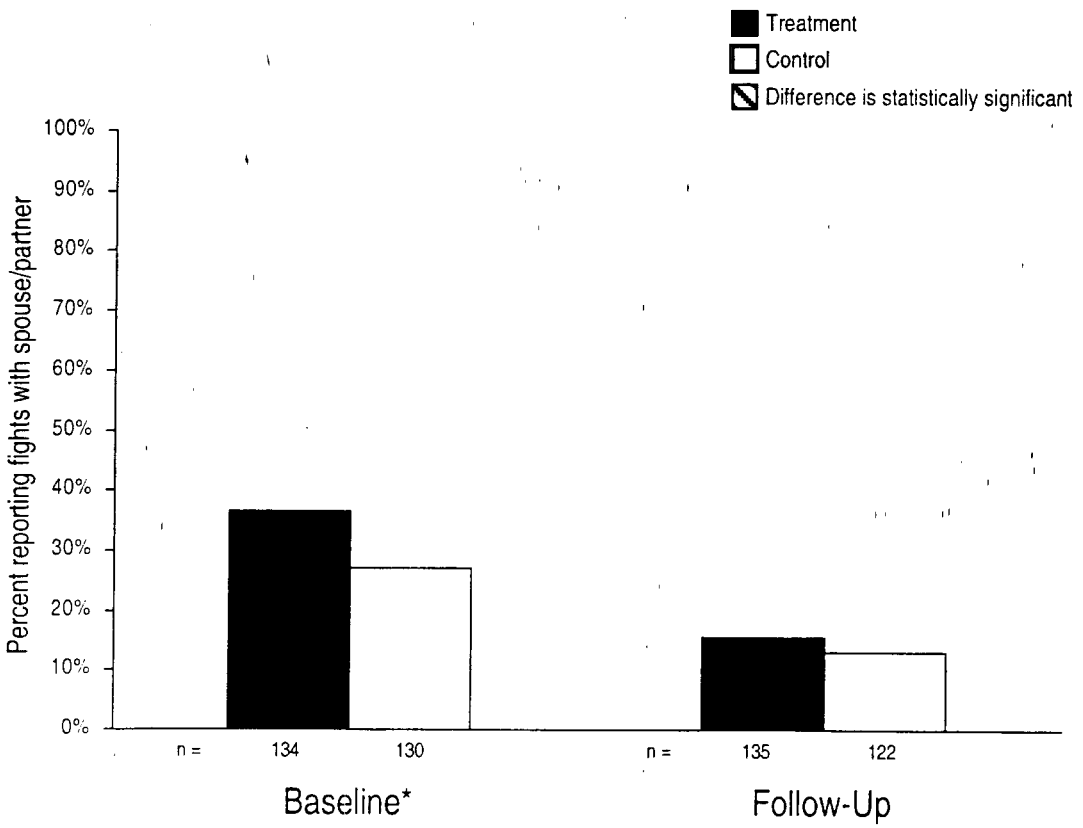
Enjoyment of Spending Time with Family



*Difference is statistically significant.

FIGURE 8-5.

Physical Fighting or Assaultive Behavior with Spouse or Domestic Partner



*Difference is statistically significant at the 0.10 level.

data on problems and referrals). Significantly more OPTS clients reported improvements on all four indicators than did controls, as shown in Figure 8-6: their relationships with their spouses/partners, children, and other family members improved, and also they perceived they were better able to control their anger or express it in non-violent ways, associated with help received from their case manager, PO, or other services provided through OPTS.

Parental Skills

Parental skills were measured only during the follow-up survey, using eight items that asked whether respondents had participated in any training programs, workshops, or counseling that taught them: 1) their legal rights as parents; 2) their legal responsibilities as parents; 3) about children's stages of growth and development, and their needs at each stage; 4) how to care for infants and children by providing proper nutrition and grooming (cleanliness); 5) how to set reasonable rules for children, and how to discipline children without physical punishment; 6) how to reach agreement on child care and child rearing with the child's other parent; 7) how to increase positive, loving contact with their children; and 8) how to increase positive, mutually supportive relationships with other members of the family. As shown in Figure 8-7, for each of these items, OPTS clients were more likely than the control group to report they had received some parental skills-building services. However, these differences were not statistically significant except for one item: OPTS clients were significantly more likely than the control group to report they had learned about their parental rights.

The eight items were aggregated into a scale to determine whether the treatment group (group mean of .165; Chronbach's alpha = .97) received more family training (i.e., the number of items for which training was received) than the control group (group mean of .10; Chronbach's alpha = .95), as an intermediate indicator of successful outcomes. Also, the scale was used to determine whether the treatment group was more likely to receive any training (i.e., respond yes to one or more of the questions). There was no significant difference between the groups on either measure.

Family and Peer Risk Factors

Family and peer risk factors were measured using several indicators, including: 1) how often (i.e., never, sometimes, or always) respondents drank alcohol or used drugs with family members, 2) the proportion of close friends who drank heavily or used drugs, and 3) whether respondents reportedly stopped associating with any close friends because of the friends' alcohol or drug abuse. Other measures of program effects include reported improvements -- due to assistance received through OPTS or from one's probation/parole officer -- in avoiding family or friends who: 1) use alcohol or drugs, or 2) commit crime.

FIGURE 8-6.

Improvement in Family/Social Relations

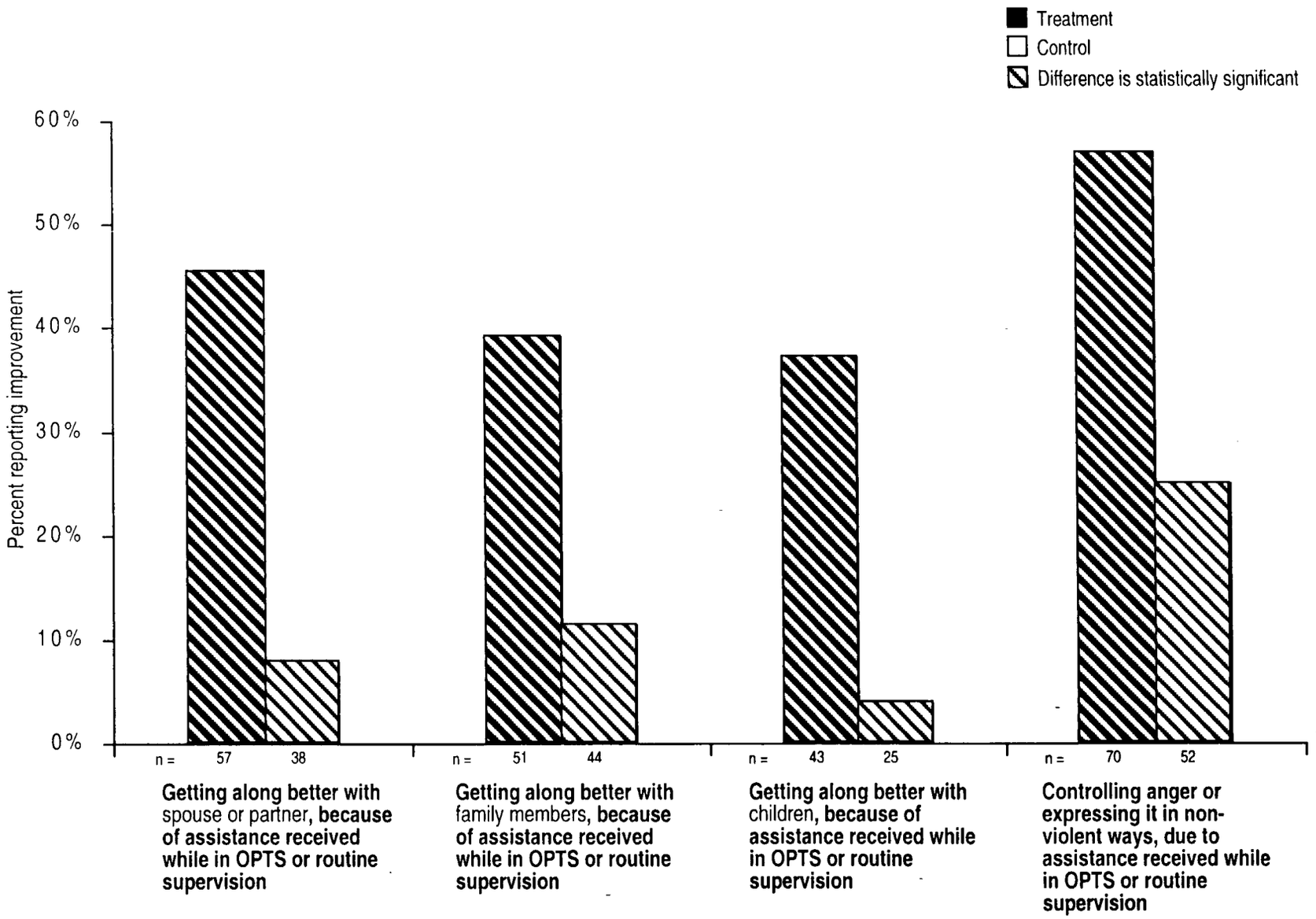
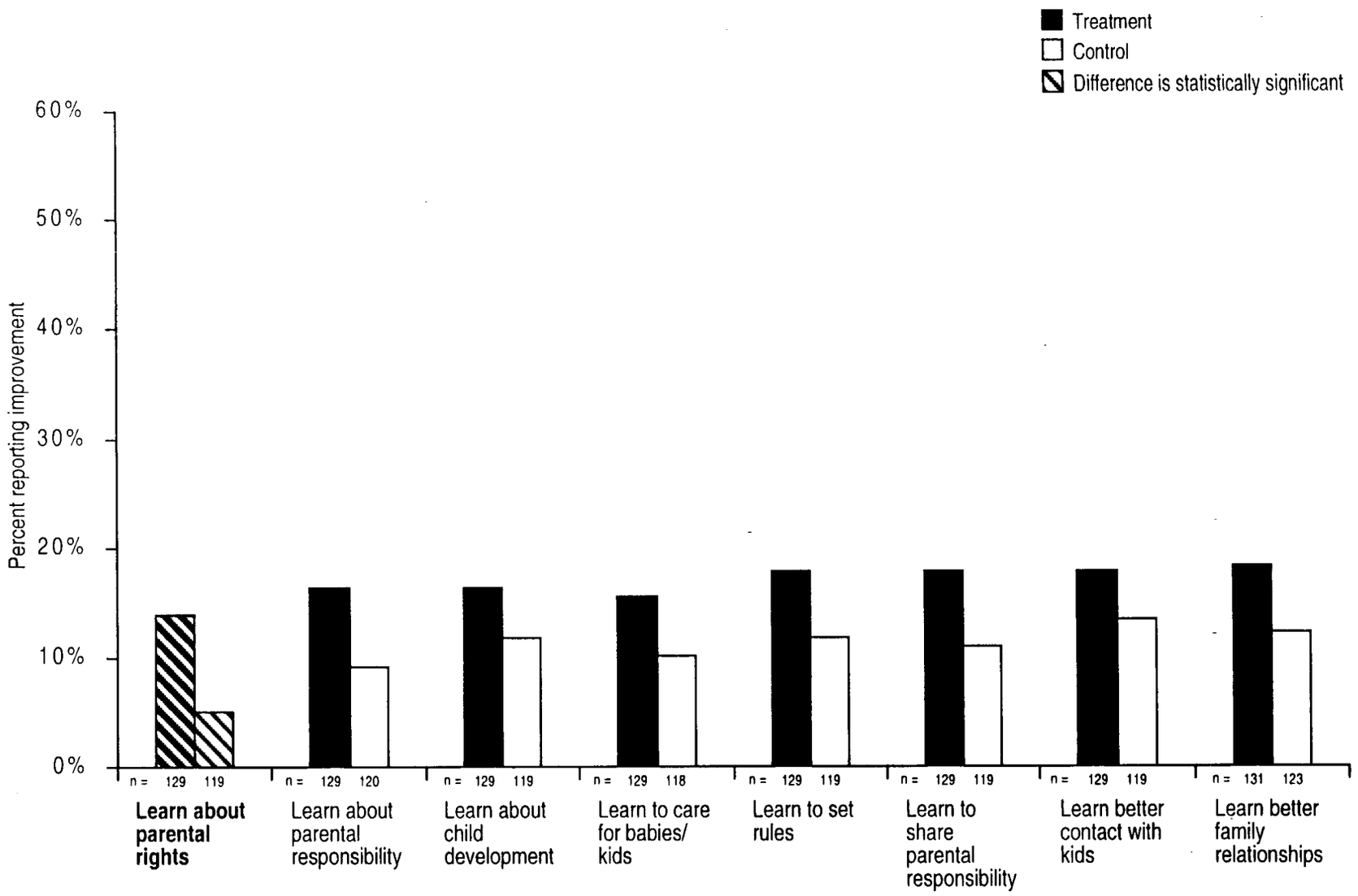


FIGURE 8-7.
Parental Skills



At both the baseline and follow-up interviews, sample members who reported they spent time with their families were asked how often they drank beer or alcohol together, and also how often they used drugs to get high together. For both the treatment and control groups decreases from baseline to follow up were significant for both the frequency of family time spent consuming alcohol, and the time spent using drugs (Figure 8-8). There was no significant difference between the two groups at follow up on drug use during time spent with family; however, OPTS clients were significantly more likely to report they never spent time drinking alcohol with family members.

Approximately 20% of the baseline sample, and 28% of those responding to the follow up reported they did not have any close friends. Individuals who reported they had close friends, were asked how many of those friends drank heavily or used drugs. As presented in Figure 8-9, both the treatment and control groups' decreases from baseline to follow up were significant for the proportion of friends who were drug users; also, the baseline to follow-up difference for close friends who were heavy drinkers was significant for the control group, but not for OPTS clients. There was no significant difference between the two groups at follow up on either the reported proportion of close friends who were heavy drinkers or those who were substance abusers.

At follow up only, respondents were asked whether they stopped associating with any close friends during their first 12 months of supervision because they were heavy drinkers or drug users. Slightly more than one-third of the sample responded affirmatively to this item, and there was no significant difference between the two groups, as shown in Figure 8-10.

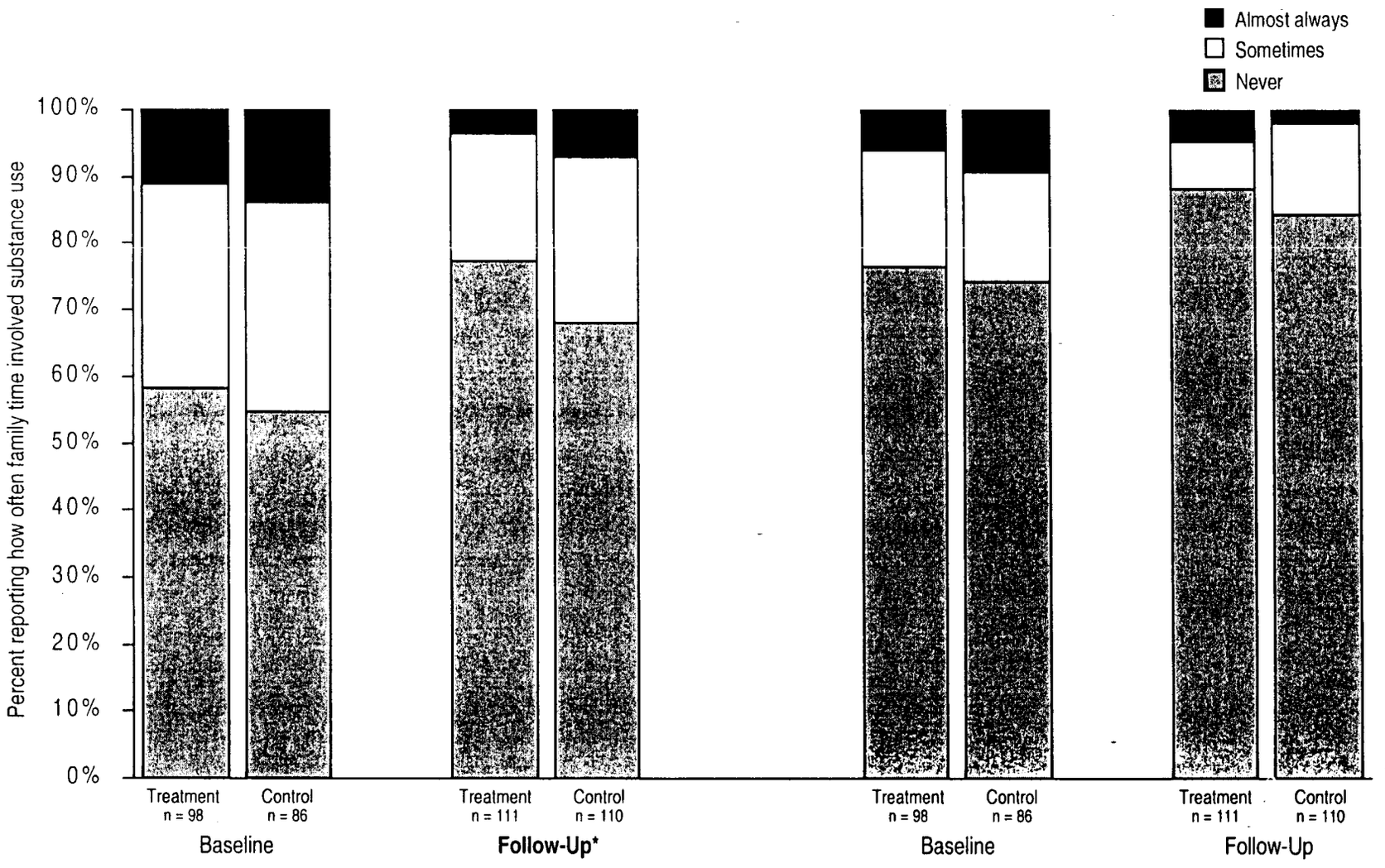
Most respondents reported they did not have problems avoiding family or friends who used alcohol or drugs, or those who engaged in criminal activities, and similarly reported they were not referred for help with these types of issues (see Chapter 4 for data on reported problems and referrals). For those who reported either problems or referrals, indicators of program effects included improvements in avoiding risky relationships due to assistance from case managers, POs, or service providers to which clients and controls were referred. OPTS clients were significantly more likely to report improvements in avoiding substance-using associates ($p=.06$) and also in avoiding law-breaking family and friends (Figure 8-11).

Health Risk Factors

Health risks were measured using: 1) two indicators reflecting general health: self-assessment in prior six months, and if any days of medical problems were reported within most recent 30-day period; 2) physical health problems reportedly diagnosed by medical personnel; 3) self-reported sexually transmitted diseases; and 4) indicators of mental health problems, including serious depression; serious anxiety or tension; suicidal ideation or attempted suicide; trouble with understanding, remembering, or concentrating when not under the influence of illegal substances; hallucinations not caused by drug use; and trouble controlling violent behavior.

FIGURE 8-8.

How Often Time Spent with Family Involved Using Alcohol or Drugs



*Difference is statistically significant.

FIGURE 8-9.

Proportion of Friends Who Drank Heavily or Used Drugs

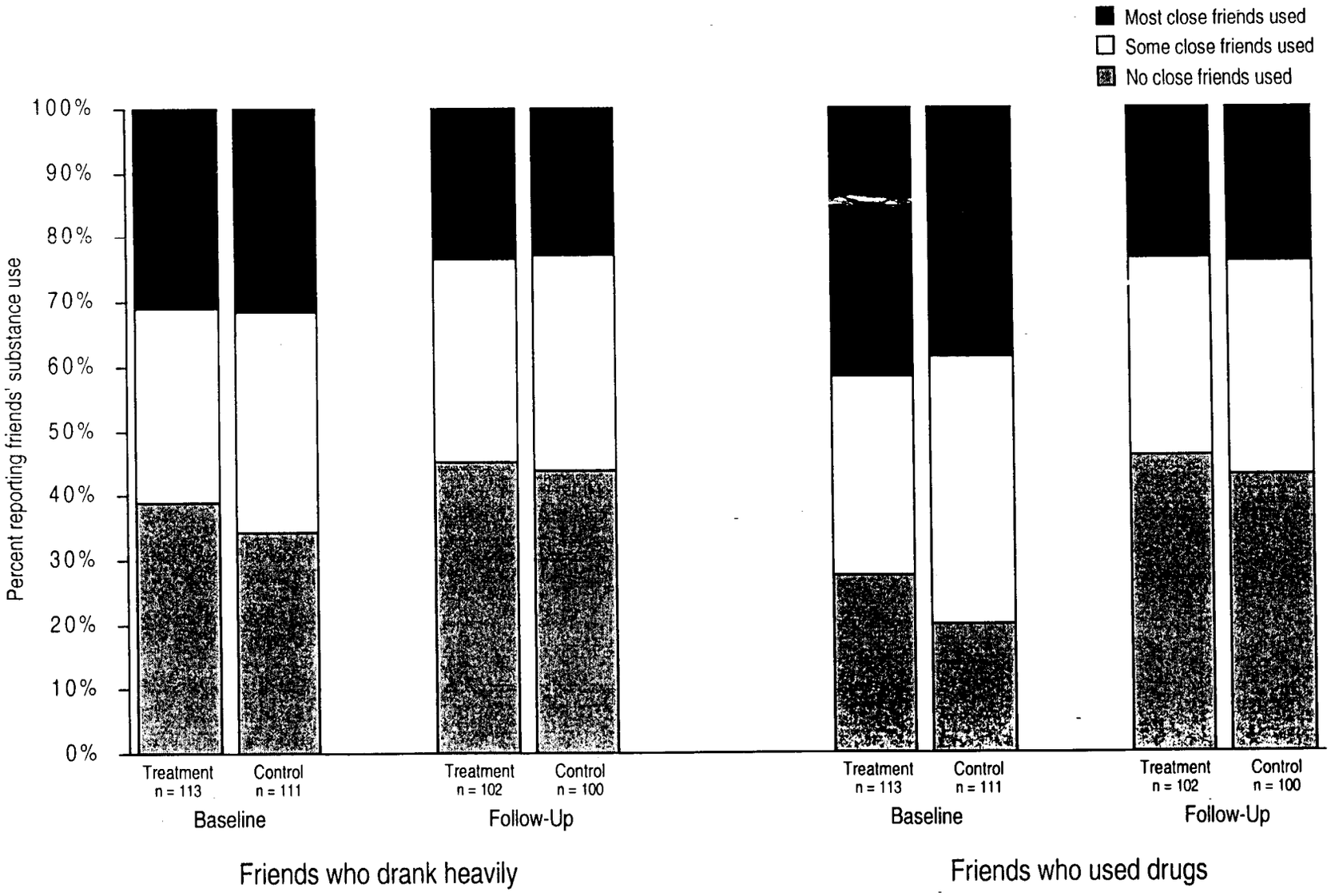


FIGURE 8-10.

Stopped Associating with Close Friends Who Were Heavy Drinkers or Drug Users

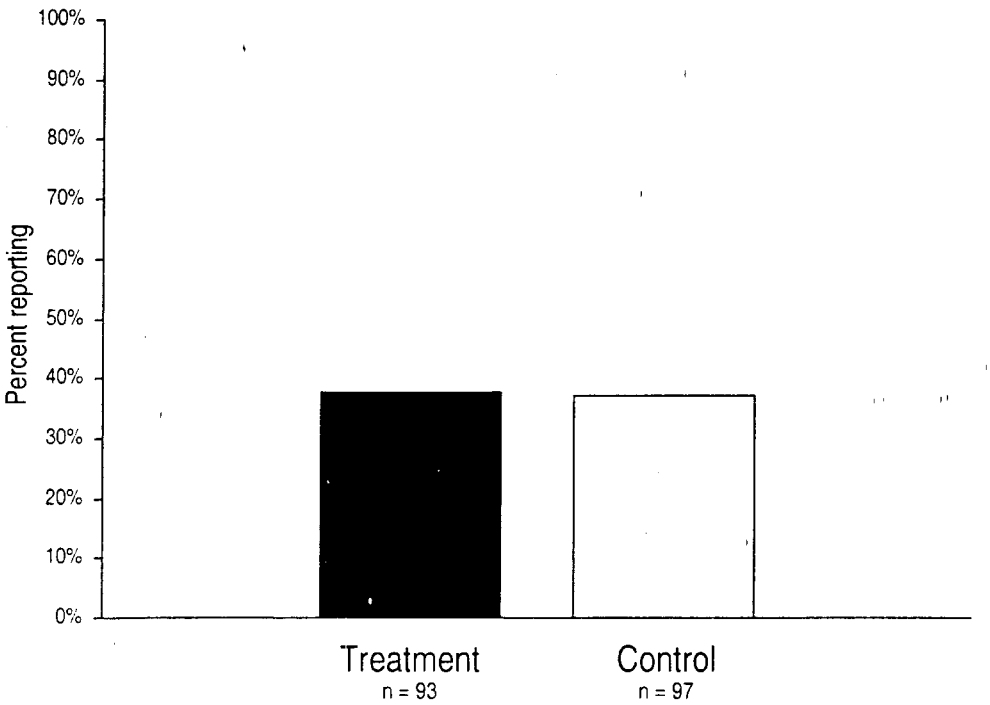
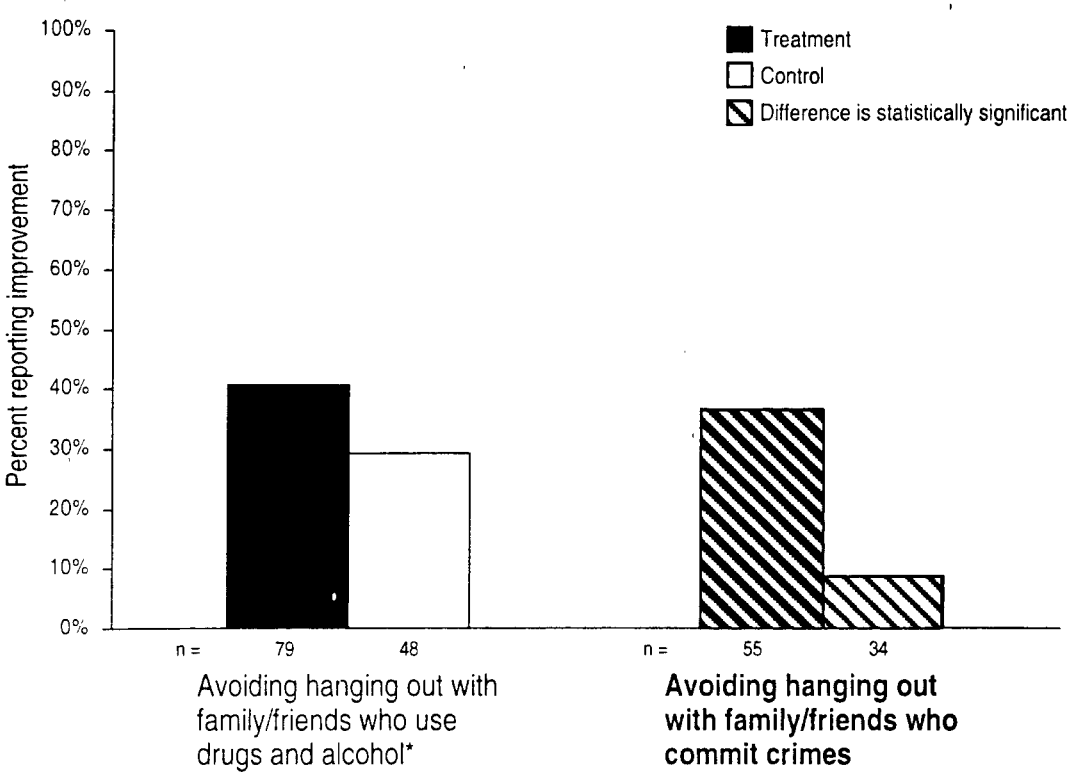


FIGURE 8-11.

Improvements Avoiding Risky Relationships Due to Assistance Received Through OPTS or Routine Supervision



*Difference is statistically significant at the 0.10 level.

The majority of both the treatment and control groups perceived their health as good or excellent during the six months prior to baseline and follow-up interviews. At baseline, controls (83%) were significantly more likely than OPTS clients (72%) to report favorable health; however, this difference was not significant at follow up (73% of clients and 81% of controls reported good/excellent health), as shown in Figure 8-12. Also, slightly more OPTS clients reported good health at follow up, as compared to baseline reports; whereas, the percentage of controls reporting good health declined slightly from baseline to follow up. The percentage of OPTS clients reporting medical problems within the past 30-day period declined from baseline to follow up (i.e., 34% to 30%), while it increased for the control group (i.e., from 26% to 29%); however, these differences were not statistically signficant.

Key measures of physical health included whether respondents had been told by a doctor or nurse that they had pneumonia, hepatitis, tuberculosis, or inflammation of the heart (at the baseline, this captured if respondents had these illnesses at any point in their life prior to enrollment in the OPTS study; the follow-up item covered illness during the first year of supervision. Relatively few members of the sample reported being told they had these illnesses for either time frame (Figure 8-13). Comparing each group's baseline to their own follow-up responses, OPTS clients had significantly less pneumonia, hepatitis, and tuberculosis over time, while the controls had significantly less pneumonia and tuberculosis (but not hepatitis). OPTS clients were significantly more likely than the control group to report pneumonia at follow up; they were more likely than the controls to report hepatitis at baseline, but this difference was not significant at follow up.

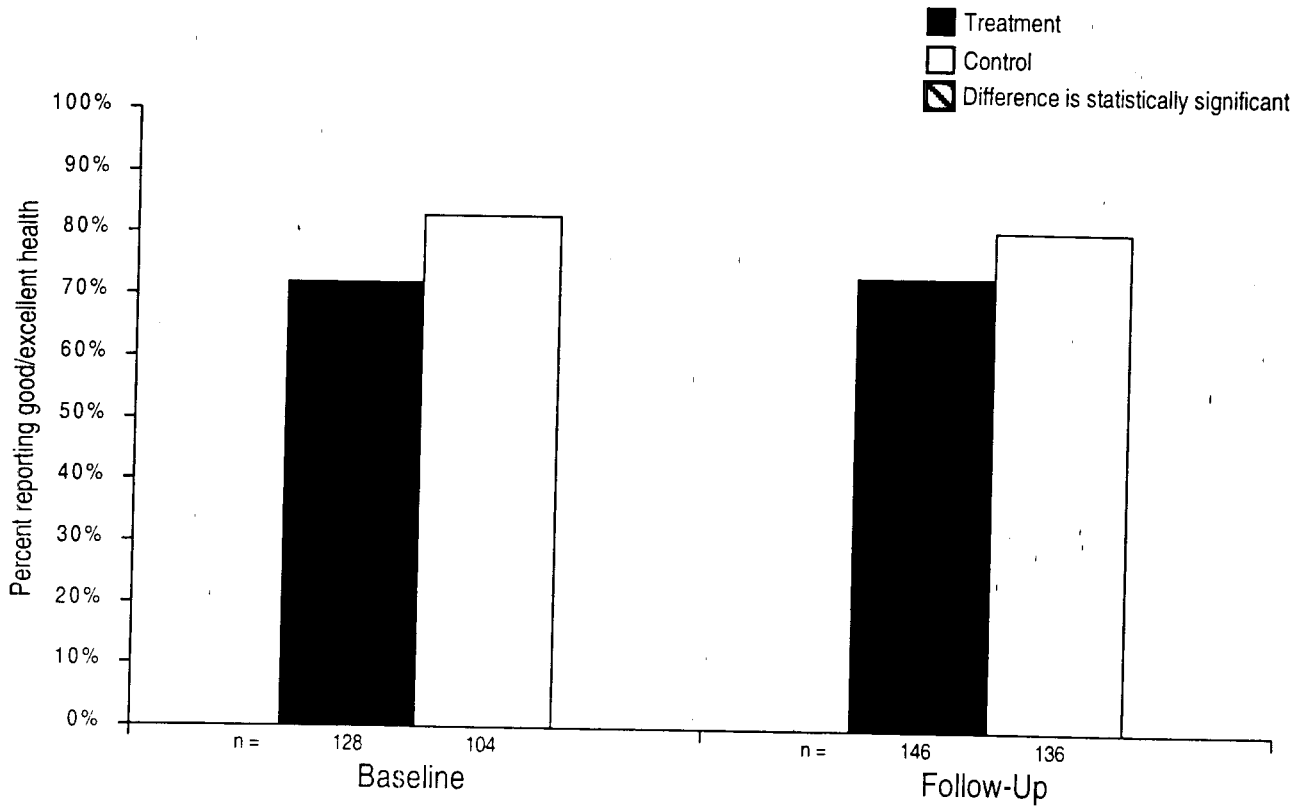
Five measures -- genital herpes, gonorrhea, syphilis, chlamydia, and pelvic inflammatory diseases (PID, for female respondents only -- were used to gauge health in terms of sexually transmitted diseases, pre-OPTS and during the first year of supervision. Again, relatively few respondents reported health problems of this kind (with the exception of prior histories of gonorrhea). For all measures except PID, changes from baseline to follow up were significant for both OPTS clients and the control group; however, there were no significant differences between the two groups at either time period (Figure 8-14).

More of the sample reported various mental health difficulties than had reported physical problems, as presented in Figure 8-15. For depression, anxiety/tension, suicidal ideation, and attempted suicide, significantly fewer OPTS clients, and also control group members, reported difficulties at follow up than had reported pre-OPTS problems at baseline. The decrease in percentage of the group reporting trouble controlling violent behavior from baseline to follow up was also signficant for the controls, but not for OPTS clients. There were no significant differences between the two groups on any of these measures at follow up.

FIGURE 8-12.

General Health Condition

HEALTH IN PAST 6 MONTHS



MEDICAL PROBLEMS IN PAST 30 DAYS

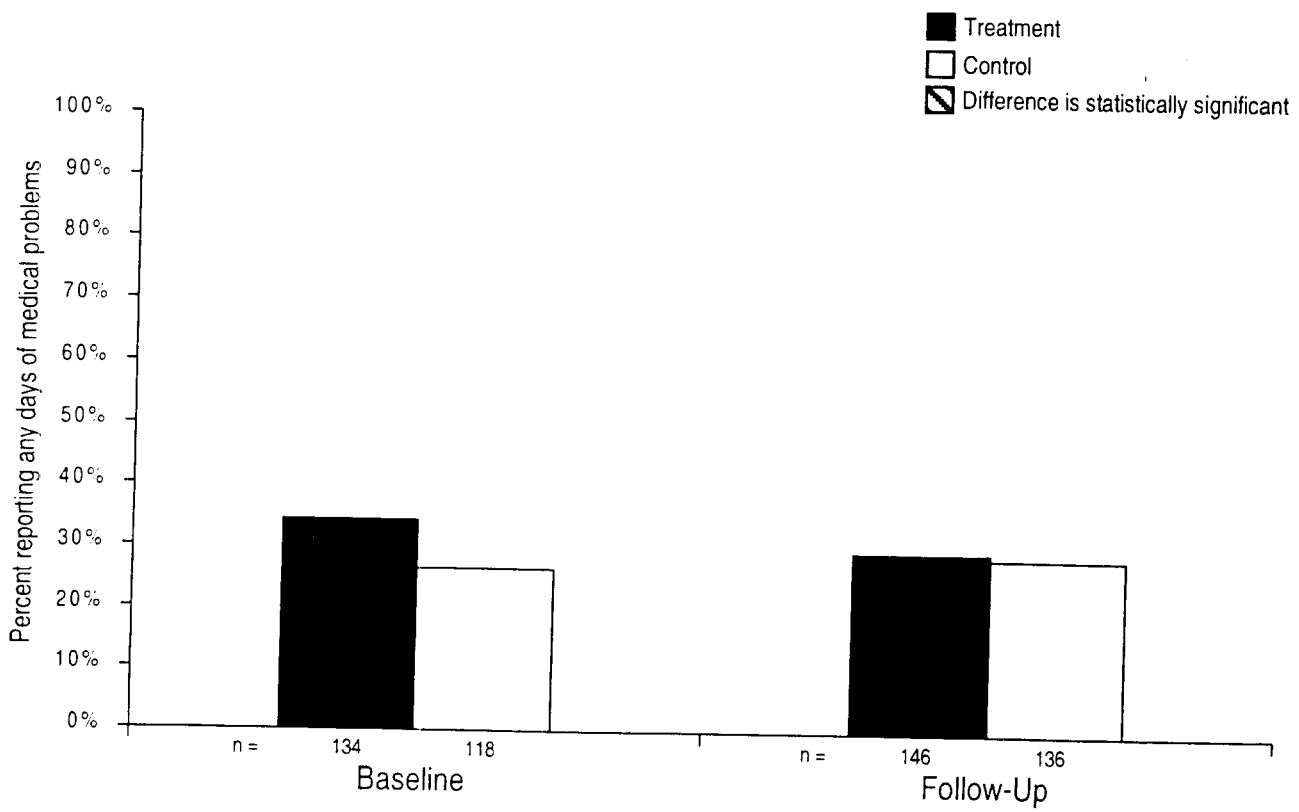
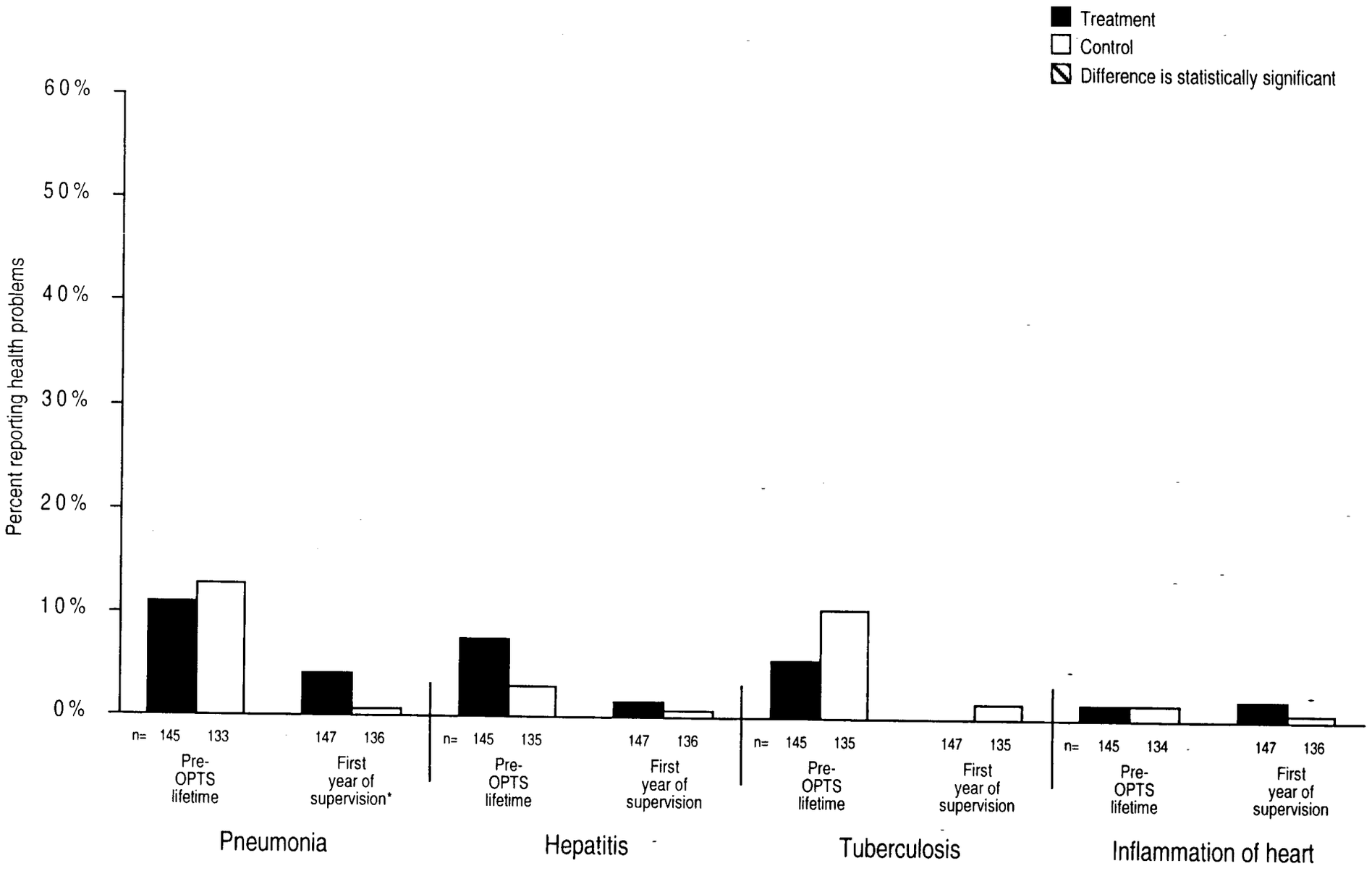


FIGURE 8-13.

Physical Health Indicators: *"During this time period, have you been told by a doctor or a nurse that you had..."*



*Difference is statistically significant at the 0.10 level.

FIGURE 8-14.

Sexually Transmitted Diseases

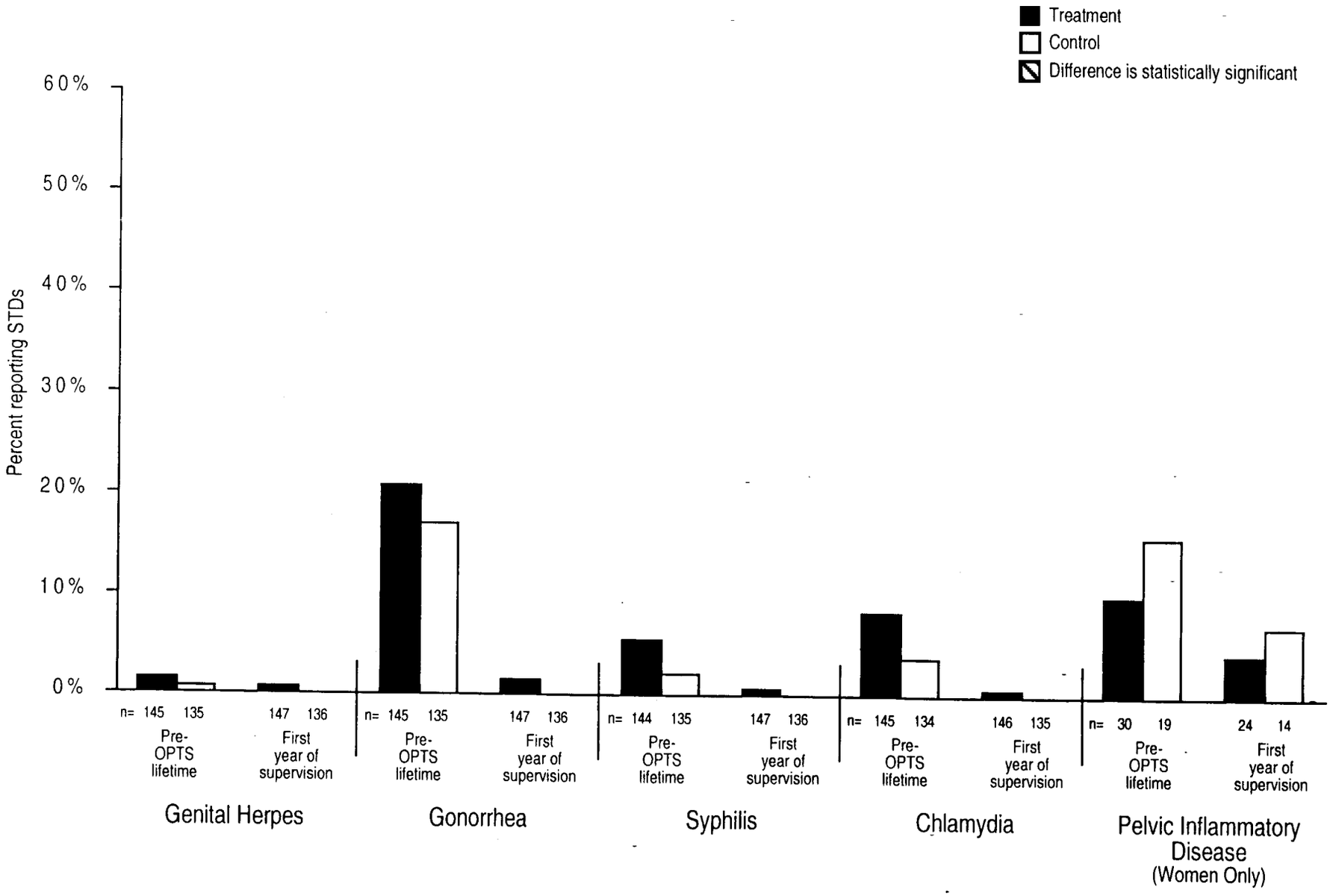


FIGURE 8-15.

Mental Health Indicators

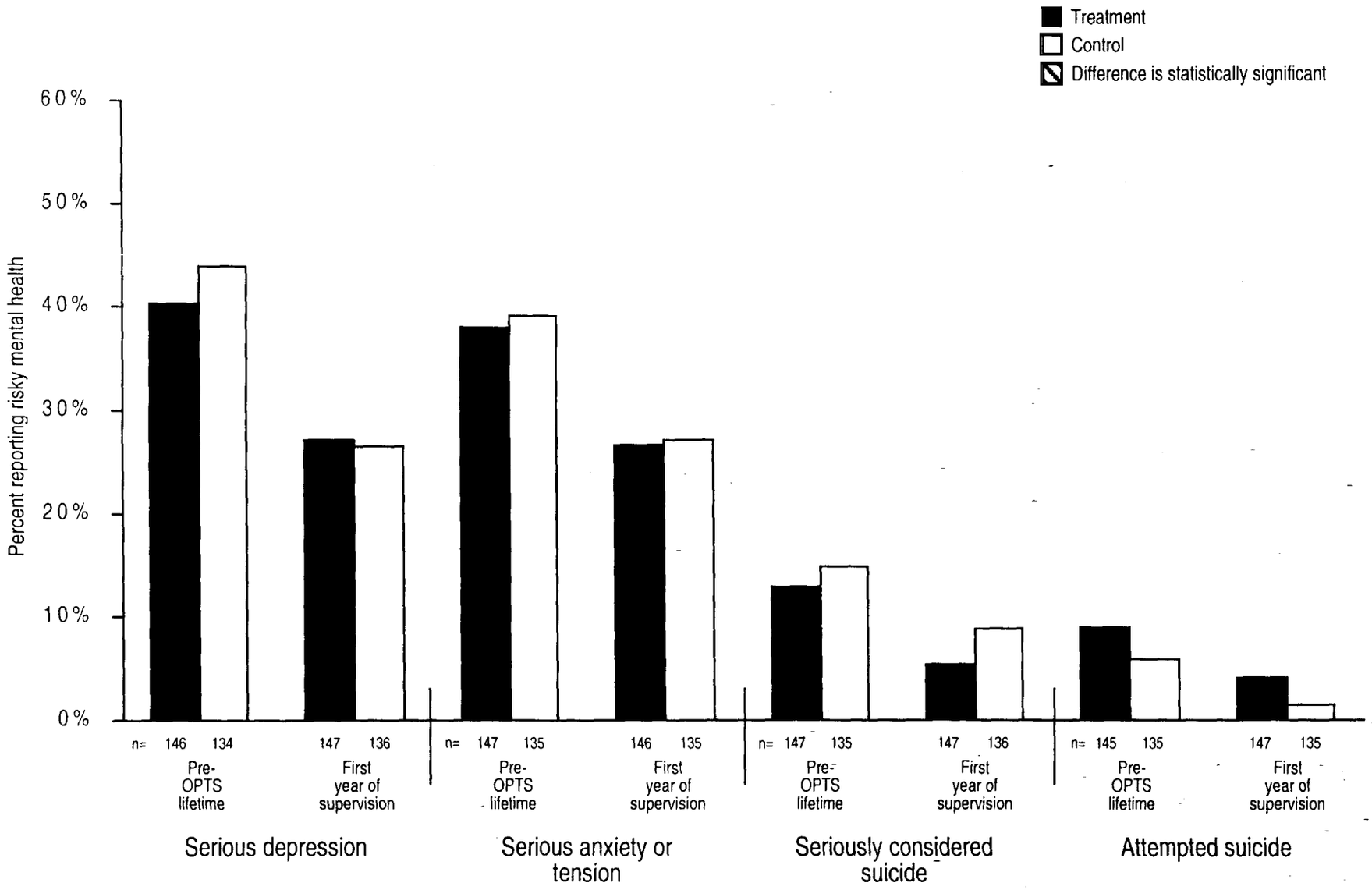
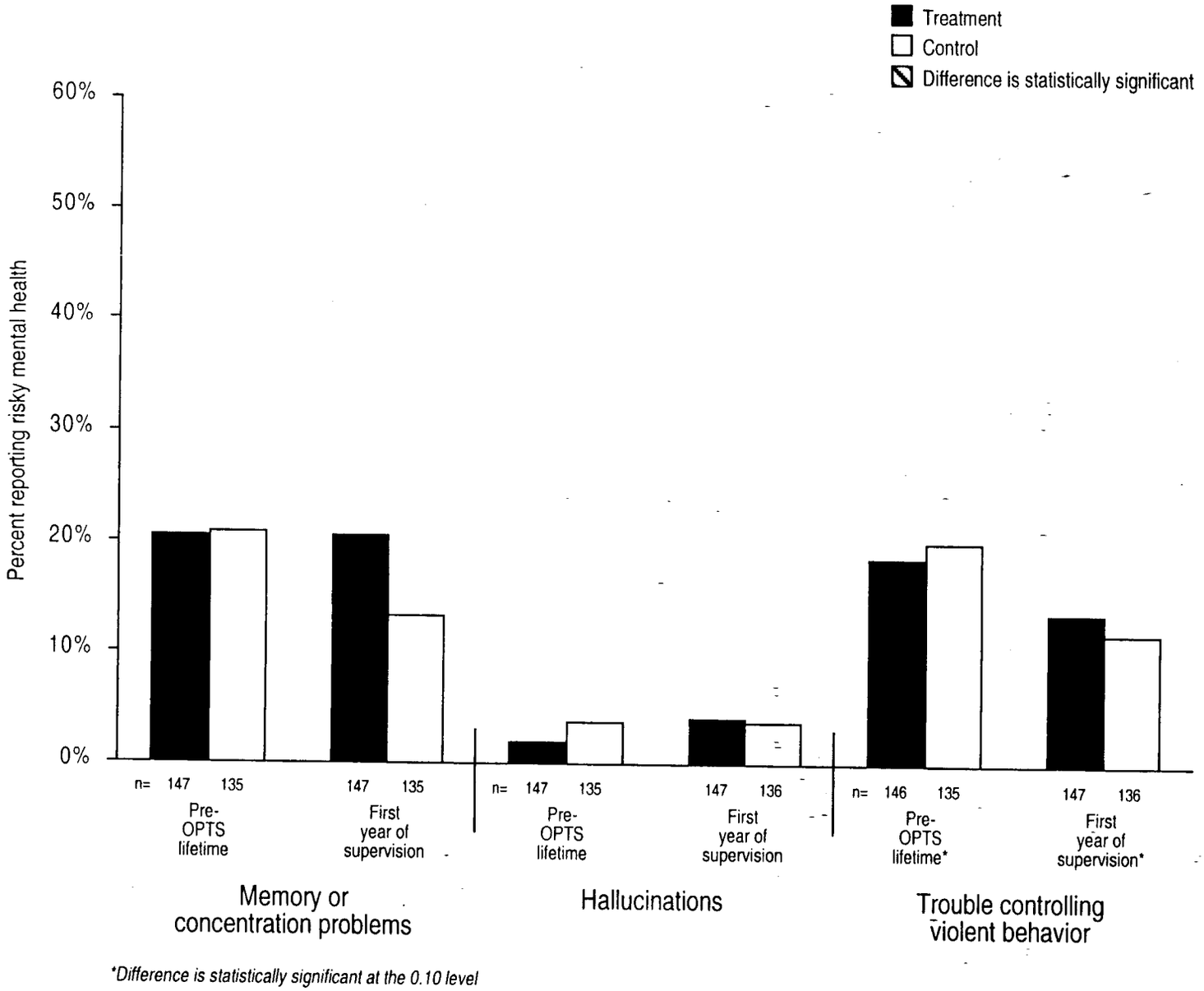


FIGURE 8-15.(CONTINUED)

Mental Health Indicators



*Difference is statistically significant at the 0.10 level

Other Indicators of Social Functioning

Social functioning was measured using two indicators of housing stability (i.e., percentage reporting they were living in their own home or apartment, and percentage reporting they had been homeless or without a fixed address for one or more months) and one general indicator of anti-social behavior (i.e., physical fighting with individuals who were neither spouses, nor domestic partners). Also, several items were used to measure perceived improvements in reducing adverse conditions -- finding a place to live, having sufficient money for a rental deposit, paying rent, paying utilities, getting food and clothing for oneself and family, and finding recreational and leisure activities -- because of help received from case managers, probation/parole officers, or any services participants were referred to as part of their participation in OPTS (for the treatment group) or routine supervision (for the controls).

Respondents were asked at both baseline and follow-up interviews: 1) whether they were *currently* living in their own home or apartment, or under other circumstances(e.g., someone else's home, institutional housing) and 2) if they had been homeless or without a fixed address for one or more months (in their lifetime, for the baseline; and in their first year of supervision, for the follow up). There were no significant differences between the treatment and control groups for either measure at follow up (Figure 8-16). Both groups reported significant decreases in homelessness from pre-OPTS to the follow-up year. Also, both OPTS clients and the controls reported declines from baseline to follow up in the percentage reportedly living in their own homes/apartments; since the baseline measure reflected respondents' living conditions at the beginning of the supervision year, this indicates that both groups experienced some loss of independence short of homelessness during this time frame (although the decreases were not statistically significant).

Nearly half of the sample reported they had been involved in more than one fight that "came to blows" prior to the incarceration that led to their inclusion in the OPTS study. As shown in Figure 8-17, each group significantly improved from baseline to follow up (i.e., the percentage of OPTS clients reporting physical non-partner fighting declined from 49.3% to 16.7%, while the percentages for the control group declined from 45.4% to 29.2%). At follow up, OPTS clients were significantly less likely than the control group to be involved in physical fighting.

Most respondents indicated they had not had problems with functioning in terms of finding and financing suitable housing, having food, clothing, or recreational and leisure activities, nor did they report having been referred for services to assist them with such issues (see Chapter 4 for data on problems and referrals). Of those who reported either problems or service referrals in this regard, significantly more OPTS clients, than controls, reported improvements on all nine indicators, associated with assistance received from case managers, POs, or other services provided through OPTS, as shown in Figure 8-18.

FIGURE 8-16.

Housing Stability

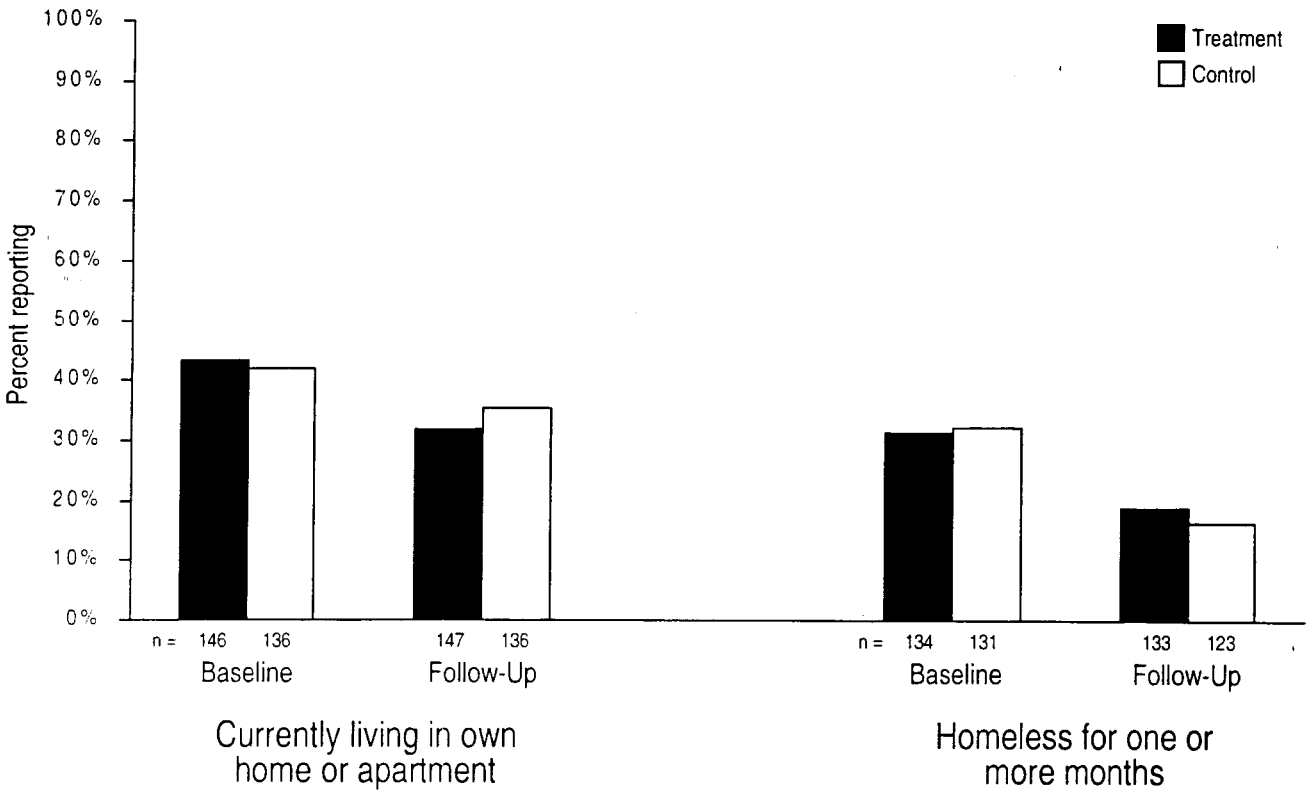


FIGURE 8-17.

Physical Fighting With Persons Other Than Spouse or Domestic Partner

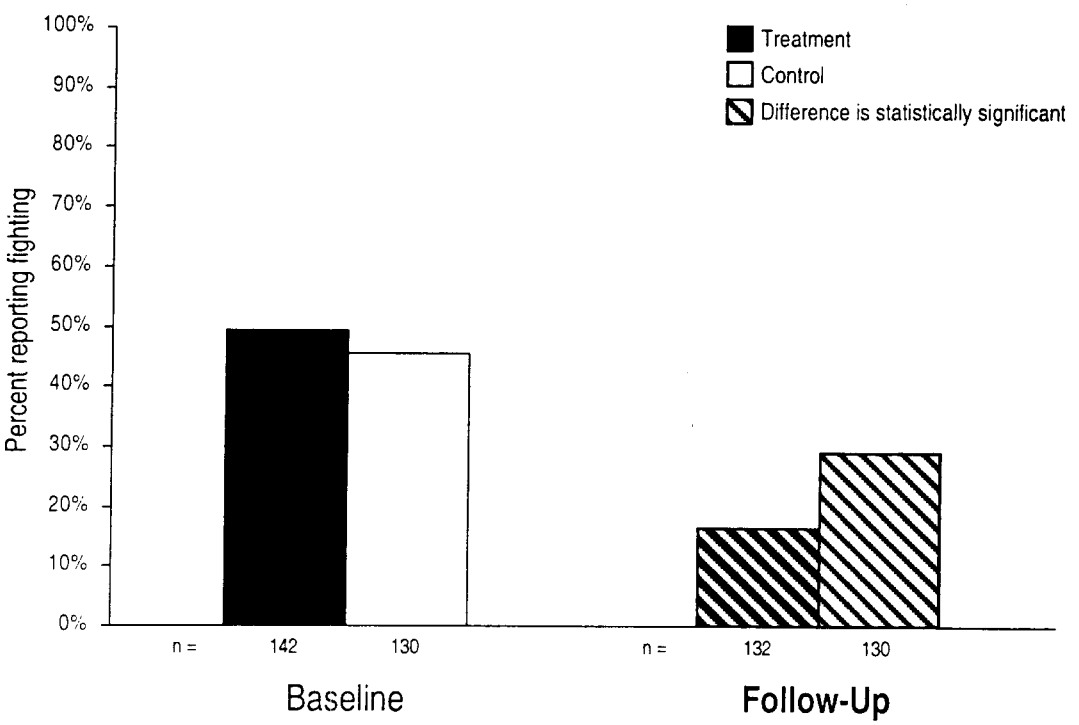
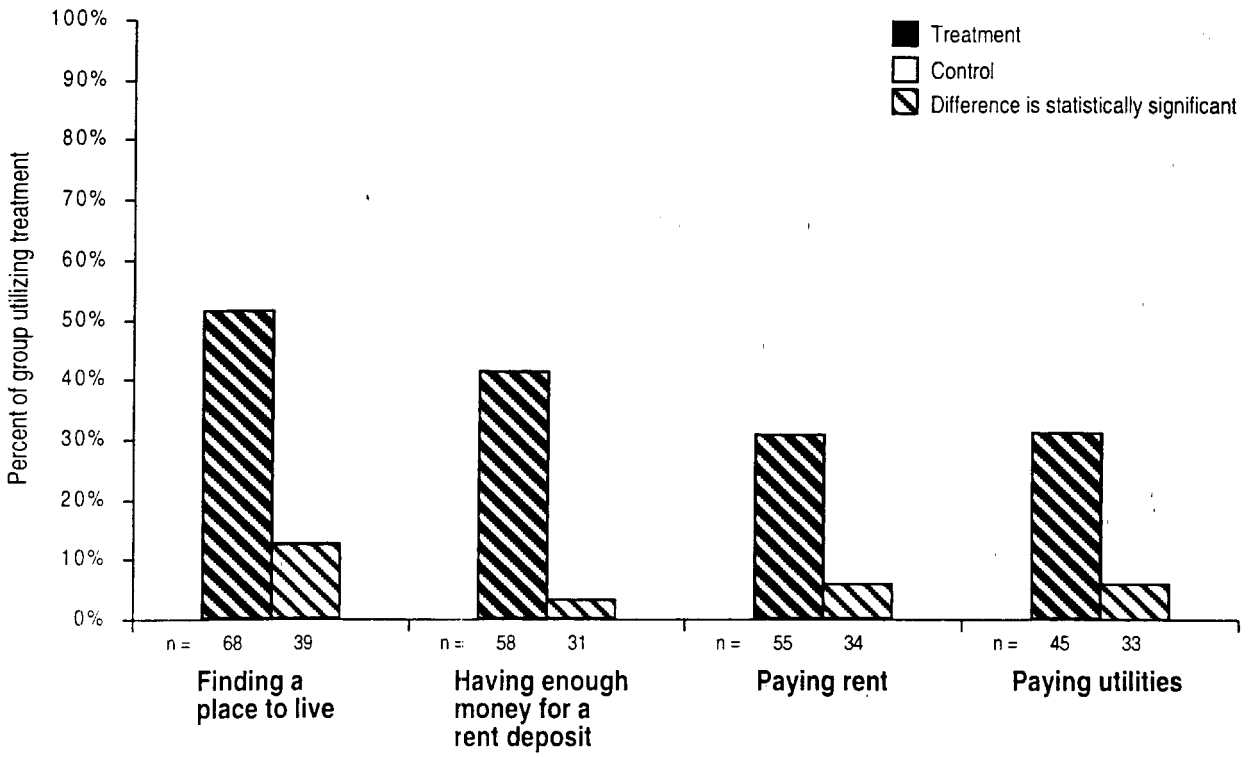
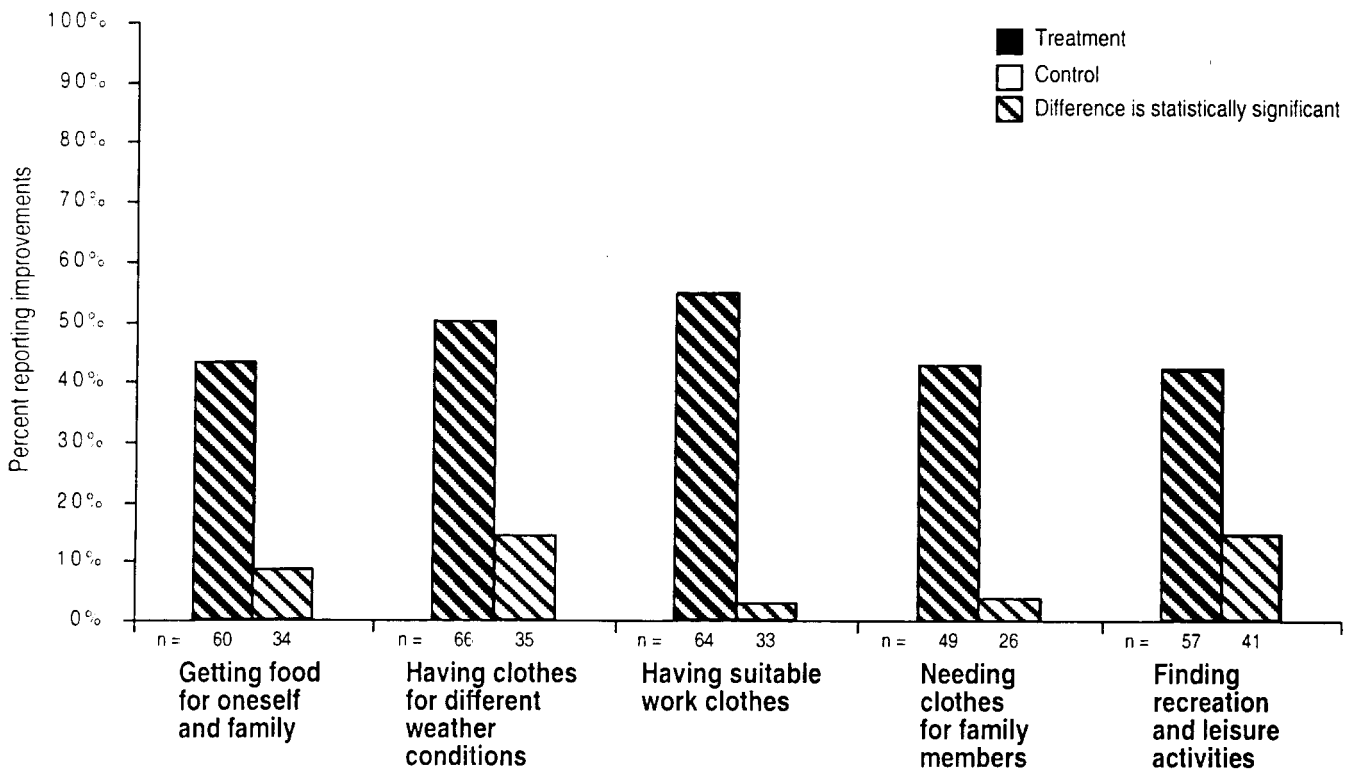


FIGURE 8-18.

Improvements in Social Functioning Associated with Assistance from OPTS or Routine Supervision





Summary

In general, OPTS clients, as compared to controls, were more likely to report they received assistance to promote family strengthening, positive social environments, and improved health and mental health. In terms of family issues, OPTS clients were significantly more likely than control group members to say:

- Their situations improved with respect to: re-establishing contact with adult family members and re-establishing contact with their children because of assistance they received from their case manager, PO, or other service provider to whom they had been referred as part of the program.

- They were enjoying being together with their families; and were getting along better with their spouse/partner, family members, and their children, at follow up, because of assistance received through the program.

- Their situation improved with respect to controlling their anger or expressing anger in non-violent ways because of assistance they received through OPTS.

- They had learned about parental rights through participation in OPTS/partner programs.

Also, at follow up, OPTS clients were more likely to report that they did not drink beer or alcohol while spending time with their family members, and that they avoided hanging out with family and friends who used alcohol and drugs.

With respect to general social functioning, OPTS clients also were significantly more likely than controls to report that they had not had physical fights with other people. In addition, because of assistance they received through the program, OPTS clients more often reported their situations had improved with respect to:

- Getting food for self and family, and having clothes for different weather conditions, family members, and appropriate to work requirements.

- Avoiding hanging out with family or friends who commit crimes.

- Finding recreational and leisure activities.

Nearly twice as many treatment group members reported their situation improved with respect to: finding housing, having enough money for a rent deposit, keeping existing housing, and paying rent, because of assistance provided by their case manager, probation officer, or service providers to whom they were referred through OPTS.

CHAPTER 9
LINKING TREATMENT SERVICES TO SUBSTANCE ABUSE, CRIMINAL, AND EMPLOYMENT BEHAVIORS

Chapters 5 through 8 focused primarily on differences in outcomes between OPTS clients and the control group. This chapter presents a more comprehensive assessment of OPTS program effects. As Chen and Rossi (1983: 284) noted almost fifteen years ago:

> The domination of the experimental paradigm in the program evaluation literature has unfortunately drawn attention away from a more important task in gaining understanding of social programs, namely, developing theoretical models of social interventions. A very seductive and attractive feature of controlled experiments is that it is not necessary to understand how a social program works in order to estimate its net effect through randomized experiments, provided that the goal and objectives of a program can be specified in reasonably measurable terms. An unfortunate consequence of this lack of attention to theory is that the outcome of evaluation research often provide narrow and sometimes distorted understanding of programs.

The focus in this chapter is on the *interrelationships* among the various risks and outcome behaviors. A structural equation model (SEM) is used to examine the linkages between levels of treatment services delivered and the key outcome behaviors anticipated by the program (i.e., substance abuse, employment, and criminal behaviors). The emphasis is on both the effectiveness of OPTS, and the factors associated with levels of substance abuse, employment, and crime during the follow-up period.

Measures of Treatment, Services, and Hard Drug Use

As noted in Chapter 3, SEM is especially useful when there are complex interrelationships among variables because multiple dependent variables can be modeled simultaneously and measurement errors incorporated into the modeling framework. Since computational complexity escalates as the number of variables in the model are increased, the choice of the variables to include in this model was based both on substantive and empirical grounds. Given the number of variables used for this analysis, operational definitions of measures are presented below, rather than in the Glossary as was the case for earlier chapters.

The following measures are used to define the treatment services:

- *Level of Housing Service:* Measures the number of different referrals for services to address the following housing problems: 1) finding a place to live, 2) having

enough money for a rent deposit, 3) keeping existing housing, 4) paying rent, 5) paying utilities, and 6) keeping house clean.

- *Any Housing Service*: Measures if there was at least one referral for the housing services defined above.

- *Level of Family Service*: Measures the number of different referrals for services to address the following family or self-sufficiency problems: 1) getting food for self and family, 2) shopping for groceries, 3) using public transportation, 4) getting a driver's license, 5) needing a car for work or emergencies, 6) having to make costly car repairs, 7) having clothes for different weather conditions (e.g., gloves, rain gear), 8) having suitable work/job interview clothes, 9) needing clothes for family members, 10) finding recreational and leisure activities, 11) re-establishing contact with adult family members, 12) re-establishing contact with children, 13) getting along with spouse or partner, 14) getting along with family members, 15) getting along with one's children, 16) getting along with friends, 17) avoiding hanging out with family or friends who use alcohol or drugs, 18) avoiding hanging out with family or friends who commit crime, and 19) controlling anger or expressing anger in non-physical or non-violent ways.

- *Any Family Service:* Measures if there was at least one referral for any of the family services defined above.

- *Level of Employment Service:* Measures the number of different referrals for services to address the following employment-related problems: 1) working on a GED, 2) completing a school degree, 3) getting technical training, 4) identifying job openings, 5) filling out job applications, 6) knowing how to have a successful job interview, 7) consistently arriving on time for work, 8) getting along with one's supervisor, 9) getting along with co-workers, 10) understanding the workplace rules and following them, 11) scheduling and keeping treatment and probation appointments, 12) improving job performance, and 13) receiving positive reviews, rewards, or increased responsibilities for doing a good job.

- *Any Employment Service:* Measures if there was at least one referral for any of the employment services defined above.

- *Level of Health Service:* Measures the number of different referrals for services to address the following health needs: 1) getting medical care, 2) getting dental care, 3) getting mental health care, 4) getting eye care or glasses, 5) paying for prescription medication, 6) getting adequate nutrition, sleep, and exercise, and 7) resolving health problems.

- *Any Health Service:* Measures if there was at least one referral for the health service defined above.

- *Level of Drug Service:* Measures the number of different substance abuse treatment programs attended, including: 1) hospital detoxification, 2) a halfway house, 3) short-term residential, 4) long-term residential, 5) methadone maintenance, 6) outpatient counseling, 7) AA or NA sessions, 8) other counseling programs, and 9) acupuncture treatment.

- *Any Drug Service:* Measures if respondents attended at least one of the above drug services.

- *Number of Service Domains:* Measures the number of domains in which services were received; i.e., the sum of the following measures: 1) Any Housing Service, 2) Any Family Service, 3) Any Employment Service, 4)Any Health Service, 5) Any Drug Service

- *Detox*: Measures whether respondents were in a detox program during the follow-up treatment calendar period. Yes is coded as 1, and no is coded as 0.

- *Halfway House:* Measures whether respondents were in a halfway house during the follow-up treatment calendar period. Yes is coded as 1, and no is coded as 0.

- *Days in Short-Term Treatment:* Measures the number of days during the treatment calendar period in which respondents were in short-term treatment.

- *Months in Outpatient Treatment:* Measures the number of months during the treatment calendar period in which respondents were in outpatient treatment.

- *Months in Alcoholics/Narcotics Anonymous:* Measures the number of months during the treatment calendar period in which respondent were in AA/NA programs.

- *Intensity of Alcoholics/Narcotics Anonymous:* Measures both the duration of the AA/NA participation and the frequency of attendance of meetings during the time period.

- *Level of Interaction With Case Managers:* Measures the frequency of contact with case managers, summing both the frequency of meetings with the case managers during the first three months of the follow-up year and the frequency of home visits by case managers throughout the course of that year. (Additional detail on coding is provided in the Glossary.)

- *Levels of Interaction With Probation Officers:* Measures the frequency of contact with the probation officers, summing both the frequency of meetings with probation officers during the first three months of the follow-up year and the frequency of home visits by probation officers throughout the course of that year. Coding is similar to the measure of the level of interaction with case managers.

Defining a Scale of Hard Drug Use

Given the importance of hard drug use in the OPTS program model, and also the need for parsimony in the SEM, a scale for hard drug use was defined both for the baseline and the follow up using recently developed scaling methods. Standard multivariate techniques such as factor analysis are often used for scaling purposes for interval measures; however, the OPTS surveys captured hard drug use at mixed levels of measurement. Some of the measures are nominal (e.g., yes/no measures of drug use), while others are interval (e.g., money spent on hard drug use). Classic methods of factor analysis run into problems in analyzing data measured at mixed levels of measurement.

Nonlinear principal component analysis is a relatively new data reduction technique that is used to examine the relationship between variables when data are measured at mixed levels. Nonlinear principal component analysis falls under the general class of methods known as *optimal scaling* (Gifi, 1990; Kreft, 1998). These methods were used to construct a scale for hard drug use at the baseline and follow up.[1]

The scale is constructed in such a way that a high value on the scale implies more hard drug use. This scale has a mean of zero and a variance of one (see Appendix I for details on the hard drug use scale at the baseline and follow up). The key aspect of this scaling technique is that it provides a quantitative value corresponding to the different categories of ordinal, nominal, and interval measures of hard drug use.

Results of Bivariate Correlations

Exhibit 9-1 describes the bivariate correlations between the treatment service measures defined above and the measures of substance abuse in the follow-up period. Statistically significant correlations were obtained between the drug service measures and intense hard drug use at follow up. Positive correlations were obtained between measures of *level of drug service*, *detox*, *halfway house*, *days in short-term treatment*, and *intense hard drug use*. Negative correlations were obtained between measures of:

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[1] The *Princals* algorithm available in the SPSS software was used in the nonlinear principal component analysis conducted for this chapter.

- *Months in AA/NA, intensity of AA/NA*, and *intense alcohol use* at follow up.
- *Outpatient treatment, months in AA/NA*, and *intense marijuana use* at follow up.
- *Outpatient treatment, months in AA/NA, intensity of AA/NA*, and *intense hard drug use* at follow up.

Exhibit 9-1
Bivariate Correlations Between Treatment Measures and Substance Abuse Behaviors at Follow Up

	Intense Alcohol Use at Follow Up	Intense Marijuana Use at Follow Up	Intense Hard Drug Use at Follow Up
Level of Housing Service	-0.06	-0.06	0.08
Any Housing Service	-0.04	-0.09	0.06
Level of Family Service	-0.03	0.01	0.03
Any Family Service	-0.03	-0.02	0.03
Level of Employment Service	-0.04	-0.00	0.06
Any Employment Service	-0.00	0.07	-0.01
Level of Health Service	-0.09	0.08	0.04
Any Health Service	-0.13**	0.06	0.00
Level of Drug Service	0.03	-0.08	0.18**
Any Drug Service	0.00	-0.08	0.02
Number of Service Domains	-0.06	-0.01	0.03
Detox	0.09	0.08	0.32**
Halfway House	0.11*	-0.00	0.20**
Days in Short-Term Treatment	0.07	-0.04	0.22**
Months in Outpatient Treatment	-0.08	-0.12**	-0.12**
Months in AA/NA	-0.18**	-0.23**	-0.27**
Intensity of AA/NA	-0.14**	-0.09	-0.12**
Level of Case Manager Interaction	-0.04	-0.03	-0.06
Level of Probation Officer Interaction	-0.06	-0.06	-0.05

Exhibit 9-2 describes the bivariate correlations between the treatment service measures and some measures of criminal behavior during the follow-up year. Statistically significant positive correlations were obtained between *detox* and the *percentage of street time spent committing crimes against property*. Statistically significant negative correlations were obtained between:

- *Any housing service, any family service, level of drug services, any drug service, number of service domains, months in outpatient treatment, months and intensity of AA/NA,* and *percentage of street time spent dealing drugs.*

- *Months* and *intensity of AA/NA* and *percentage of street time spent committing crimes against property.*

- *Level of drug service, any drug service, months and intensity of AA/NA*, and *percentage of street time spent committing crimes against persons.*

Exhibit 9-2
Bivariate Correlations Between Treatment Measures and Criminal Behaviors at Follow Up

	Percentage of Street Time Spent Dealing Drugs	Percentage of Street Time Spent Committing Crimes Against Property	Percentage of Street Time Spent Committing Crimes Against Persons
Level of Housing Service	-0.06	0.04	-0.03
Any Housing Service	-0.10*	0.01	-0.06
Level of Family Service	-0.09	-0.07	-0.04
Any Family Service	-0.18**	-0.04	-0.05
Level of Employment Service	-0.05	-0.05	-0.06
Any Employment Service	-0.05	-0.02	-0.05
Level of Health Service	-0.04	0.02	0.01
Any Health Service	-0.06	-0.04	-0.02
Level of Drug Service	-0.14**	0.06	-0.11*
Any Drug Service	-0.24**	-0.07	-0.12*
Number of Service Domains	-0.20**	-0.05	-0.09
Detox	0.09	0.15**	0.01
Halfway House	0.02	0.02	-0.02
Days in Short-Term Treatment	-0.02	0.09	-0.05
Months in Outpatient Treatment	-0.16**	-0.09	-0.09
Months in AA/NA	-0.35**	-0.16**	-0.23**
Intensity of AA/NA	-0.18**	-0.11*	-0.11*
Level of Case Manager Interaction	-0.04	-0.00	0.07
Level of Probation Officer Interaction	-0.07	0.06	-0.08

Exhibit 9-3 describes the bivariate correlations between the treatment service measures and employment behaviors during the follow-up year. Statistically significant positive correlations were obtained between:

- *Percentage of street time spent on full-time jobs* and *any family service, any drug service, number of service domains,* and *months and intensity of AA/NA.*

- *Percentage of street time spent on part-time jobs* and *level of employment service* and *any employment service.*

Table 9-3
Bivariate Correlations Between Treatment Measures and Employment Behaviors at Follow Up

	Percentage of Street Time Spent on Full-Time Job	Percentage of Street Time Spent on Part-Time Job
Level of Housing Service	0.01	-0.02
Any Housing Service	0.06	-0.06
Level of Family Service	0.02	0.03
Any Family Service	0.11*	0.00
Level of Employment Service	0.03	0.11*
Any Employment Service	0.08	0.11*
Level of Health Service	-0.01	0.03
Any Health Service	0.04	0.06
Level of Drug Service	0.04	-0.02
Any Drug Service	0.12**	0.04
Number of Service Domains	0.13**	0.05
Detox	-0.01	-0.05
Halfway House	-0.05	-0.06
Days in Short-Term Treatment	-0.06	0.04
Months in Outpatient Treatment	0.21**	0.00
Months in AA/NA	0.23**	0.06
Intensity of AA/NA	0.06	0.00
Level of Case Manager Interaction	0.18**	-0.04
Levels of Probation Officer Interaction	0.03	-0.04

Defining the Structural Equation Model

The form of the structural equation model estimated is described in Figures 9-1 and 9-2.

One research issue posed is: *Did the OPTS group receive a higher level of services than the control group?* To answer this question, the following measures of treatment services were included in the SEM based primarily on the results of the correlations described in the earlier

FIGURE 9-1.

Structural Equation Model

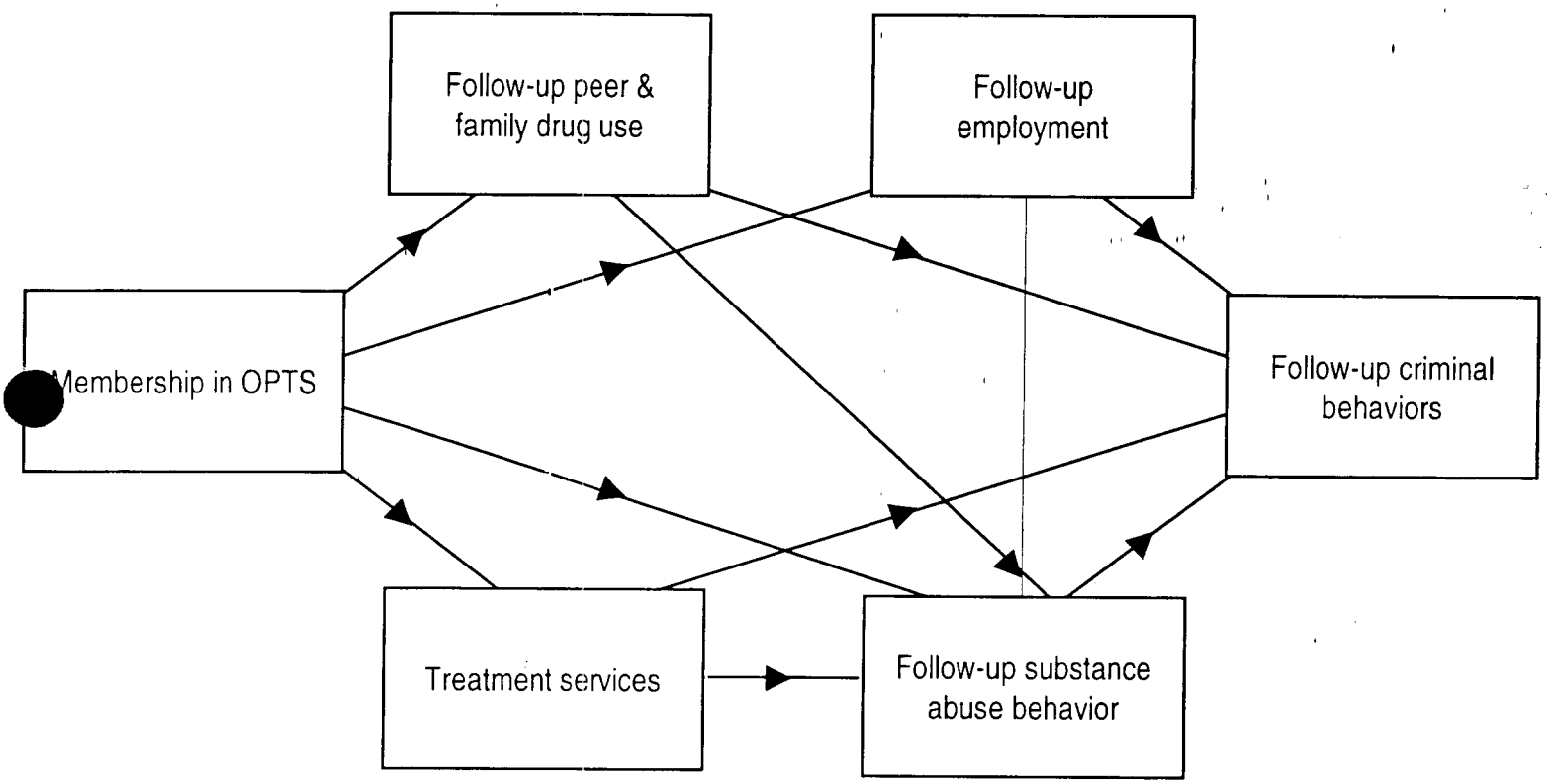
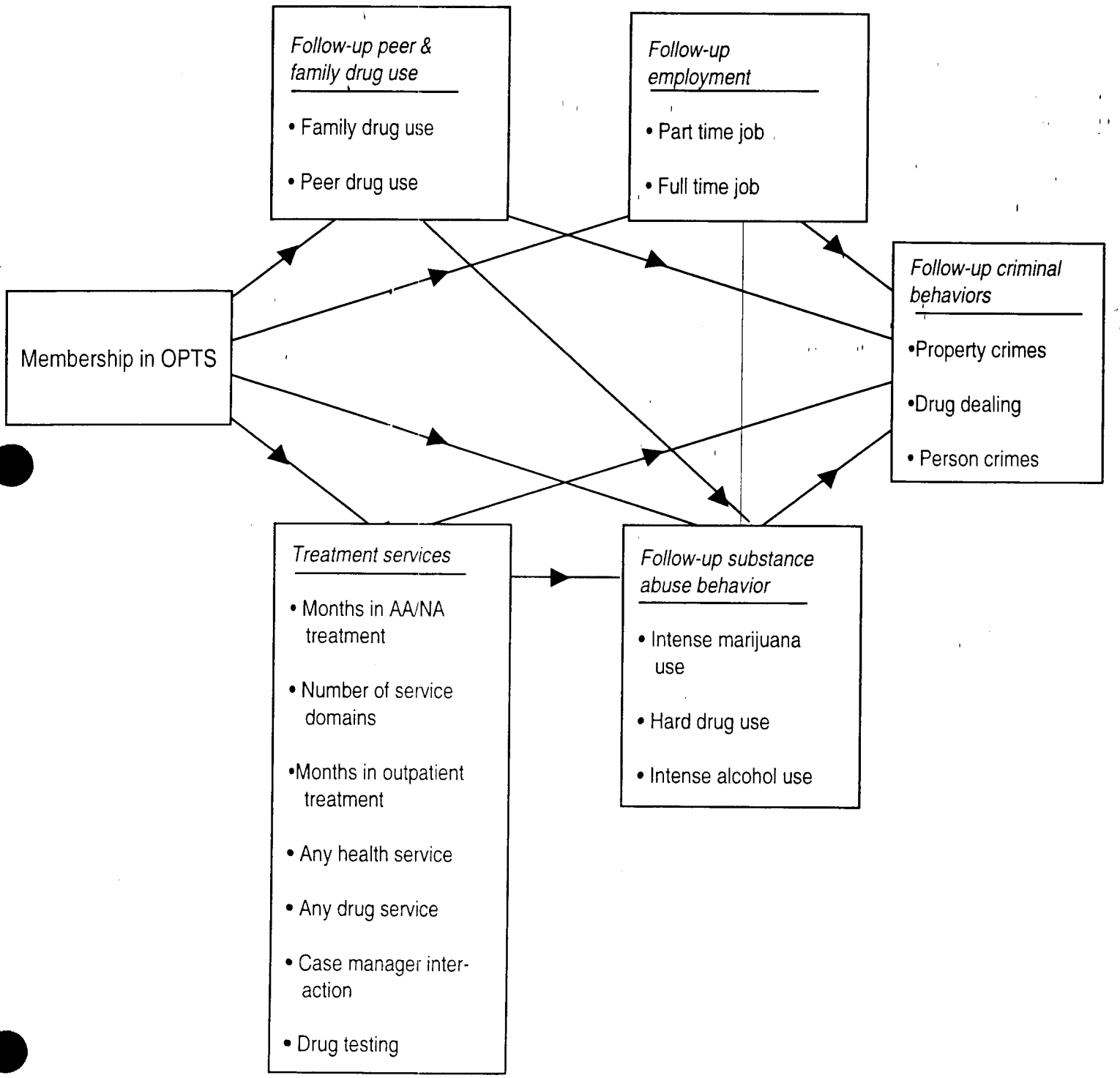


FIGURE 9-2.

Structural Equation Model Measures



section: 1) level of case manager interactions, 2) any health service, 3) months in AA/NA, 4) months in outpatient treatment, 5) any drug service, and 6) number of service domains. In addition to the above measures, a variable measuring the total number of drug tests administered during respondents' street time (i.e., the months of the calendar period in which the individual was not incarcerated) also was included.

Other research questions examined using SEM were:

- *What is the direct relationship between membership in OPTS and substance abuse, crime, and employment outcomes?*
- *What is the relationship between the treatment services and the aforementioned outcome behaviors?*
- *What were the relationships among the different outcome behaviors?*

The following outcome measures were included in the model (most of these measures have been discussed in the preceding chapters): 1) any intense alcohol use, 2) any intense marijuana use, 3) follow-up hard drug use scale, 4) percentage of street time dealing drugs[2], 5) percentage of street time committing person crimes, 6) percentage of street time spent committing property crimes, 7) proportion of calendar year with full-time job[3], 8) proportion of calendar year with part-time job.[4] In addition to these measures, dichotomous measures (yes/no) of family and peer drug use also were included as outcomes in the model.

Direct linkages were examined between membership in OPTS and each of these outcome measures. Further linkages also were examined between the treatment services and employment and substance abuse behaviors. The assumption was that the effects of these treatments services on criminal behaviors were mediated through substance abuse and employment behaviors. In addition, linkages also were examined between employment and substance abuse behaviors and the criminal behaviors. Correlational linkages between the criminal behaviors also were modeled.

Baseline behaviors corresponding to each of the above outcomes at follow up were included in the SEM. A direct linkage was built from the baseline measure to the corresponding outcome measure at follow up. In addition, a hazard term that measured the probability of

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[2] The range of the criminal behavior measures is between 0 to 100.

[3] This measure is defined as the number of street months with a full-time job divided by 12 months. The range of this measure is between 0 to 1.

[4] Defined similar to the measure for full-time job. The range of this measure also is between 0 to 1.

dropping out of the sample was included in the model. Other controls in the models included gender, age, and site.[5]

Results of the SEM

The iterative strategy outlined in Chapter 3 was followed. Support was found for the hypothesized model ($\chi^2_{256} = 291.4$, $p = 0.063$; AGFI=0.89). The results of the analysis are described in Figures 9-3 (unstandardized coefficients) and 9-4 (standardized coefficients). The complete set of results, including both unstandardized and standardized coefficients are described in Appendix I.

All of the coefficients described below are standardized. One of the advantages of the standardized coefficient is that it provides a measure of the relative "importance" of independent measures in explaining the dependent measure (Mueller, 1996). As described in Mueller (1996: 15) the standardized coefficient associated with variable X_j ... is the estimated amount of standard deviation change in dependent variable Y when X_j is increased by one standard deviation and all other independent variables are held constant."[6]

What were the relationships between membership in OPTS and levels of services delivered? In general, membership in OPTS was associated with increases in services delivered. Membership in OPTS was associated with increases in *numbers of service domains* ($\beta = 0.42$), *any health service* ($\beta = 0.35$), and *any drug service* ($\beta = 0.08$). Membership in OPTS was *not* associated with increased levels of *outpatient treatment* and *AA/NA participation* during the follow-up year. Membership in OPTS also was associated with increased levels of *drug testing* ($\beta = 0.12$).

What were the relationships between membership in OPTS and problem behaviors? Membership in OPTS was associated with reductions in *alcohol use* ($\beta = -0.14$), and *marijuana use* ($\beta = -0.14$) at follow up.[7] Statistically significant linkage was not obtained between membership in OPTS and follow-up *hard drug use*. No direct relationships were obtained between membership in OPTS and the *criminal behaviors*. Increase in case manager contact was

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[5] In addition, variables that measured the time served for the recent incarceration and the number of prior incarcerations also were included. However, these measures were not found to be strongly related to the outcome measures. Hence, they were dropped from the subsequent analysis.

[6] For a discussion of some of the problems associated with the use of standardized regression coefficients in assessing the importance of independent measures, see Huberty and Wisenbaker (1992).

[7] This effect is different from the effect of the membership in OPTS on intense marijuana use observed in Chapter 5. The primary difference between the SEM and the regression model described in the earlier chapter is that a larger number of baseline covariates are included in the SEM.

FIGURE 9-3.

Results of Structural Equation Model:
Unstandardized Coefficients

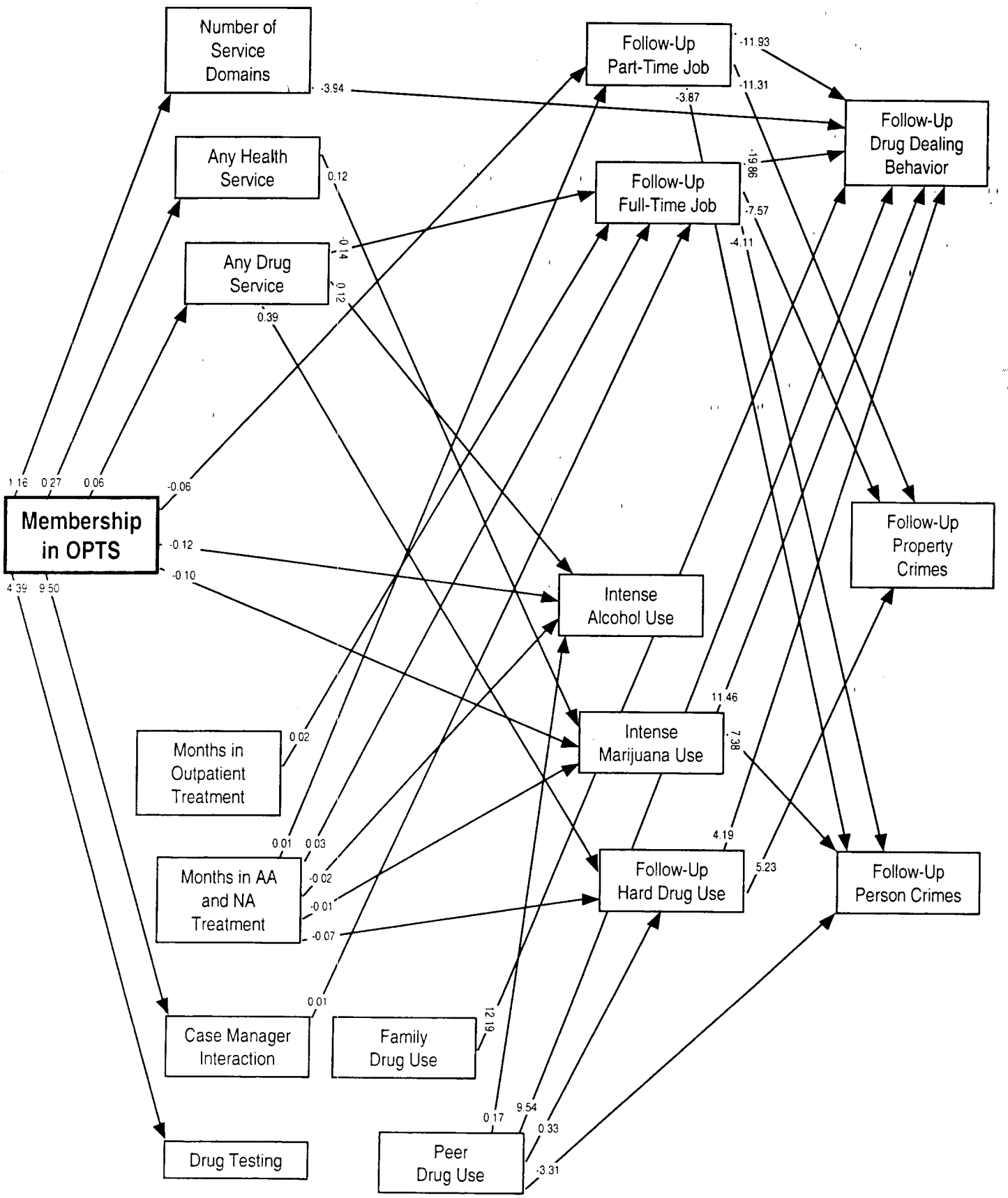
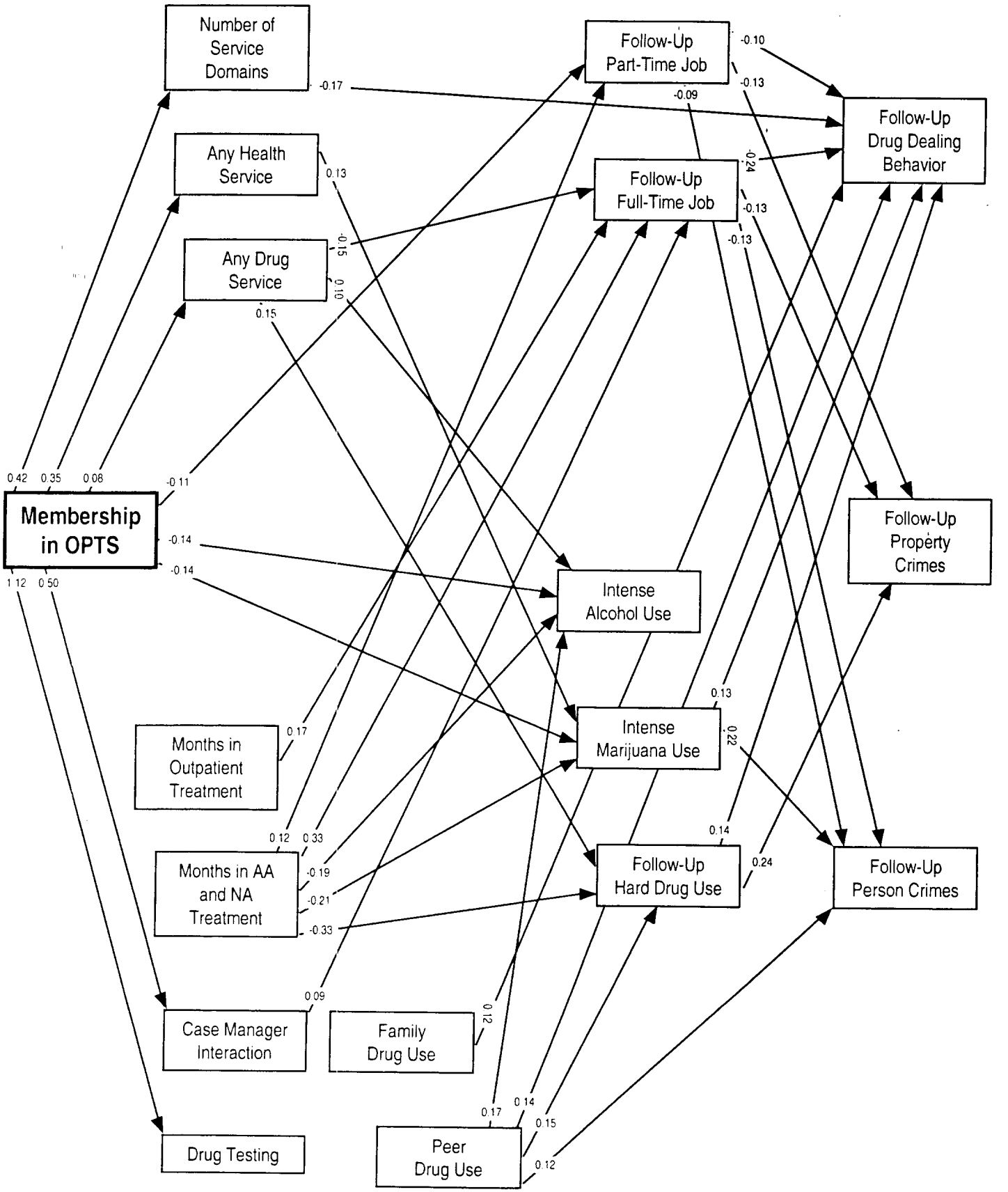


FIGURE 9-4.

Results of Structural Equation Model: *Standardized Coefficients*



associated with increases in *full-time jobs* (β = 0.09). Membership in the *control* group was associated with increased levels of *part-time jobs* (β = -0.11) at follow up. Membership in OPTS did not affect the follow-up levels of *peer* and *family drug use*.

What were the relationships among levels of treatment and problem behaviors? AA/NA had an especially important effect on each of the outcome measures. *Increased levels of AA/NA participation* were associated with reductions in *alcohol use* (β = -0.19), *marijuana use* (β = -0.20), and *hard drug use* (β = -0.33) at follow up. It also was associated with increased levels of *full-time jobs* (β = 0.33) and *part-time jobs* (β = 0.12) at follow up. Increased levels of *outpatient treatment* were associated with increases in *full-time jobs* (β = 0.17). Based on the iterative modeling strategy, a direct negative linkage also was obtained between *number of service domains* and levels of drug-dealing crimes (β = -0.17).

Any drug service was associated with increases in intense *alcohol use* (β = 0.10), and decreases in *full-time jobs* (β = -0.15). Similarly, *any health service* was associated with increased levels of intense *marijuana use* (β = 0.13). This suggests that the causal direction for these linkages might have been misspecified -- the linkage may be running in the other direction. In other words, these individuals received the treatment because they had problems.

What were the relationships between the various risk factors? Family drug use was associated with increased levels of follow-up *drug-dealing crimes* (β = 0.12), while *peer drug use* was associated with increased levels of follow-up *alcohol use* (β = 0.17), *hard drug use* (β = 0.15), and *drug-dealing crimes* (β = 0.14). Rather surprisingly, increased levels of *peer drug use* also were associated with lower levels of *crimes against persons* (β = -0.12).

Follow-up *hard drug use* was positively associated with follow-up levels of *property crimes* (β = 0.24) and *drug-dealing crimes* (β = 0.24). Statistically significant relationships were not found between follow-up *hard drug use* and *crimes against persons*. Increased levels of *full-time jobs* were associated with reductions in *drug dealing* (β = -0.24), *crimes against persons* (β = -0.13), and *crimes against property* (β = -0.13). Increased levels of *part-time jobs* also were associated with reductions in *drug dealing* (β = -0.10), *crimes against persons* (β = -0.09), and *crimes against property* (β = -0.13). Higher levels of *intense marijuana use* at follow up were positively associated with follow-up *person crimes* (β = 0.22).

In addition to these findings, *older adults* were associated with increased levels of *hard drug use* (β = 0.11) at follow up. *Younger individuals* were associated with increased levels of *drug dealing* (β = -0.07). Younger individuals also were associated with higher levels of property crimes (β = -0.08). Rather interestingly, levels of *drug testing* did not predict the self-reported levels of *intense alcohol*, *marijuana*, or *hard drug use*.

Pathways of Criminal Behaviors

One of the primary goals of OPTS was to reduce criminal behaviors. The SEM discussed in this chapter examines the complex chains of factors that are associated with criminal behaviors. As discussed above, some of these factors include hard drug use and full- and part-time jobs. To understand the chains of factors associated with criminal behaviors, it is useful to summarize the key predictors of criminal behaviors, drug use, and full- and part-time jobs (See Figures 9-3 and 9-4).

- *Follow-Up Drug Dealing:* Key predictors of follow-up drug dealing include: baseline *drug dealing* ($\beta = 0.28$), follow-up *hard drug use* ($\beta = 0.14$), follow-up *full-time job* ($\beta = -0.24$), follow-up *part-time job* (($\beta = -0.10$), *number of service domains* ($\beta = -0.17$), and follow-up *family drug use* ($\beta = 0.12$), and *peer drug use* ($\beta = 0.14$).

- *Follow-Up Property Crimes:* Key predictors of follow-up property crimes include: baseline *property crimes* ($\beta = 0.28$), follow-up *hard drug use* (($\beta = 0.24$), follow-up *full-time job* ($\beta = -0.13$), and follow-up *part time jobs* ($\beta = -0.13$).

- *Follow-Up Person Crimes:* Key predictors of follow-up crimes against persons include: follow-up *full-time job* ($\beta = -0.13$), *part-time job* ($\beta = -0.09$), follow-up *intense marijuana use* ($\beta = 0.22$), and *peer drug use* ($\beta = -0.12$).

- *Follow-Up Hard Drug Use:* Key predictors of hard drug use include: baseline *hard drug use* ($\beta = 0.39$) and *months in AA/NA* ($\beta = -0.33$).

- *Follow-Up Full-Time Jobs:* Key predictors of follow-up full-time jobs include: baseline *full-time job* ($\beta = 0.31$), *months in AA/NA* ($\beta = 0.33$), *months in outpatient treatment* ($\beta = 0.17$), *any drug service* ($\beta = -0.15$), and *case manager interaction* ($\beta = 0.09$).

- *Follow-Up Part-Time Job:* Key predictors of follow-up part-time jobs include: *membership in OPTS* ($\beta = -0.11$) and *months in AA/NA* ($\beta = 0.12$).

These results provide some indication of why membership in OPTS did not strongly affect criminal behaviors: while OPTS affected full-time jobs (acting through the measure of case manager interaction), this effect was much weaker than the effects of other factors, such as months in AA/NA on full-time job. Further, one of the key predictors of property crimes was follow-up hard drug use -- statistically significant relationships were not obtained between membership in OPTS and follow-up hard drug use. More generally, one of the most important predictors of the above outcome behaviors is months in AA/NA. The strong effects of AA/NA treatment might not necesarily be indicative of the effectiveness of such treatment; rather this

result might be indicative of a selection mechanism whereby this measure is actually an indication of the individual's desire and determination for change.

The structural equation model provides a simplified picture of the complex nature of the linkages associated with criminal behaviors in the year after incarceration. Membership in OPTS was one of many factors associated with changes in criminal behavior during that time frame. Other important factors include: hard drug use, full- and part-time employment, months in AA/NA, and months in outpatient treatment.

One important limitation of the SEM analysis is that the interventions (i.e., treatments and services) are being delivered at the same time as the problem behaviors are being measured -- this limits the causal interpretation of the results. It is important to treat these linkages as associational, rather than as causal.

Further, ideally, SEM is useful for interval-level measures with underlying normal distributions. Some of the outcome measures used in the SEM were dichotomous. The robustness of these results are examined using tests outlined in Appendix I. In general, support was found for the SEM model developed in this chapter using alternative methods.

CHAPTER 10
RELATIONSHIPS BETWEEN TYPES OF EMPLOYMENT, HARD DRUG USE, AND CRIMINAL BEHAVIORS

This chapter provides a more detailed look at the relationship between types of employment, hard drug use, and criminal behaviors. The calendar data collected over the course of the OPTS project are utilized to develop multi-level models that examine:

- *Within-individual linkages* between types of employment (part- vs. full-time) and criminal behaviors, both for the baseline and the follow up.
- *Between-individual linkages* between hard drug use and criminal behaviors for both the baseline and the follow-up periods.

The focus of the analysis is on drug dealing and crimes against property. Crimes against persons are not examined given the relatively rare occurrence of this type of crime in the OPTS sample.

Research Background

In recent years, there has been increased attention in criminology literature on issues of *continuity* and *change* in criminal behaviors over time. Most studies of crime behaviors have focused on the continuity of criminal activity over time (Gottfredson and Hirschi, 1990). These studies argue that the propensity to commit crime is "established early in life and persists throughout the life course" (Horney et al., 1995: 655).

By contrast, Sampson and Laub's theory of informal social control (1990, 1993) focuses on *changes* in criminal behaviors throughout the life course. Their theory emphasizes life events that modify trajectories of crime (1993:8-9):

> The long-term view embodied by the life-course focus on trajectories implies a strong connection between childhood events and experiences in adulthood. However, the simultaneous shorter-term view also implies that transitions or turning points can modify life trajectories -- they can 'redirect paths'.

Sampson and Laub's theory primarily focuses on changes over the longer term. Studies that have analyzed variations over short periods include Horney and Marshall (1991), Horney et al. (1995), and Nagin and Land (1993). The OPTS analysis is strongly influenced by the focus on short-term criminal behaviors in Horney et al. (1995).

Of particular interest are the differences between part- and full-time jobs, and the role employment plays in criminal desistance. The rationale for examining such linkages can be found in Crutchfield and Pitchford (1997: 98), who argue that "bad jobs" are "potentially criminogenic":

> First, we do not propose that intermittent employment in a "bad job" leads to an explicit decision to engage in crime; rather, our thesis is that such employment is conducive to involvement in criminal activity because it does not lead to a stake in conformity....While no job or a bad job may be criminogenic for some individuals, there is no clear evidence that this is the case for most. The process that we are describing defines marginal employment as potentially criminogenic when the unemployed or secondary sector worker is in the proximity of similarly marginalized people....We hypothesize that the conditions that typically transform individual potential into actual criminal involvement is a social process entailing others who face the same kind of intermittent employment in "bad jobs."

Within- and Between-Individual Linkages

Following Horney et al. (1995), multilevel models are used to examine both within- and between-individual variations in the year before the incarceration that qualified participants for inclusion in the OPTS study and during the follow-up year. As noted in Chapter 3, a modified version of Rand's Second Inmate Survey was used to capture information on life circumstances in the twelve months preceding and following the participants' incarceration (Chaiken and Chaiken, 1982). The actual information was recorded by means of calendars on which criminal behaviors and life circumstance changes were directly recorded for each of the twelve months prior, and subsequent, to incarceration.[1]

Within-individual variations focus on changes in individual behavior over time. As shown in Figure 10-1, Person 1 had a full-time job in months 1 to 6, but did not have a full-time job in the months 7 to 12. As it turns out, months 7 to 12 are the very months in which he commits crime. Thus, based on this individual, one can argue that there potentially might be a relationship between loss of full-time job and criminal behaviors.

Between-individual linkages focus on variations in behaviors ***across*** individuals. Considering Figure 10-1 again, Person 1 has full-time employment for a shorter period than

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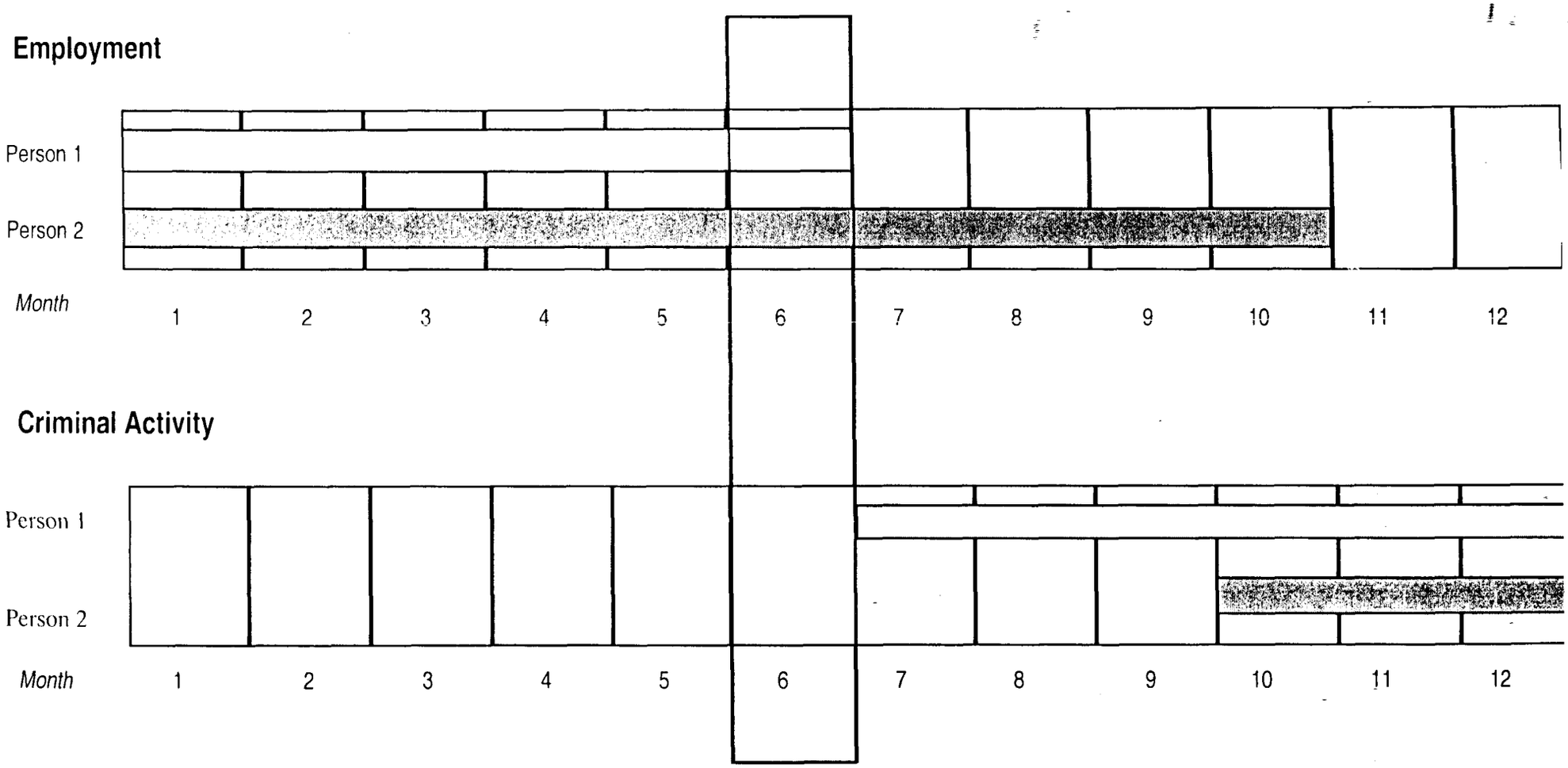
[1] Compared to the data collection instrument used by Horney et al. (1995), the OPTS instrument had two limitations: *monthly* calendar information on living arrangements or substance and alcohol use was not collected in the OPTS study, and information was collected on only 12 months before incarceration. Horney et al. (1995) had collected information for 25 to 36 months. However, the OPTS survey had more detailed information on substance and alcohol use in the three months before incarceration, and also collected more detailed calendar information on both part- and full-time jobs (Horney et al. did not differentiate between types of employment).

FIGURE 10-1.

Within-Individual and Between-Individual Linkages



The number of months each individual engaged in an activity is represented by the length of the respective bar.

- **Between Individual Differences:** Comparing the length for Person 1 to the length for Person 2 reveals between-individual differences.
- **Within Individual Differences:** Examining both bars for Person 1in any given month reveals within-individual differences.

Person 2. Person 1 also commits crime for a longer period than does Person 2. The between-individual variation question is: *Does increased lengths of full-time employment result in decreases in criminal behaviors?*

The structural equation model examined in the previous chapter also focused on between-individual linkages. However, because multi-level models focus on both between- and within-individual linkages, they provide a finer level of detail in examining the relationship between types of jobs and criminal behaviors than was supported by the SEM.

Measures

The measures used in the analysis are described below:

- *Dependent Measures:* Each dependent measure was scored as "1" during months the individual engaged in the activity, and "0" in other months.

  Drug-dealing crimes: Measures whether an individual dealt in drugs in any given month.

  Crimes against property: Measures whether the individual committed a property crime in any month.

- *Independent Measures -- Within-Individual Measures:* Each independent, within-individual measure was scored as "1" during months the individual responded "yes" to the item, and "0" in other months.

  On probation and parole: Measures whether the respondent was on probation or parole during the calendar month in the year before incarceration.

  Part-time employment: Measures whether the respondent had a part-time job during a calendar month. Having a part-time job was defined as working between 17 and 35 hours per week.

  Full-time employment: Measures whether the respondent had a full-time job during a calendar month. Having a full-time job was defined as working 35 hours or more in a week.

  Individual locked up during the calendar period: Measures whether the individual was incarcerated during a calendar month (due to a previous crime/infraction).

In addition to the above measures, between-individual measures (described below) also were included in the multi-level model.

The Multi-Level Model

The relationship between changes in life circumstances and criminal behaviors are examined using multi-level models (DiPrete and Forristal, 1994). The advantage of the multi-level methodology is that both *within-* and *between-individual* changes can be modeled simultaneously (Bryk and Raudenbush, 1992). Hierarchical Linear Model (HLM) software is used to build these models. Given the binary nature of the dependent measures, hierarchical logistic regression (a binomial sampling model with a logit link; see Bryk et al., 1996:120) was used to model the relationships. However, given the complex nature of the hierarchical logistic model, the formulation of the model is discussed using hierarchical linear models (Bryk and Raudenbush, 1992).

These models are built separately for each of the dependent measures. Further, separate models are built for the baseline and the follow up (see Figure 10-2). For expository purposes, the model for the baseline is described below.

Within-Individual Model

The models are built at two levels. At the first level, the growth trajectory is modeled for each individual. The within-individual model models criminal behavior (of the ith individual at the jth time) as a function of a constant, time-trend at the baseline (T), *change* in probation or parole status (X_1), *change* in part-time employment (X_2), *change* in full-time employment (X_3), and a variable (X_4) that measures if the individual was incarcerated in a given month (due to a prior offense/infraction at the baseline or a new offense or technical violation at the follow up).

The within-individual model at the baseline had the following form:

$$Y_{ij} = \beta_{0,i} + \beta_{1,i}.T + \beta_{2,i}.X_{1j} + \beta_{3,i}.X_{2j} + \beta_{4,i}.X_{3j} + \beta_{5,i}.X_{4j} + r_{ij} \quad ...(1)$$

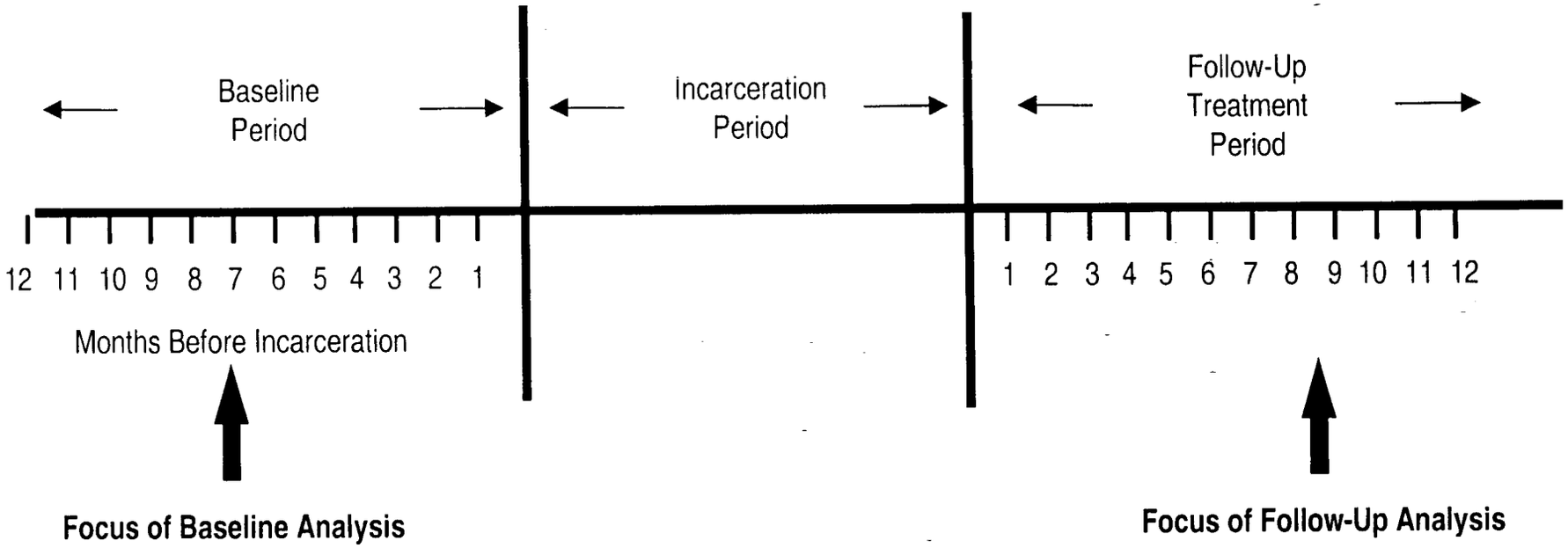
Where "I" is the subscript for the individual and "j" is the subscript for time; Y_{ij} measures if the "ith" individual committed a crime at the "jth" time; r_{ij} is the unexplained variation at the individual level.

Unlike Horney et al. (1995) who model polynomial time trends, a simple linear time trend was used due to the shorter time frame covered by these data. Following Horney et al. (1995: 662), the effects of life circumstance are modeled as deviations from the mean:

> First, the values for X (in equation 1) are transformed to deviations from each individual's mean calculated across the entire period of observations....Second, the individual means are included as explanatory variables in the equation for overall individual differences.

FIGURE 10-2.

Structure of Data Collection



Between-Individual Model

The between-level model examines the relationship among the within-level coefficients across individuals. The key coefficient in equation (1) is β_{0i} :

> β_{0i} measures the mean level of criminal behavior of individual "I" at the baseline (controlling for the time trend at the baseline).

The key research question is: What between-individual factors are associated with the values of β_{0i}? The between-level model had the following form:

$$\beta_{oi}=\gamma_{0,0}+\sum \gamma_{o,i}.W_i+u_{0,i}$$

In the equations above, γ are level-2 (between-individual) coefficients (see Bryk and Raudenbush, 1992); W measures are level-2 predictors (independent measures; see below); u_{0j} is a level-2 random effect.

The other coefficients in equation (1) are modeled as fixed across the individuals (see Bryk and Raudenbush, 1992):

$\beta_{1,i}=\gamma_{1.0;}$
$\beta_{2,i}=\gamma_{2.0;}$
$\beta_{3,i}=\gamma_{3.0;}$
$\beta_{4,i}=\gamma_{4.0;}$
$\beta_{5,i}=\gamma_{5.0;}$

Between-individual measures in the baseline model include:

- Hard drug use at baseline (see previous chapter)
- Intense marijuana and alcohol use at baseline
- Gender, site, and age
- Family drug use and peer drug use
- Proportion of calendar year at baseline (for ith individual) with full-time employment
- Proportion of calendar year at baseline (for ith individual) with part-time employment
- Proportion of calendar year at baseline (for ith individual) incarcerated
- Proportion of calendar year at baseline (for ith individual) on probation or parole

The follow-up model was suitably modified. Measures corresponding to the above between-individual factors were included in the model for the follow up. In addition, other variables in the follow-up model include:

- Time served in prison for last offense (the one that made them eligible for OPTS)
- Levels of case-manager interaction
- Months in outpatient treatment
- Number of service domains
- Membership in OPTS
- Hazard term measuring the probability of dropping out of the sample.

Results

The key results of the HLM analysis pertaining to the relationships between types of employment, hard drug use, and criminal behaviors are presented in Tables 10-1 and 10-2.

At the baseline, months in which individuals had a full-time job were associated with reductions in the odds of drug dealing and committing crimes against property, as presented in Exhibit 10-1. On the other hand, months in which individuals had a part-time job were associated with an increase in the odds of drug-dealing crimes.

Statistically significant between-individual linkages (negative relationship) also were obtained between baseline full-time jobs and drug-dealing crimes and crimes against property. A statistically significant between-individual linkage (negative relationship) also was obtained between baseline part-time jobs and crimes against property. At the baseline, hard drug use was associated with increased levels of crimes against property. No statistically significant relationship was obtained between baseline hard drug use and drug-dealing behaviors.

At follow up, months in which individuals had a full-time job were associated with a decrease in the odds of committing crimes against property, but was not statistically associated with drug dealing, as shown in Exhibit 10-2. As with the baseline, months in which individuals had a part-time job were associated with an increase in the odds of drug-dealing crimes. However, at the follow up, months in which individuals had a part-time job also were associated with a decrease in the odds of committing crimes against property.

A statistically significant between-individual linkage (negative relationship) also was obtained between follow-up full-time jobs and drug-dealing crimes. The relationship between part-time job and drug dealing at the follow up is complicated by the fact that statistically significant negative between-individual linkage was obtained between follow-up part-time jobs and drug-dealing crimes (Note: a positive within-individual linkage was obtained above). One interpretation of this result is that, in the follow-up period, part-time jobs increase the odds of drug dealing over the short-term (month), but decrease the odds over the longer-term (the

Exhibit 10-1
Baseline Crimes: Results of the HLM Analysis

	Drug Dealing Crimes		Crimes Against Property	
	γ	*Odds Ratio*	γ	*Odds Ratio*
Between-Individual Linkages				
Baseline				
Baseline hard drug use	0.33	1.39	1.06**	2.89
Proportion of months with full-time employment at baseline	-3.01**	0.05	-1.95**	0.14
Proportion of months with part-time employment at baseline	-0.18	0.84	-1.46*	0.23
Within-Individual Linkages				
Change in part-time employment:	0.67*	1.95	-0.13	0.88
Change in full-time employment:	-0.77**	0.46	-0.85**	0.43

*$p < .10$; **$p < .05$

Exhibit 10-2
Crimes at Follow Up: Results of the HLM Analysis

	Drug Dealing Crimes		Crimes Against Property	
	γ	*Odds Ratio*	γ	*Odds Ratio*
Between-Individual Linkages				
Follow Up				
Follow-up hard drug use	0.96**	2.61	1.42**	4.14
Proportion of months with full-time employment at follow up	-2.11**	0.12	0.57	1.79
Proportion of months with part-time employment at follow up	-1.56*	0.21	-0.13	0.88
Within-Individual Linkages				
Change in part-time employment:	1.27**	3.52	-0.83*	0.46
Change in full-time employment:	-0.01	0.99	-0.77**	0.44

*$p < .10$; **$p < .05$

calendar year). No statistically significant between-individual linkages were obtained between either part- or full-time jobs and crimes against property: these are primarily explained by the within-individual linkages. At the follow up, hard drug use was associated with increased levels of crimes against property and increased levels of drug dealing.

These results may help explain one of the anomalies observed in Horney et al. (1995): they obtained a 28% *increase* in the odds of committing a property crime for the months in which an individual was employed. However, as noted earlier, they did not distinguish between part- and full-time jobs. As an explanation of this apparent anomaly, Horney et al. (1995: 668) point to an opportunistic view of crime: "The surprise increase in the odds for commission of a property crime may reflect the increased opportunities for theft and perhaps also for forgery or fraud that are available in the workplace." The OPTS result is consistent with Crutchfield and Pitchford's (1997: 93-94) observation: "We propose, then, that the pattern of one's employment or lack of employment influences the degree of one's criminal involvement, not simply because certain marginal employment patterns undermine commitment to legal rules, but also because those same employment patterns create opportunities for participation in the collective processes that underlie most types of criminal activity."

Conclusions

The multi-level model provides a finer look at the relationship between types of employment and criminal behaviors than provided by the structural equation model. Full-time employment is strongly related to reductions in criminal behaviors, both at the baseline and the follow up. Part-time jobs, on the other hand, have a more complicated relationship with criminal behaviors: months in which individuals had part-time jobs were associated with increased levels of drug dealing both at the baseline and during the follow-up period. However, at the follow up, months in which individuals had part-time employment were associated with reductions in crimes against property. Thus, the multi-level model provides strong support for the effectiveness of full-time jobs in reducing criminal behaviors, but mixed support for the effectiveness of part-time employment. In the context of this result, the focus of the OPTS program on full-time jobs is especially encouraging.

Hard drug use is associated with increased levels of drug dealing during the follow-up year. No relationship is obtained between hard drug use and drug dealing at the baseline.

CHAPTER 11
SUMMARY OF FINDINGS

OPTS programs in Kansas City, St. Louis, and Tampa implemented services in five core domains -- substance abuse treatment, employment services, housing, family strengthening, and health and mental health services -- as community-based aftercare for substance-abusing adult felons. The key findings of the process, impact, and cost-benefit evaluations associated with the primary research hypotheses are summarized below, beginning with substantive results in terms of program effects.

The Findings of the Impact Evaluation

Research hypotheses: Probationers and parolees receiving OPTS services will: 1) present fewer long-term problems with substance abuse relapse than offenders under routine probation/parole supervision; 2) exhibit less criminal recidivism than offenders under routine probation/parole supervision; and 3) demonstrate more pro-social attitudes and behaviors (and have greater involvement in positive social networks) than other offenders under supervision.

Substance use declined for both OPTS clients and the control group, comparing the period prior to incarceration (i.e., the baseline) to the first year of probation/parole under OPTS or routine supervision (i.e., the follow-up period). At follow up, significantly fewer OPTS clients reported alcohol use than did control group members across a range of measures. OPTS clients also were significantly less likely than the control group to report marijuana use; however, controlling for baseline covariates and attrition reduced the size of these effects, as shown in Exhibits 5-4 and 5-5. Statistically significant effects were not obtained for hard drug use. Also, treatment group effects were not consistent across the sites.

Both OPTS clients and the control group reported considerably less criminal activity during their first year of supervision than in the year prior to the incarceration that qualified them for inclusion in the study. However, there is very little evidence supporting the effectiveness of OPTS in reducing criminal behavior based on data from either the self-report surveys or official records. The only statistically significant differences between OPTS clients and the control group were with respect to the self-reported:

- Average number of robberies of persons during the follow-up period.
- Average number of disorderly conduct incidents during the follow-up period.
- Percentage of street time spent dealing drugs.

However, each of these was only significant at the 0.10 level.

Further, analysis of official records found that the mean number of technical violations was higher for the OPTS treatment group. One explanation was that increased contact among case managers, probation officers, and OPTS clients may have resulted in increased detection of technical violations or otherwise encouraged use of sanctions; anecdotal evidence suggested that in at least a few cases, OPTS clients were technically violated for failure to comply with a service plan requirement (e.g., attend counseling, take prescribed medication). In any case, there is little evidence to argue that OPTS was effective in reducing criminal behaviors.

Both full- and part-time employment increased for OPTS clients and the control group, comparing their work histories during the follow-up year to their employment in the year prior to pre-OPTS incarceration. The differences between the percentages of the two groups who were employed generally were not significant statistically. However, at follow up, OPTS clients demonstrated significantly longer periods of full-time employment (in terms of numbers of months of employment and percentage of months with employment) than did the controls.

Multi-level modeling showed that full-time employment is strongly related to reductions in criminal behaviors, both at the baseline and the follow up. Part-time jobs, on the other hand, have a more complicated relationship with criminal behaviors: months in which individuals had part-time jobs were associated with increased levels of drug dealing, both at the baseline and during the follow-up period. However, at the follow up, months in which individuals had part-time jobs were associated with reductions in crimes against property. Thus, **the multi-level model offered strong support for the effectiveness of full-time jobs in reducing criminal behaviors, but mixed support for the effectiveness of part-time employment.** This finding is particularly germane to the OPTS program, which demonstrated some level of success in helping clients attach to full-time employment.

In general, OPTS clients, as compared to controls, were more likely to report they received assistance to promote family strengthening, positive social environments, and improved health and mental health. In terms of family issues, OPTS clients were significantly more likely than control group members to say:

- Their situations improved with respect to: re-establishing contact with adult family members and re-establishing contact with their children because of assistance they received from their case manager, PO, or other service provider to whom they had been referred as part of the program.

- They were enjoying being together with their families; and were getting along better with their spouse/partner, family members, and their children, at follow up, because of assistance received through the program.

- Their situation improved with respect to controlling their anger or expressing anger in non-violent ways because of assistance they received through OPTS.

- They had learned about parental rights through participation in OPTS/partner programs.

Also, at follow up, OPTS clients were significantly more likely to report that they did not drink beer or alcohol while spending time with their family members, and that they avoided hanging out with family and friends who committed crimes.

With respect to general social functioning, OPTS clients also were somewhat more likely than controls to report that they had not had physical fights with their spouses/partners or with other people. In addition, because of assistance they received through the program, OPTS clients more often reported their situations had improved with respect to:

- Getting food for self and family, and having clothes for different weather conditions, family members, and appropriate to work requirements.

- Finding recreational and leisure activities.

Nearly twice as many treatment group members reported their situation improved with respect to: finding housing, having enough money for a rent deposit, keeping existing housing, and paying rent, because of assistance provided by their case manager, probation officer, or service providers to whom they were referred through OPTS.

The structural equation model (SEM) provides both a simplified picture of the complex nature of the linkages associated with criminal behaviors in the year after incarceration, and broad support for the OPTS program model. OPTS clients did receive extra services. Membership in OPTS was one of many factors associated with changes in criminal behavior during that time frame. Other important factors include: hard drug use, full- and part-time employment, months in AA/NA, and months in outpatient treatment.

The Findings of the Process Evaluation

Research hypothesis: OPTS clients will have higher rates of service utilization than probationers or parolees under routine supervision.

Achievement of OPTS objectives is dependant, at least in part, on carrying out the model's objective of increasing ex-offender involvement in social service programs -- particularly substance abuse treatment. OPTS clients constituted a heterogeneous population, some of whom could be characterized as having vulnerabilities in multiple domains. Many faced severe problems, some of which had not been diagnosed or treated previously, while others had comparatively few issues to address. Some clients posed greater challenges than others -- because of special needs (such as dual diagnosis); personal characteristics; or resistance to services. Despite the challenges associated with identifying and securing services for OPTS

clients (discussed in Chapter 4 and detailed in Rossman et al., 1998), a considerable range of service providers and services in the core domains was evidenced across sites. The lead agencies also functioned as service providers in all sites, providing one or more core services in addition to counseling or therapeutic interventions associated with case management.

- Overall, OPTS clients received more services in each of the core domains than controls. In addition, OPTS clients tended to receive services across more domains -- that is, to receive a more comprehensive suite of services -- than controls. Approximately two-thirds of OPTS participants (66%) were referred to services in three or more domains, compared to only 17% of control group members, and 15.6% of OPTS clients received services in all five domains, compared to fewer than 1% of controls. At the other extreme, approximately 10% of controls reported they received referrals to *no* services, while only 4.8% of OPTS clients reported no services.

- OPTS clients were referred to a greater number and variety of substance abuse treatment services than control group members (e.g., 23.5% of OPTS clients reported receiving AA/NA services plus two or more other services, compared with 12.2% of controls); and were less likely to receive *no* substance abuse treatment than controls (only 14.3% of OPTS clients did not report receiving treatment services, versus 21.3% of controls).

  The most widely used form of treatment by far for both OPTS clients and controls was self-help groups (AA/NA), followed by outpatient treatment. The majority of the sample received more than one type of treatment.

Research hypothesis: OPTS programs will facilitate increased interagency information sharing; joint case planning, cross-agency referral, and enhanced services integration; an expanded array of service options for OPTS clients; increased rates of client access to services identified in customized needs assessments; and improved monitoring of client compliance with service plans, and tracking of client progress.

Although this research does not enable quantitative evidence of outcomes of such changes, the process analysis indicates that the anticipated increases occurred in most of these areas. There was a high degree of variation among the sites in terms of program implementation, consistent with the model's intent to allow flexibility and autonomy in local decision making and practices. For example, sites were expected to use existing community-based resources, in preference to developing their own services. Thus, it is not surprising that the suites of services and mix of providers varied dramatically across the three programs, as these reflected the extant service networks and capacities in Kansas City, St. Louis, and Tampa. Other site variations likely resulted from the visions, internal organizational structures, and decision making of the lead

agencies and/or the partnering probation and parole agencies regarding the roles and responsibilities of their respective staffs.

- It appears that an adequate continuum of community-based services was developed in the three sites. Substance abuse treatment represents the service component most widely and consistently implemented across sites, followed by the employment and job training component, housing, and health and mental health components. Parenting skills was the least fully implemented component. Availability of drug-free housing, transportation, health care, and dual diagnosis services represent the most frequently reported gaps in the continuum of services.

- On-going resource development on the part of case managers was critical to adequately supplement service deficits that developed because of the dynamic nature of local service environments.

- The OPTS program implicitly linked two separate systems at its inception -- social services and criminal justice. Although local partnerships were developed during the OPTS planning phase, such partnerships typically engaged the lead service agency and the cognizant probation/parole department. To some extent, the potential for success of OPTS programs may have been curtailed by the relative absence of the courts (particularly judges) and correctional facility administrators during planning and implementation periods, and on advisory boards. OPTS programs were sometimes constrained in their abilities to carry out service placement and supervision, or to implement graduated sanctions, in part due to the actions of judges who court-ordered offenders to other kinds of programs or supervision outside of the OPTS network. Similarly, coordination with correctional facilities is critical to enable advance service planning to help facilitate a smooth transition to community-based aftercare.

- The strongest collaboration was demonstrated at a site that employed various mechanisms designed to promote information sharing, joint decision making, and buy-in among staff at both the systems level (top administrators) and service delivery level (including supervisory and line staff). Practices implemented included: co-location of key staff (including core service providers), routinized report structures, regular meetings, and shared responsibility for executing program tasks (e.g., joint home visits, meetings with clients).

- Given the pivotal roles of the lead service agency and lead probation/parole department, it is important to take steps to clearly identify and institutionalize the roles and responsibilities of these organizations and, by extension, of case managers and POs.

- Frequent contact with the case manager, combined with standard levels of contact with the probation/parole officer, was expected to result in the more intensive supervision envisioned by the OPTS model. Overall, OPTS clients received more frequent supervision -- in the form of case manager and probation officer contract and home visits -- than controls during the first year post-release.

- Ideally, case managers should have expertise in a variety of areas, including the ability to: develop resources, make clinical assessments or at least understand them across disciplines (i.e., medical, mental health, substance abuse treatment, etc.), and deliver direct services. In practice, case managers had various professional backgrounds and levels of expertise; some were new to the local area, or new to the field, and were unfamiliar with local resources and how to access them. As a result, sites encountered several case management hurdles, including: 1) consistent and appropriate service planning as a basis for brokering or directly delivering individualized suites of services; 2) familiarity with services across multiple, key domains; and 3) balancing the intense demands of crisis management, with the responsibility to perform routine case management and service provision.

- Sites generally did not institutionalize or formalize procedures for case management and related functions, resulting in some inconsistency of practices across case managers, particularly when staff turnover occurred. It is important to develop guidelines outlining case management responsibilities and how these are to be performed, and identifying those activities and decisions (e.g., ordering urinalysis, imposing sanctions, meeting with clients) to be performed individually by case managers, and those to be performed in conjunction with POs. This ensures consistency of practice across staff, facilitates training of new staff, and helps ease transitions. Similarly, establishing standard procedures/mechanisms for recording information in client case files is desirable, to enable other staff to readily understand a client's status in case of the need to "pinch hit" for the regular case manager, or to ease transitions when there is staff turnover.

- Although local programs were provided with management information systems (MIS) as part of the demonstration, these were not used as extensively as optimally desired to record client and service information, and they were *not* used as a tool for such case management purposes as updating service plans and making decisions as when to graduate or terminate clients. Use of the MIS for such purposes could facilitate decision-making and contribute to greater consistency in treatment of clients.

- Case management could be strengthened by involving a broader range of professionals and para-professionals in service planning -- perhaps through use of team case management, which might take a form similar to the St. Louis

approach. A team approach may diffuse the burdens of decision making, and the stresses associated with high-maintenance clients, and enhance decisions by drawing on the insights and skills of other staff. Having clinicians or other skilled diagnosticians as part of the OPTS team would be useful, given some of the challenges encountered. In addition, a team approach creates a form of back-up system for case managers. By participating in team meetings, case managers and other involved professionals develop sufficient familiarity with each others' cases to enable a client's needs to be met by a back-up case manager, when the assigned case manager has limited availability due to crises or emergency situations with other clients.

- Frequent urinalysis testing was intended to be a key element of intensive supervision under the OPTS strategy. In practice, urinalysis testing did not occur as frequently as anticipated -- in part because the programs did not follow a regular protocol or schedule that ensured frequent testing of all clients. Neither OPTS clients, nor members of the control group, were tested as frequently as probationers involved in drug court programs. Across the three sites, 14% of clients (i.e., 4 clients each in Kansas City and St. Louis, and 12 clients in Tampa) and 21% of controls (i.e., 6 in Kansas City, 20 in St. Louis, and 30 in Tampa) reported never having been tested during this time frame.

- Another important element of the OPTS model was use of sanctions and incentives -- intended to "give teeth" to the increased supervision. However, use of sanctions and incentives under OPTS was largely idiosyncratic, rather than the systemized approach envisioned by the model. Sanctions and incentives were not always spelled out in advance, and they were not always consistently applied, limiting their effectiveness. Recent research on drug courts (Harrell et al., 1998) indicates that successful programs forge an understanding with program participants of behavioral requirements and consequences -- perhaps in the form of a contract that specifies the consequences for particular infractions. Consistency in application of incentives and sanctions (underscoring the certainty of consequences), immediacy of the penalty or reward, and salience of sanctions to the offender also have been found to be key elements of successful programs.

- It is vital for programs to provide services that mitigate situations that may be critical barriers to client success. Lead agencies went beyond the core services to address such needs as: transportation assistance (e.g., bus passes) to permit clients to access services, or to facilitate job-hunting and steady employment; clothing for job interviews or employment; emergency services, such as food and clothing; and funding to facilitate acquisition or retention of stable housing (e.g., rental deposits, utility costs). Similarly, they performed an advocacy role in clients' interactions with criminal justice or social service systems, or an interventive role to address various emergency situations (e.g., domestic or housing crisis).

In general, the sites were satisfied with their efforts in mounting this demonstration; however, both line staff and administrators acknowledged areas of weakness as their programs evolved. To their credit, individuals and organizations were often quite proactive in defining weak or troublesome elements and introducing refinements that could strengthen their local efforts.

The Findings of the Cost-Benefit Evaluation

Research hypothesis: OPTS programs will reduce costs to the criminal justice system, and to society as a whole, that are associated with substance abuse relapse and criminal recidivism.

As part of the evaluation of OPTS, a cost-benefit analysis was performed, using information only from the St. Louis program, for a selected one-year period (calendar year 1996). The following summary is extracted from the full cost-benefit analysis report prepared by Jorgensen (1998).

A cost-benefit analysis can be viewed as a type of profit and loss statement. From the perspective of society overall, new public policies should not cost more in terms of the resources they consume than they contribute to society in the form of benefits. Thus, using society as the unit of analysis, OPTS would be assessed as cost-beneficial if the program created a net positive change in social welfare.

As a monitoring and service coordination program, OPTS' primary costs arose from administration and service provision. In this cost-benefit analysis, the costs (measured from the standpoint of society) counted were those expenditures that would not have been made if the program did not exist. This statement is a clue that straight sums in each of the cost categories may be inappropriate. Particularly on the services side, some expenditures would have been made on individuals participating in the program even if the OPTS program did not exist. Thus, the relevant cost value is frequently a *cost difference*, or how much more was spent on program participants than would have been spent on them in the absence of the OPTS.

Administrative costs included personnel salaries, office-related overhead expenses (rent, equipment, and telephone costs, especially for the newly created case manager program), case manager and probation officers' mileage expenses, training costs, urinalysis testing costs, and incentive/reward expenses. The best estimate of these costs for the St. Louis OPTS program was $183,743 in calendar 1996, the year selected for program analysis.

Service provision costs included expenditures in the five service areas proposed by the OPTS model -- substance abuse treatment, employment training and placement, medical and mental health care, family intervention and parenting training, and housing support. A variety of supplemental services that the OPTS program helped clients access generated additional costs

(the most salient examples are donations of food, clothing, and furniture, and energy/utility assistance). The best estimate of these costs for a 60-client St. Louis OPTS program was $108,632, again measured in 1996 dollars.

Programs like OPTS may motivate a wide variety of positive changes in client behavior, including decreased involvement in crime, a healthier lifestyle, increased labor market participation, and improved family relationships. Such behavioral changes would generate social benefits, which may be realized by the clients themselves, the justice system, and the broader public. Assessing whether or not potential benefits are realized, and assigning monetary values to those that appear to be realized, can be difficult. Thus, a thoughtful cost-benefit analysis should pay attention both to what is included in the analysis and what is excluded.

Potential benefits of OPTS programs that were estimated in monetary terms included savings from averted crime, including cost savings of would-be crime victims and criminal justice systems savings (i.e., lower arrest, prosecution, court, jail, and victim services costs). Benefits from client gains in the labor market associated with experience and education also were estimated in monetary terms, as were benefits of agency collaboration, case management, and service integration (e.g., a richer network for client support, decreased duplication of services).

Based on the best estimates of program costs and benefits, the sum of program costs was $292,375, and the sum of monetized program benefits was $105,339. While the result is not promising, it is important to interpret it carefully.

First, sensitivity analysis suggests that changing some of the assumptions that support the central estimate might change the result. For example, the reported victim cost savings value is simply the best estimate over a wide range of possible savings values. If the assumptions supporting the highest estimates in this range were true, program benefits would exceed program costs by $4,657. If assumptions supporting the low estimates of service provision costs also were true, the St. Louis OPTS program would have the sizable positive net benefit of $51,308. Thus, while it is not likely that program benefits outweigh costs, it is not impossible that they do. Second, this analysis encompassed a relatively short time frame. Many benefits, particularly those from better health care, accrue over a longer time horizon. It is possible that benefits coming on line in the future night be large enough to create a positive net present value for the program.

Additionally, the survey responses used for this analysis may have decreased the likelihood of finding a net program benefit, because the follow-up survey may have over-sampled from clients with "bad" program outcomes -- follow-up interviewers almost always found study participants who were re-incarcerated, but had much more difficulty locating individuals who remained in the community. If the fact that they were not re-incarcerated is a good indicator of other life circumstances, these study group members may have had better life outcomes than their recidivist colleagues and including them in the study might have increased estimates of program benefits.

Perhaps more importantly, there are a number of probable program benefits that this analysis could *not* value. They include the psychic benefits of self-esteem from holding a full-time job, of improvements in family life, and of team members' job satisfaction; cost savings associated with improvements in family members' health, increased family stability, and less redundant/unnecessary service provision; and improvements in other household members' productivity. These benefits should be kept in mind despite the negative cost minus benefit balance. In addition, some potential benefits did not materialize as actual benefits because the program was relatively small in size. In a larger implementation, for example, reduced crime would not only reduce corrections expenditures (counted here), but also arrest, prosecution and court costs (which, in a small program, have a marginal cost of zero).

While the central conclusion of this analysis is that the benefits of the St. Louis OPTS program did not outweigh program costs, an analysis that incorporated an even more comprehensive survey, tracked participants over longer time period, was capable of tracking more members of the study pool, and/or assessed a larger program might yield a different result.

Conclusions and Recommendations

Was OPTS Successful?

Clearly, OPTS had some successes: there was evidence of reductions in both alcohol and marijuana use, as well as increases in full-time employment and reported improvements in family strengthening. However, OPTS did not have discernible effects on hard drug use or criminal behaviors.

Key areas in which the OPTS program can be strengthened to promote greater success include:

- More careful monitoring of client compliance with supervision requirements, and more consistent application of sanctions and incentives. Recent drug court research (Harrell et al., 1999) demonstrates that successful programs forge an understanding with program participants of behavioral requirements and consequences -- perhaps in the form of contracts that specify the consequences for particular infractions. Consistency in application of incentives and sanctions (underscoring the certainty of consequences), immediacy of the penalty or reward, and salience of sanctions to the offender also have been found to be key elements of successful programs.

- More strongly focusing on reducing hard drug use. Since hard drug use was associated with increases in criminal behaviors in the follow up, reducing hard drug use would likely yield positive results in terms of reducing recidivism.

Recent research (Martin et al., 1998) indicates that the most effective approach for a population of substance-abusing offenders in Delaware involved: participation in a prison-based therapeutic community for 12 months; a community work release transitional program for six months, the first two of which were spent in residential treatment; followed by aftercare treatment for six months. Unfortunately, exposure to treatment and length of time in treatment -- both prior to and after release -- were considerably less than this for both OPTS clients and controls. Approximately 75% of respondents reported receiving less than 12 months of treatment in the preceding five years.

Analysis of OPTS employment service implementation (Rossman et al., 1998) highlighted the following recommendations:

- ***Programs such as OPTS should cultivate relationships with more than one service provider in each service domain.*** It is important to include providers who are knowledgeable about working with offender clienteles, and who also are prepared to offer diverse services that meet the needs of clients with varying levels of prior work experience.

- ***Selection of service partners should retain some flexibility.*** Although advanced planning is desirable, it may be necessary to expand the partnership network after program initiation to meet unanticipated client needs or to otherwise augment services.

- ***It is important for case managers and service providers to actively work with employers, as well as employees.*** Employment outcomes may be improved by promoting the program to employers to: generate more job openings for clients; help shape employers' expectations and willingness to deal with probationers/parolees in a more realistic and, possibly, tolerant fashion; and to improve communications among key actors such that emerging workplace problems can be resolved before they undermine a client's success.

- ***Incentives may be needed to induce employers to hire ex-offenders.*** While some employment counselors thought inducements were not necessary, others reported that the current lack of such incentives was a problem.

- ***Clients trying to pursue job training to achieve more stable, better-paying jobs experience significant counter pressures.*** Case managers believe that clients need to develop career skills in order to obtain more economically and intrinsically rewarding employment. However, vocational training is among the weakest services, and probationers/parolees may be unable to pursue such training while working — which is both a supervision requirement and a pragmatic response needed to cover even minimal housing and living expenses.

- Placing considerably more emphasis on employment services and offender employment status, since full-time employment represents a viable approach to crime reduction. OPTS lead service providers acknowledged the need to improve

their program services in this area; commonly cited challenges included: client resistance to services; lack of high-quality jobs; limited services to accommodate clients with special needs (e.g., dually diagnosed individuals, women with young children and child care needs, the homeless); service-provider organizational factors that mitigate against serving some types of clients; and client characteristics that undermined success (see Rossman et al., 1998). Possible avenues to explore in terms of service delivery include intensive life skills training, vocational or technical skills building, supported work opportunities, and strategies for placing ex-offenders in non-subsidized positions that provide salaries in excess of minimum wage requirements. In addition, POs, and others (e.g., case managers) who oversee probationers/parolees' compliance with supervision requirements might monitor individuals' employment circumstances more carefully, paying particular attention to those who are unemployed, only partially employed, or expressing concerns about current full-time employment.

Do the Successes of OPTS Outweigh the Lack of Positive Evidence in the Key Domains?

At least two considerations should be factored into answering such a question. First, it must be emphasized that outcomes were being observed *while* the treatment was being administered. This may partially explain the major drops in hard drug use and criminal behaviors that occurred for both the treatment and control groups at follow up. One limitation of the recently completed research is that although the second OPTS survey was called a follow up, in reality, the follow-up interview was conducted at the end of the first year of supervision or OPTS program participation:

- All of the participants were under supervision at that time.
- Since individuals were eligible to receive services for up to two years under the auspices of OPTS, some were still receiving services, while others had only recently completed treatment or services to which they had been referred.

Criminal behaviors under close scrutiny in the year after incarceration probably are not a sufficient indicator of long-term problem behaviors. Also, results of treatment and services might not have peaked, given that some of these interventions were still being delivered to respective respondents at the time they participated in the follow-up survey. The literature suggests that many substance abusers use some illicit substances at very low levels during and after treatment; thus, it is not unexpected that some clients (or controls, for that matter) reported hard drug use during the treatment period. However, longer term study would discern whether such incidents constituted transient relapse or failure to gain and sustain sobriety.

A second issue that affects inferences and generalizability of the effectiveness of OPTS is the nature of the probation departments in the study: How typical are the probation departments in Kansas City, St. Louis, and Tampa of probation departments across the country? The "success" of OPTS is defined relative to the effectiveness of the control probation group. To the extent that such departments are exemplary, it might be difficult to see additional changes in key problem domains.

Recommendations for Future Evaluations of Programs Such as OPTS

Perhaps the key recommendation is to have a longer time span to examine the effectiveness of OPTS. As discussed above, one of the key difficulties was that outcome measurement occurred while the treatment was being delivered (in the form of contacts with case managers etc). Clearly, the *long-term effects* of programs such as OPTS are of primary importance.

Given the positive finding of the relationship between full-time employment and reductions in criminal behavior, it might be useful to further explore the nature of the employment services and clients relationship to them. For example: 1) did some types of providers have higher placement rates than other; 2) were there differences in the retention rates of clients who found their own jobs, as compared to those placed by employment services who were OPTS partners; 3) were certain employment services more successful in terms of finding higher-quality jobs for clients, and what practices contributed to their success; and 4) what was the relationship between full-time employment, wages, and involvement in criminal activities?

A third recommendation is to have a larger sample size in the study. Ultimately OPTS was a fairly complex program with a wide range of services. Clearly, it is of some relevance to understand who is likely to benefit from what sets of services. Answering such a question requires a sufficiently large sample size.

Finally, although the OPTS evaluation used a rigorous experimental design, it also might have been useful to have incorporated a quasi-experimental comparison group, which would have permitted the research to address the question of whether the program effects were diluted by placement in innovative probation/parole organizations, whose routine practices were not too dissimilar from the OPTS model of service delivery.

GLOSSARY

Substance Use Behaviors

Any alcohol use in the past year: Measures if there was any alcohol use in the 12 months of the calendar period during the follow-up year. Dichotmous measure: no use is coded as 0, and any alcohol use is coded as 1. Mean at follow up is 62%.

Any marijuana use in the past year: Measures if there was any marijuana use in the 12 months of the calendar period during the follow-up year. Dichotmous measure: no use is coded as 0, and any marijuana use is coded as 1. Mean at follow up is 32%.

Any hard drug use in the past year: Measures if there was any hard drug use in the 12 months of the calendar during the follow-up year. Hard drugs include: inhalants, hallucinogens, pills(downers and uppers), amphetamines, opiates, heroin, illegal methadone, basuco, and intravenous and nonintravenous uses of cocaine, crack, and speeedball. Dichotomous measure: no use is coded as 0, and any hard drug use is coded as 1. Mean at the follow up is 50%.

Any alcohol use in the past three months: Measures if there was any alcohol use in the most recent three street months of the calendar period (baseline measures refers to the three months before incarceration). Dichotomous measure: no use is coded as 0, and any alcohol use is coded as 1. Mean at baseline is 81%, and mean at follow up is 51%.

Any marijuana use in the past three months: Measures if there was any marijuana use in the most recent three street months of the calendar period (baseline measures refers to the three months before incarceration). Dichotomous measure: no use is coded as 0, and any marijuana use is coded as 1. Mean at baseline is 50%, and mean at follow up is 20%.

Any hard drug use in the past three months: Measures if there was any hard drug use in the most recent three street months of the calendar period (baseline measures refers to the three months before incarceration). Hard drugs include: inhalants, hallucinogens, pills(downers and uppers), amphetamines, opiates, heroin, illegal methadone, basuco, and intravenous and nonintravenous uses of cocaine, crack, and speeedball. Dichotomous measure: no use is coded as 0, and any hard drug use is coded as 1. Mean at baseline is 70%, and mean at follow up is 39%

Intense alcohol use in the past three months: Measures if alcohol use in the most recent three street months of the calendar period was several times per week or more frequently (baseline measures refers to the three months before incarceration). Dichotomous measure: use less than several times per week was coded as 0, and several times per week or more is coded as 1. Mean at baseline is 62%, and mean at follow up is 29%

***Intense marijuana use in the past three months*:** Measures if marijuana use in the most recent three street months of the calendar period was several times per week or more frequently (baseline measures refers to the three months before incarceration) Dichotomous measure: use less than several times per week was coded as 0, and several times a week or more is coded as 1. Mean at baseline is 31%, and mean at follow up is 15% .

***Intense hard drug use in the past three three months*:** Measures if hard drug use in the most recent three street months of the calendar period was several times per week or more frequently (baseline measures refers to the three months before incarceration). Hard drugs include: inhalants, hallucinogens, pills(downers and uppers), amphetamines, opiates, heroin, illegal methadone, basuco, and intravenous and nonintravenous uses of cocaine, crack, and speeedball. This is a dichotomous measure: use less than several times per week was coded as 0, and several times per week or more is coded as 1. Mean at the baseline was 55%, and mean at follow up was 28%.

Money spent on daily alcohol use in the past three months: Measures the money spent by respondents on daily alcohol use in the most recent three street months of the calendar period (baseline measures refers to the three months before incarceration). Mean at baseline was $13, and mean at follow up was $6.

Money spent on marijuana use in the past three months: Measures the money spent by respondents on daily marijuana use in the most recent three street months of the street calendar (baseline measures refers to the three months before incarceration). Mean at baseline was $11, and mean at the follow up was $7.

Money spent on harddrug use in the past three months: Measures the money spent by respondents on daily hard drug use in the most recent three months of the calendar period (baseline measures refers to the three months before incarceration). Mean at baseline was $142, and mean at the follow up was $52 .

Criminal Behavior Measures

Committed burglary: Measures if respondents committed a burglary in the past 12 months of the crime calendar. Baseline measures refer to the 12 months before incarceration, while follow-up measures refer to the 12 months after incarceration. This is a dichotomous measure: no acts of burglary are coded as 0, and acts of burglary in the 12 months of the calendar period are coded as 1. The mean at the baseline is 11%, and the mean at the follow up is 5%.

Committed robbery of business: Measures if respondents committed a robbery of business in the 12 months of the crime calendar. Baseline measures refer to the 12 months before incarceration, while follow-up measures refer to the 12 months after incarceration. This is a dichotomous measure: no acts of robbery of business are coded as 0, and acts of robbery of business in the 12

months of the crime calendar are coded as 1. The mean at the baseline is 2%, and the mean at the follow up is 0%.

Committed robbery of a person: Measures if respondents committed robbery of person in the past 12 months of the crime calendar. Baseline measures refer to the 12 months before incarceration, while follow-up measures refer to the 12 months after incarceration. This is a dichotomous measure: no acts of robbery of a person are coded as 0, and acts of robbery in the 12 months of the crime calendar are coded as 1. The mean at the baseline is 4%, and the mean at the follow up is 2%.

Committed assaults: Measures if respondents committed assault, threatened some with a weapon, shot at or tried to cut someone, strangled or beat someone in the 12 months of the crime calendar. Baseline measures refer to the 12 months before incarceration, while follow-up measures refer to the 12 months after incarceration. This is a dichotomous measure: no acts of assault are coded as 0, and acts of assaults in the 12 months of the crime calendar are coded as 1. The mean at the baseline is 13%, and the mean at the follow-up is 13%.

Committed thefts: Measures if respondents stole from a cash register, shop lifted, pick pocketed, or did other thefts not including vehicular thefts in the 12 months of the crime calendar. Baseline measures refer to the 12 months before incarceration, while follow-up measures refer to the 12 months after incarceration. This is a dichotomous measure: no acts of theft are coded as 0, and acts of theft in the 12 months of the crime calendar are coded as 1. The mean at the baseline is 17%, and the mean at the follow up is 8%.

Committed vehicular theft: Measures if respondents stole a car, truck, or motorcycle in the 12 months of the crime calendar. Baseline measures refer to the 12 months before incarceration, while follow-up measures refer to the 12 months after incarceration. This is a dichotomous measure: no acts of vehicle theft are coded as 0, and acts of vehicle theft in the 12 months of the crime calendar are coded as 1. The mean at the baseline is 5%, and the mean at the follow up is 2%.

Committed forgery: Measures if respondents forged something, used a stolen or bad credit card, or passed a bad check in the 12 months of the crime calendar. Baseline measures refer to the 12 months before incarceration, while follow-up measures refer to the 12 months after incarceration. This is a dichotomous measure: no acts of forgery are coded as 0, and acts of forgery in the 12 months of the crime calendar are coded as 1. The mean at the baseline is 6%, and the mean at the follow up is 3%.

Committed frauds: Measures if respondents committed a fraud or swindle in the 12 months of the crime calendar. Baseline measures refer to the 12 months before incarceration, while follow-up measures refer to the 12 months after incarceration. This is a dichotomous measure: no acts of fraud are coded as 0, and acts of fraud in the 12 months of the crime calendar are coded as 1. The mean at the baseline is 4%, and the mean at the follow up is 4%.

Dealt drugs: Measures if respondents dealt drugs in the 12 months of the crime calendar. Baseline measures refer to the 12 months before incarceration, while follow-up measures refer to the 12 months after incarceration. This is a dichotomous measure: no acts of dealing drugs are coded as 0, and acts of dealing drugs in the 12 months of the crime calendar are coded as 1. The mean at the baseline is 44%, and the mean at the follow up is 23%.

Hurt or killed an individual: Measures if an individual hurt or killed someone during the 12 months of the crime calendar during the follow-up year. Dichotomous measure: individuals who did not hurt or kill someone in the 12 months of the crime calendar are coded as 0, and those who did hurt or kill some are coded as 1. The mean at the follow-up is 1%.

Owned a gun: Measures if respondents owned guns in the 12 months of the crime calendar during the follow-up year. This is a dichotomous measure: individuals who did not own a gun in the 12 months after incarceration are coded as 0, and those who owned guns in the 12 months of the crime calendar are coded as 1. The mean at the follow-up is 11%.

Carried a gun: Measures if respondents carried a gun in the 12 months of the crime calendar during the follow-up year. This is a dichotomous measure: individuals who did not carry a gun in the 12 months after incarceration are coded as 0, and those who carried guns in the 12 months of the crime calendar are coded as 1. The mean at the follow-up is 10%.

Arrested for disorderly conduct: Measures if respondents were picked up or arrested for disorderly conduct in the 12 months of the crime calendar during the follow-up year. This is a dichotomous measure: individuals who were not arrested in the 12 months after incarceration are coded as 0, and those who were arrested in the 12 months of the crime calendar are coded as 1. The mean at the follow-up is 6%.

Charged with DUI/DWI: Measures if respondents were asked to take a breathalyser test or were charged with DWI/DUI in the 12 months of the crime calendar during the follow-up year. This is a dichotomous measure: individuals who were not charged with the DUI/DWI in the 12 months after incarceration are coded as 0, and those who were charged in the 12 months of the crime calendar are coded as 1. The mean at the follow-up is 5%.

Number of months of the crime calendar in which individuals committed crimes against persons: Measures the number of months in the 12 months before/after incarceration that respondents committed crimes against persons. Crimes against persons include: robberies of businesses or homes, and assaults. The mean at the baseline is 0.24 months, and the mean at the follow up is 0.22 months.

Number of months of the crime calendar in which individuals committed crimes against property: Measures the number of months in the 12 months before/after incarceration that respondents committed crimes against property. Crimes against property include: burglaries,

thefts, vehicle thefts, frauds, and forgeries. The mean at the baseline is 1.33 months, and the mean at the follow up is 0.52 months.

Number of months of the crime calendar in which individuals dealt in drugs: Measures the number of months in the year before/after incarceration that respondents dealt in drugs. The mean at the baseline is 3.46 months, and the mean at the follow up is 1.24 months.

Percentage of street months spent on drug dealing activity: Measures the percentage of the street months (i.e., months in which the individual was in the community, and not incarcerated) in which respondents participated in drug dealing. The mean at the baseline (year before incarceration) is 32%, and the mean at the follow up is 15%.

Percentage of street months spent on committing crimes against persons: Measures the percentage of the street months (i.e., months in which the individual was in the community, and not incarcerated) in which respondents committed crimes against persons. The mean at the baseline is 2% and 3% at the follow-up.

Percentage of street months spent on committing crimes against property: Same as above, except measures commissions of crimes against property. The mean at the baseline is 13%, and the mean at follow up is 8%.

Number of arrests: Measures contact with any authorized agency acting in an arrest capacity. An arrest can be made by state officials or local officials. Individual does not have to be held over in jail. It could be arrest and release or arrest to transfer over from local agency to state agency. Given the various sources from which the data were culled, arrests, in a few cases, may not necessarily be related to offenses committed while free, but to acts related to arrest, court processing, custody, or supervision procedures. The mean number of arrests in the follow-up period is 2.4.

Number of technical violations: Measures the number of technical violations defined as unacceptable behavior that does NOT involve breaking the law, but is a violation of supervision conditions. Technical violations can be anything from failure to report to PO, to positive urinalysis, to absconding (failure to report for a length of time). The mean number of technical violations in the follow-up period is 1.6.

Time to first arrest: Measures the number of days from the day of entry into OPTS until the date the arrest was made (not date the event occurred). This measure is censored and not defined for all of the individuals in the sample (see the survival curve in the chapter on criminal behavior for the distributional characteristics of this measure).

Time to first technical violation: Measures the number of days from the day of entry into OPTS until the date report was written for technical violation.This measure is censored and not defined

for all of the individuals in the sample (see the survival curve in the chapter on criminal behavior for the distributional characteristics of this measure).

Employment

Full-time job/employment: Measures if respondents had a full-time job in the year before/after incarceration. The mean at the baseline was 48%, and the mean at the follow up was 78%.

Part-time job/employment: Measures if respondents had part-time job in the year before/after incarceration. The mean at the baseline was 22%, and the mean at the follow up was 32%.

Any job/employment: Measures if the respondent was working for pay at any time during the 12 months on the calendar at the follow-up. The mean at the follow-up is 87%.

Number of months with full-time jobs: Measures the number of months in the year before/after incarceration in which respondents had full-time jobs. The mean at the baseline was 3.6 months, and the mean at the follow up was 5.8 months.

Number of months with part-time jobs: Measures the number of months in the year before/after incarceration in which respondents had part-time jobs. The mean at the baseline was 1.2 months, and the mean at the follow up was 1.6 months.

Percentage of street months with full-time jobs: Measures the percentage of street months (i.e., months in which the individual was in the community, and not incarcerated) in the year before/after incarceration in which respondents had a full-time jobs. The mean at the baseline was 34%, and the mean at the follow up was 56%.

Percentage of street months with part-time jobs: Measures the percentage of street months (i.e., months in which the individual was in the community, and not incarcerated) in the year before/after incarceration in which respondents had part-time jobs. The mean at the baseline was 11%, and the mean at the follow up was 15%.

Currently working at a job for pay: Measures if respondents were currently working at a job for pay.This measure is defined for the follow-up period. The mean at the follow up is 38%.

Average weekly salary in current job: Measures the weekly take-home pay earned by respondents in their current job. The mean at the follow up is $126.

Family, Social, and Health

***Financially supported children*:** Measures whether respondents financially supported their dependent children (i.e., those under the age of 18). If a respondent fully supported all children, this was coded as 1; if s/he partially supported all children, or fully supported some, while partially supporting others, this was coded as 2; if one or more of the children were not supported at all, this was coded as 3. The mean response at baseline is 2.07; N is 148. At follow up, the mean response is 1.99; N is 183.

***Failed to support family on a regular basis*:** Measures whether respondents reported they had not failed to support their family ever (at baseline) or during the past year (at follow up). Dichotomous measure: yes is coded as 2, no is coded as one. The mean response at baseline was 1.47, N is 247. The mean response at follow up is 1.20, N is 246.

Unfaithful to spouse: Measures whether respondents had ever been unfaithful to a marriage or domestic partner (i.e., s/he had had a sexual affair during a steady relationship) at baseline; at follow-up, meausres if there was unfaithfulness during the one-year follow-up period. Dichotomous measure: yes is coded as 2, no is coded as 1. The mean response at baseline is 1.65, N is 266; the mean response at follow up is 1.30, N is 247.

Re-establishing contact with adult family members: Measures whether any of the services or programs respondents received during the follow-up period helped them to re-establish contact with adult family members. Dichotomous measure: improved a lot or improved a little are coded as 1; no change or worse than before are coded as 0. The mean response is 0.30; N is 98.

Re-establishing contact with one's children: Measures whether any of the services or programs respondents received during the follow-up period helped them to re-establish contact with their children. Dichotomous measure: improved a lot or improved a little are coded as 1; no change or worse than before are coded as 0. The mean response is 0.19; N is 74.

Really enjoy being together with family: Measures how often when family members get together, they ereally enjoy being together. Never is coded as 1, sometimes is coded as 2, and almost always is coded as 3. The mean at baseline is 2.68, and the mean at follow up is 2.75.

Physical fighting with spouse/partner: Measures whether respondents had often been involved in physical fights or assaults with their spouse or partner prior to OPTS (at baseline); and during the follow-up year.Dichotomous measure: yes is coded as 2, no is coded as 1. The mean response at baseline is 1.32, N is 264; the mean response at follow up is 1.14; N is 257.

Getting along with spouse/partner: Measures if respondents reported there was improvement in getting along with their spouse or domestic partner during the follow-up year because of help received through their case mnager, parole officer, or any services referred to through OPTS or

under routine supervision. Dichotomous measure: improved a lot or improved a little are coded as 1; no change or worse than before are coded as 0. The mean response is 0.31; N is 95.

Getting along better with family members: Measures if respondents reported there was improvement in getting along with family members during the follow-up year because of help received through their case mnager, parole officer, or any services referred to through OPTS or under routine supervision. Dichotomous measure: improved a lot or improved a little are coded as 1; no change or worse than before are coded as 0. The average response is 0.26; N is 95.

***Getting along better with children*:** Measures if respondents reported there was improvement in getting along with their children during the follow-up year because of help received through their case mnager, parole officer, or any services referred to through OPTS or under routine supervision. Dichotomous measure: improved a lot or improved a little are coded as 1; no change or worse than before are coded as 0. The mean is 0.25; N is 68.

***Controlling anger better or expressing it non-violently*:** Measures if respondents reported there was improvement in controlling their anger or expressing it in physically non-violent ways during the follow-up year because of help received through their case mnager, parole officer, or any services referred to through OPTS or under routine supervision. Dichotomous measure: improved a lot or improved a little are coded as 1; no change or worse than before are coded as 0. The mean is 0.43; N is 122.

Family skills index: Measures whether, during the 12-month follow-up period, respondents participated in any training, workshops, or counseling that taught family skills, which include: legal rights and responsibilities as parents, child development, infant and child nutrition, appropriate ways to discipline children, how to reach agreement with the other parent on child-rearing tactics, how to increase positive, loving contactr with children, and mutually supportive relationships within the family. The 8-item scale had a treatment mean of .165 (Chronbach's alpha = .97) and a control mean of .10 (Chronbach's alpha = .95).

***Time spent drinking beer or alcohol with family*:** Measures how often respondents drank beer or alcohol with family members when they spent time together. "Never" is coded as 1; "Sometimes" is coded as 2; and "Almost always" is coded as 3. At baseline, the mean of the treatment group was 1.53 and the mean of the control group was 1.59. At follow up, the mean of the treatment group was 1.26 and the mean of the control group was 1.39.

***Time spent using drugs with family*:** Measures how often respondents used drugs to get high with family members when they spent time together. "Never" is coded as 1; "Sometimes" is coded as 2; and "Almost always" is coded as 3. The mean of the treatment group was 1.30 at baseline, and the mean of the control group was 1.35. The mean of the treatment group was 1.16 at follow up, and the mean of the control group was 1.17.

Friends who drink heavily: Measures how many of the respondents' close friends drink heavily. "None" is coded as 1; "Some or Half" is coded as 2; "Most, or All" are coded as 3. The mean of the treatment group at baseline was 1.92, and the mean of the control group was 1.97. The mean of the treatment group at follow up was 1.78, and the mean of the control group was 1.79.

Friends who used drugs: Measures how many of the respondents' close friends use drugs. "None" is coded as 1; "Some or Half" is coded as 2; "Most, or All" are coded as 3. This variable measures at baseline how many of the respondent's close friends use drugs. The mean of the treatment group at baseline was 2.14, and the mean of the control group was 2.19. The mean of the treatment group at follow up was 1.77, and the mean of the control group was 1.81.

Stopped associating with any close friends because they were heavy drinkers or alcohol users: Measures at follow-up whether respondents stopped associating with any close friends because they used drugs or alcohol. Dichotomous measure: yes is coded as 2, and no is coded as 1. The mean of the treatment group was 1.38 and the mean of the control group was 1.37.

Avoiding hanging out with friends and family who use drugs and alcohol: Measures at follow-up whether respondents' abilities to avoid hanging out with friends and family who use drugs and alcohol changed as a result of services received through their case manager, parole officer, or any services referred to through OPTS or under routine supervision. Dichotomous measure: improved a lot or improved a little are coded as 1; no change or worse than before are coded as 0. The mean of the treatment group is .41, and the mean of the control group is .29.

Avoiding hanging out with friends and family who commit crimes: Measures at follow-up whether respondents' abilities to avoid hanging out with friends and family who commit crimes changed as a result of services received. through their case manager, parole officer, or any services referred to through OPTS or under routine supervision. Dichotomous measure: improved a lot or improved a little are coded as 1; no change or worse than before are coded as 0.The mean of the treatment group was .36, and the mean of the control group was .88.

Health in past 6 months: Measures the health condition self-reported by respondents during the last six months of the baseline and follow-up periods. Dichotomous measure: excellent or good are coded as 1; fair, poor, and okay except for acute incident are coded as 0. The mean at baseline and at follow-up is 0.77.

Medical problems in past 30 days: Measures any kind of medical problem experienced during the last 30 days of the baseline and the follow-up periods. Dichotomous measure: coded as 0 if there was no medical problem, 1 otherwise. The baseline mean is 0.31, and the follow-up mean is 0.29.

Pneumonia: Measures, at baseline, whether respondents have ever (pre-OPTS lifetime) been told by a doctor or a nurse that they had pneumonia. At follow-up, respondents were asked if they

had been told so *during the last twelve months*. Dichotomous measure: yes is coded as 2, no is coded as 1. The mean at baseline is 1.12, the mean at follow-up is 1.02.

Hepatitis: Measures, at baseline, whether respondents have ever (pre-OPTS lifetime) been told by a doctor or a nurse that they had hepatitis. At follow-up, respondents were asked if they had been told so *during the last twelve months*. Dichotomous measure: yes is coded as 2, no is coded as 1. The baseline average is 1.05, the follow-up average is 1.01.

Tuberculosis: Measures, at baseline, whether respondents have ever (pre-OPTS lifetime) been told by a doctor or a nurse that they had tuberculosis. At follow-up, respondents were asked if they had been told so *during the last twelve months*. Dichotomous measure: yes is coded as 2, no is coded as 1. The average response at baseline is 1.08, the average at follow-up 1.01.

Inflammation of the heart: Measures, at baseline, whether respondents have ever (pre-OPTS lifetime) been told by a doctor or a nurse that they had inflammation of the heart. At follow-up, respondents were asked if they had been told so *during the last twelve months*. Dichotomous measure: yes is coded as 2, no is coded as 1. At baseline the mean is 1.01, at follow up the average is 1.01.

Genital herpes: Measures, at baseline, whether respondents have ever (pre-OPTS lifetime) been told by a doctor or a nurse that they had genital herpes. At follow-up, respondents were asked if they had been told so *during the last twelve months*. Dichotomous measure: yes is coded as 2, no is coded as 1. The mean score is 1.01 at baseline and 1.00 at follow-up.

Gonorrhea: Measures, at baseline, whether respondents have ever (pre-OPTS lifetime) been told by a doctor or a nurse that they had gonorrhea. At follow-up, respondents were asked if they had been told so *during the last twelve months*. Dichotomous measure: yes is coded as 2, no is coded as 1. The average at baseline is 1.19, at follow-up it is 1.01.

Syphilis: Measures, at baseline, whether respondents have ever (pre-OPTS lifetime) been told by a doctor or a nurse that they had syphilis. At follow-up, respondents were asked if they had been told so *during the last twelve months*. Dichotomous measure: yes is coded as 2, no is coded as 1. The baseline mean is 1.04, the follow-up mean is 1.00.

Chlamydia (non-gonococcal urethritis): Measures, at baseline, whether respondents have ever (pre-OPTS lifetime) been told by a doctor or a nurse that they had chlamydia. At follow-up, respondents were asked if they had been told so *during the last twelve months*. Dichotomous measure: yes is coded as 2, no is coded as 1. At baseline the mean is 1.06, at follow-up it is 1.00.

Pelvic inflammatory disease (PID; for women only): Measures, at baseline, whether respondents have ever (pre-OPTS lifetime) been told by a doctor or a nurse that they had PID. At follow-up, respondents were asked if they had been told so *during the last twelve months*.

Dichotomous measure: yes is coded as 2, no is coded as 1. The baseline average is 1.12, at follow-up the mean is 1.05. N is 49 at baseline and 38 at follow-up.

***Serious depression*:** Measures at baseline whether respondents have *ever* (pre-OPTS lifetime) experienced serious depression. At follow-up, respondents were asked if they had experienced this *during the last twelve months*. Dichotomous measure: yes is coded as 2, no is coded as 1. The mean response at baseline is 1.42, the mean at follow-up is 1.27.

***Serious anxiety or tension*:** Measures at baseline whether respondents have *ever* (pre-OPTS lifetime) experienced serious anxiety or tension. At follow-up, respondents were asked if they had experienced this *during the last twelve months*. Dichotomous measure: yes is coded as 2, no is coded as 1. The baseline average is 1.39, at follow-up it is 1.27.

***Seriously considered suicide*:** Measures at baseline whether respondents have *ever* (pre-OPTS lifetime) seriously considered suicide. At follow-up, respondents were asked if they had experienced this *during the last twelve months*. Dichotomous measure: yes is coded as 2, no is coded as 1. The average baseline response is 1.14, the average at follow-up is 1.07.

***Attempted suicide*:** Measures at baseline whether respondents have *ever* (pre-OPTS lifetime) actually attempted suicide. At follow-up, respondents were asked if they had experienced this *during the last twelve months*. Dichotomous measure: yes is coded as 2, no is coded as 1. The mean at baseline is 1.08, the mean at follow-up is 1.03.

***Trouble understanding, concentrating, or remembering not caused by drug use*:** Measures at baseline whether respondents have *ever* (pre-OPTS lifetime) experienced trouble understanding, concentrating, or remembering not caused by drug use. At follow-up, respondents were asked if they had experienced this *during the last twelve months*. Dichotomous measure: yes is coded as 2, no is coded as 1. At baseline the mean is 1.21, at follow-up it is 1.17.

***Hallucinations not caused by drug use*:** Measures at baseline whether respondents have *ever* (pre-OPTS lifetime) experienced hallucinations that were not the result of ingesting illegal substances. At follow-up, respondents were asked if they had experienced this *during the last twelve months*. Dichotomous measure: yes is coded as 2, no is coded as 1. The baseline mean is 1.03, the follow-up mean is 1.04.

***Trouble controlling violent behavior not caused by drug use*:** Measures at baseline whether respondents have *ever* (pre-OPTS lifetime) experienced trouble controlling violent behavior when they were not under the influence of illegal substances. At follow-up, respondents were asked if they had experienced this *during the last twelve months*. Dichotomous measure: yes is coded as 2, no is coded as 1. The average response at baseline is 1.19, at follow-up it is 1.13.

***Mental health scale*:** Aggregated measure of the seven mental health indicators: serious depression; serious anxiety or tension; attempted suicide; trouble understanding, concentrating,

or remembering not caused by drug use; hallucinations not caused by drug use; and trouble controlling violent behavior not caused by drug use. Coded 0 if *all* seven answers were no, 1 otherwise. Cronbach's alpha is 0.61 at baseline and 0.70 at follow-up. The mean response at baseline is 0.64, the mean at follow-up is 0.46.

***Living in own home or apartment*:** Measures whether respondents were living in their own home or apartment. Dichotomous measure: yes is coded as 2; all other responses are coded as 1. The mean at baseline is 0.43; N is 282. The mean at follow-up is 0.19; N is 283.

***Been homeless for a month*:** Measures, at baseline, whether respondents were ever homeless or without a fixed address for a month or longer. At follow up, measures whether this happened during the 12 months of the first year of supervision. Dichotomous measure: yes is coded as 2, no is coded as 1. The mean at baseline is 1.32; N is 265. The mean at follow-up is 1.18; N is 256.

***Physical fighting with persons other than one's spouse or domestic partner*:** Measures, at baseline, whether respondents had ever been involved in more than one fight that came to blows, other than fights with spouse or partner. At follow up, measures same behavior for the 12-month follow up year. Dichotomous measure: yes is coded as 2, no is coded as 1. The mean response at baseline is 1.47; N is 272. At follow up, the mean is 1.23; N is 252.

***Finding a place to live*:** Measures whether services or programs individuals were referred to by their case managers, parole officers, or any providers referred to through OPTS or under routine supervision helped them to find a place to live. Dichotomous measure: improved a lot or improved a little are coded as 1; no change or worse than before are coded as 0. The mean of the treatment group is 0.52, and the mean of the control group is 0.13.

***Having enough money for a rent deposit during 12 months on calendar*:** Measures whether services or programs individuals were referred to by their case managers, parole officers, or any providers referred to through OPTS or under routine supervision helped them have enough money for a rent deposit. Dichotomous measure: improved a lot or improved a little are coded as 1; no change or worse than before are coded as 0. The mean of the treatment group is 0.42, and the mean of the control group is 0.32.

***Paying rent*:** Measures whether services or programs individuals were referred to by their case managers, parole officers, or any providers referred to through OPTS or under routine supervision helped them have enough money tp pay rent. Dichotomous measure: improved a lot or improved a little are coded as 1; no change or worse than before are coded as 0. The mean of the treatment group is 0.31, and the mean of the control group is 0.06.

***Paying utilities*:** Measures whether services or programs respondents were referred to by their case managers, parole officers, or any providers referred to through OPTS or under routine supervision helped them have enough money for a rent deposit. Dichotomous measure: improved

a lot or improved a little are coded as 1; no change or worse than before are coded as 0. The mean of the treatment group is 0.31, and the mean of the control group is 0.06.

Getting food for self and family: Measures whether services or programs respondents were referred to by their case managers, parole officers, or any providers referred to through OPTS or under routine supervision helped them get food for themselves or their families. Dichotomous measure: improved a lot or improved a little are coded as 1; no change or worse than before are coded as 0. The mean of the treatment group was 0.43, and the mean of the control group was 0.09.

Having clothes for different weather conditions: Measures whether services or programs respondents were referred to by their case managers, parole officers, or any providers referred to through OPTS or under routine supervision helped them get clothes for different weather conditions. Dichotomous measure: improved a lot or improved a little are coded as 1; no change or worse than before are coded as 0. The mean of the treatment group was 0.50, and the mean of the control group was 0.14.

Having suitable work clothes: Measures whether services or programs respondents were referred to by their case managers, parole officers, or any providers referred to through OPTS or under routine supervision helped them get suitable work attire. Dichotomous measure: improved a lot or improved a little are coded as 1; no change or worse than before are coded as 0. The mean of the treatment group was 0.55, and the mean of the control group was 0.03.

Having clothes for family members: Measures whether services or programs respondents were referred to by their case managers, parole officers, or any providers referred to through OPTS or under routine supervision helped them have clothes for family members. Dichotomous measure: improved a lot or improved a little are coded as 1; no change or worse than before are coded as 0. The mean of the treatment group was 0.43, and the mean of the control group was 0.04.

Finding recreational and leisure activities: Measures whether services or programs respondents were referred to by their case managers, parole officers, or any providers referred to through OPTS or under routine supervision helped them find suitable recreational and leisure activities. Dichotomous measure: improved a lot or improved a little are coded as 1; no change or worse than before are coded as 0. The mean of the treatment group is 0.42, and the mean of the control group is 0.15.

Structural Equation Modeling

Level of interaction with case managers/probation officers: Frequency of meetings were coded as: Everyday or almost every day (30), Every week or almost every week (4), Two or three times a months (3), Once a month (1), Very iregularly (0.5) and never (0). The following were the coding for the frequency of case manager home visits in the 12 months of the calendar: Every

week or almosy every week (4), two or three times a month (3), once a month (1), every few months (0.5), very iregularly (0.5), never visited home (0).

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APPENDICES

APPENDIX A

APPENDIX A

The Missouri ITCs evolved as the state's response to a substantial increase in the need for alcohol and drug treatment for offenders, combined with increases in the institutional population. The state experimented with use of a private residential program in Kansas City to provide treatment specifically targeted to parole violators in 1987, and found it was cost effective and did not represent a threat to the public. Consequently, the Department began establishing its own treatment centers on the grounds of secure correctional facilities in January, 1991. ITCs serve: 1) probationers sentenced under a special statute that allows the court to retain jurisdiction through the 120-day treatment program (which can be for a new arrest or technical violation); 2) parolees receiving treatment per order of the Parole Board; and 3) newly-convicted offenders identified for treatment (Missouri Department of Corrections, undated-b).

The Missouri treatment programs provide a highly structured and confrontive approach, emphasizing a 12-step program, group therapy, drug education, relapse prevention, life skills straining, and aftercare planning. Offenders also are provided the opportunity to enroll in GED courses while in treatment.

Inmates were expected to successfully complete the treatment regimen in order to be eligible for the OPTS research. A number of OPTS participants actually did not receive the full 12 weeks of treatment, because they entered the program one week or more into the treatment cycle. However, if they were considered "successful" in the ITC, regardless of the number of weeks spent in the program, they were permitted to enter the OPTS demonstration program.

Missouri ITC Programs

The Missouri ITC programs use a holistic approach to recovery that includes the following components:

- Therapeutic Component. Each offender is assigned to a caseworker, probation officer, or substance abuse counselor who provides therapeutic and casework services. Each offender attends group therapy three days per week for one hour each day. A limited amount of individual counseling is available for crisis intervention. Therapeutic progress is measured and evaluated at 40-day staffing and 75-day case evaluations.

- 12-Step Component. The program is centered around the concepts and lifestyle of Alcoholics Anonymous (AA) and Narcotics Anonymous (NA). Offenders attend daily 12-step meetings, and also attend Big Book studies six days per week. While in the program, each offender is responsible for conducting a thorough review of the *Big Book*, *Living Sober*, and *12 Steps and 12 Traditions*. Offenders are encouraged to develop their spirituality as it relates to recovery. Lectures on spirituality are offered, as are opportunities to study scripture and attend worship services.

- Relapse Management Component. A significant portion of the program is devoted to relapse identification and management. Offenders work through an in-depth relapse management workbook intended to help them identify relapse warning signs and high-risk situations, to develop strategies to avoid relapse, and to provide a recovery check-up procedure. They also participate in a relapse management training program, attending two sessions weekly to learn about and address relapse issues. Further reinforcement of these concepts is provided in the education module during the relapse dynamics week.

- Physical Training Component. As part of the holistic recovery approach, offenders participate in a physical training program provided Monday through Friday. Offenders also may participate in recreation activities, including team sports.

- Family Education Component. When an offender is eligible for visits, visiting family members are required to attend a family education session at each visit. This component covers family issues that surround substance abuse (e.g., family roles, codependency), providing an opportunity to address questions raised by family members.

- Education Component. This component includes daily lectures, films, and written materials on selected topics during a 12-week period. Each week has a particular focus, including: medical aspects of substance abuse, alcoholism, AIDS, and STDs; relapse dynamics; anger management; feelings (including self-esteem, guilt, depression); drugs of choice; job-related skills; problem-solving and decision-making skills; interpersonal relationships; the family and chemical dependency; the addictive personality; and life skills (such as managing financial and budgeting matters, and health and nutrition) (Missouri Department of Corrections, undated-b; undated-c).

In Tampa, OPTS participants were drawn from the Hillsborough County Jail substance abuse program, and three other programs located in residential facilities. The Hillsborough County Jail program started in 1988, when the jail was built. Inmates participating in the program are housed together in a unit, called a "pod." Separate programs are provided to male and female inmates. The six-week curriculum emphasizes relapse prevention, using rational-emotive therapy

and combining elements of lifestyle change, cognitive interventions, and behavioral skills training designed to maintain reduced substance abuse after release. Inmates attend classes five days per week for two hours daily for 27 sessions, and must attend a minimum of five AA/NA meetings during that time. They also receive AIDS classroom training. Inmates who do not have a high school diploma or GED also must attend scheduled GED sessions. Inmates remaining in jail for more than six weeks are enrolled in an advanced skills group, and continue in the program until their release (Hillsborough County Sheriff's Office, undated).

Hillsborough County Jail Substance Abuse Program

As part of the relapse prevention approach, participants are asked to identify risky situations that commonly trigger their own substance abuse. Inmates are taught to assess how these situations prompt rationalizations that support the use of the substance in that particular situation, and how to replace this with more adaptive thought patterns.

Participants are taught coping skills -- such as drug refusal skills, stress management, and ways to handle emotional states, including depression, frustration, anger, or disappointment -- to help them deal with high-risk situations. They also are taught how to cope with a slip, or single incident of breaking abstinence, to enable them to get "back on track" with a minimum of guilt and self-blame, since such negative emotions may contribute to a full-blown relapse. In addition, the program teaches inmates about building a drug-free social network, developing a balanced lifestyle, developing alternative sources of enjoyment, and building a long-term plan for recovery (Hillsborough County Sheriff's Office, undated).

Tampa's three residential programs included DACCO's Residential I and II facilities, and the Crossroads facility that serves only female offenders:

- **Residential I** is a four- to six-month, 60-bed modified therapeutic community that serves both men and women. Approximately 20 beds are reserved for women. The program also uses Alcoholics Anonymous/Narcotics Anonymous techniques that employ recognition/acceptance of drug use as a disease, learning to deal with obsessive/compulsive thinking patterns, and dependence upon other recovering addicts for support and guidance. Residents have a comprehensive therapeutic mileau that includes a curriculum of lectures, intensive individual and group therapy, and adult education classes. The program operates in four phases: the first is restrictive, with no phone calls, mail, or passes to leave the facility, progressing to the fourth phase where the resident is eligible for up to 48-hour passes. After successful completion of the four phases, residents may begin their job search.

- **Residential II** follows the same therapeutic approach as Residential I, but houses only male probationers who have been court ordered to treatment (violent or sex offenders are excluded). The facility has 65 beds, but recently it occasionally has provided drug treatment services to as many as 70 clients. Clients are evaluated in court, before they arrive at the facility. Residential II treatment typically spans six

months, although extended treatment is possible. Like Residential I, clients follow a comprehensively structured routine, receive health care, vocational training, and individual and group counseling; additionally, family and couples counseling are provided. Residential II also includes a mandatory employment component: residents are required to work following the third month of treatment. When the residential program is completed, offenders attend mandatory weekly aftercare group sessions provided by DACCO. Clients became part of the OPTS research after they completed the residential portion of their treatment; thus, they could participate in OPTS, while receiving aftercare from DACCO.

- The **Crossroads**' women's residential program consists of two components: a primary residential program and a transitional housing program. Drug treatment and drug education are part of the primary residential program, which uses a therapeutic community model to serve approximately 50 women annually in the 16-bed facility. The program provides female offenders the opportunity to learn the life skills necessary for a successful transition back into the community, while living in a family-style atmosphere for an average stay of approximately six months. In addition to substance abuse prevention, relapse prevention counseling, and education, Crossroads offers counseling in the areas of self-esteem, education, budgeting, employability, parenting, and family reunification.

  Upon program completion, residents may be court ordered, or may choose, to enter the facility's aftercare program, which provides a support system for offenders as they transition back into the community. Aftercare participants are required to meet with their case manager weekly, attend support groups, and remain drug and alcohol free. OPTS participants drawn from Crossroads did not enter OPTS until they completed the Crossroads aftercare program.

APPENDIX B

Tests of Randomization (Baseline Measures)

	Treatment (175)	Control (168)	Statistically Significant I
African American	74% (175)	71% (168)	No
Completed High School	41% (175)	41% (168)	No
Presently Married	24% (173)	14% (165)	Yes
Have Children	71% (279)	77% (60)	No
Friend in Jail at the same time as respondent	13% (173)	15% (168)	No
Friends Drink Heavily	51% (175)	52% (168)	No
Friends use drugs	57% (175)	61% (168)	No
Family incarcerated at the same time as respondent	7% (175)	9% (168)	No
Family drink heavily	32% (175)	33% (168)	No
Family use drugs	34% (175)	30% (168)	No
Used Alcohol in the three months before incarceration	78% (175)	83% (168)	No
Used Marijuana in the three months before incarceration	46% (175)	55% (166)	Yes
Used hard drugs in the three months before incarceration	55% (174)	57% (166)	No
Had a full time job in the 12 months before incarceration	48% (172)	48% (168)	No
Had a part time job in the 12 months before incarceration	22% (172)	21% (166)	No
Male	83% (175)	88% (168)	No

Sold drugs in the year before incarceration	46% (175)	42% (166)	No
Committed property crime in the year before incarceration	28% (174)	30% (167)	Yes
Committed person crimes in the year before incarceration	18% (175)	14% (167)	No
Site: Kansas City	29% (175)	23% (168)	Yes* at the 0.10 level
Site: St. Louis	46% (175)	47% (168)	No
Site: Tampa	25% (175)	30% (168)	No

APPENDIX C

Attrition Analysis

In this appendix, the factors associated with attrition from the study between the baseline and the follow-up are examined. There were 343 individuals in the baseline; 283 individuals completed the study (60 individuals dropped out of the study). Were there a systematic set of factors associated with the individuals who dropped out of the study?

Table 1 describes the proportion of individuals who completed the study by key baseline covariates. Statistically significant differences in the proportion of individuals who completed the study were found for the following baseline measures: Friends drug use, Hard drug use three months before incarceration, property crime in the year before incarceration, and site (Kansas City).

Table 2 describes the differences in key baseline measures between individuals who did and did not complete study.

Table 3 describes the multivariate logistic regression model used to estimate the propensity to complete the study. The predicted probabilities obtained from this model is used to correct for attrition.

Table 1: Proportion of Individuals Completing Study by Baseline Measures

	Percentage of the Sample in the Baseline who completed the Study (Sample Sizes are in parentheses)	One-tailed Statistical Significance at the 0.05 level
Membership in OPTS Group Membership in Control Group	84% (175) 81% (168)	No
African American Other	83% (249) 82% (94)	No
Completed High School Did not complete high school	85% (141) 81% (202)	No
Presently Married Not Presently Married	82% (65) 82% (273)	No
Have Children No Children	81% (245) 85% (94)	No
Friend in Jail at the same time as respondent Friend not in Jail	83% (48) 82% (293)	No
Friends Drink Heavily Friends don't drink heavily	83% (172) 82% (167)	No
Friends use drugs Friends don't use drugs	86% (199) 77% (140)	Yes
Family incarcerated at the same time as respondent Family not incarcerated at the same time as respondent	79% (28) 83% (315)	No
Family drink heavily Family do not drink heavily	81% (112) 83% (231)	No
Family use drugs Family do not use drugs	85% (109) 81% (234)	No

Used Alcohol in the three months before incarceration Did not use alcohol in the three months before incarceration	82% (277) 86% (66)	No
Used Marijuana in the three months before incarceration Did not use marijuana in the three months before incarceration	81% (172) 84% (169)	No
Used hard drugs in the three months before incarceration Did not use hard drugs in the three months before incarceration	86% (238) 74% (103)	Yes
Had a full time job in the 12 months before incarceration No full time job in the 12 months before incarceration	82% (163) 82% (177)	No
Had a part time job in the 12 months before incarceration No part time job in the 12 months before incarceration	81% (73) 83% (265)	No
Male Female	84% (291) 77% (52)	No
Sold drugs in the year before incarceration Did not sell drugs in the year before incarceration	85% (149) 80% (192)	No
Committed property crime in the year before incarceration Did not commit property crime in the year before incarceration	90% (99) 79% (242)	Yes
Committed person crimes in the year before incarceration Did not commit person crimes in the year before incarceration	84% (55) 82% (287)	No
Site: Kansas City Other Site	90% (87) 80% (256)	Yes
Site: St. Louis Other Site	80% (160) 85% (183)	No

Site: Tampa Other Site	80% (96) 83% (247)	No

Table 2: Differences in key Baseline Measures between Individuals who did and did not complete study

	Completed Study (283)	Did not complete study (60)	Statistically Significant Differences at the 0.05 level
Membership in OPTS	52% (283)	47% (60)	No
African American	73% (283)	72% (60)	No
Completed High School	42% (283)	35% (60)	No
Presently Married	19% (278)	20% (60)	No
Have Children	71% (279)	77% (60)	No
Friend in Jail at the same time as respondent	14% (283)	13% (60)	No
Friends Drink Heavily	52% (283)	50% (60)	No
Friends use drugs	62% (283)	47% (60)	Yes
Family incarcerated at the same time as respondent	8% (283)	10% (60)	No
Family drink heavily	32% (283)	35% (60)	No
Family use drugs	33% (283)	27% (60)	No
Used Alcohol in the three months before incarceration	80% (283)	85% (60)	No

Used Marijuana in the three months before incarceration	49% (281)	55% (60)	No
Used hard drugs in the three months before incarceration	73% (281)	55% (60)	Yes
Had a full time job in the 12 months before incarceration	48% (280)	48% (60)	No
Had a part time job in the 12 months before incarceration	21% (279)	24% (59)	No
Male	86% (283)	82% (60)	No
Sold drugs in the year before incarceration	45% (281)	37% (60)	No
Committed property crime in the year before incarceration	32% (281)	17% (60)	Yes
Committed person crimes in the year before incarceration	16% (282)	15% (60)	No
Site: Kansas City	28% (283)	18% (60)	Yes* at the 0.10 level
Site: St. Louis	45% (283)	52% (60)	No
Site: Tampa	27% (283)	30% (60)	No

Table 3:Multivariate Logistic Model Predicting the Probability of Completing the Study
(n =343)

	B (Standard Errors are in parentheses)	Odds
Friends Use Drugs	0.46 (0.30)	1.59
Hard drug use three months before incarceration	0.81 (0.31)**	2.25
Male	0.64 (0.40)	1.90
Committed Property Crimes in the year before incarceration	0.76 (0.39)**	2.15
Site: Kansas City	0.75(0.40)*	2.11
Constant	-0.12 (0.46)	

** $p < 0.05$
* $p < 0.10$

APPENDIX D

BASELINE-TREATMENT ONLY N=175

Life Use of the 18 DSI Substances-OPTS Clients

DRUG	EVER USED Percent	EVER USED N	AGE:FIRST USE (Range)	REGULAR USE Percent	REGULAR USE N	AGE: REGULAR USE (Range)	MEAN YEARS OF REGULAR USE
1. ALCOHOL	96.6	169	15.0 (1-36)	72.5	127	19.2 (10-56)	11.9
2. MARIJUANA	86.3	151	15.3 (2-35)	65.1	114	17.7 (2-35)	11.5
3. INHALANTS (glue, solvents, paint , fuel, spray cans)	5.1	9	14.9 (11-22)	3.8	6	16.6 (13-22)	1.0
4. HALLUCINOGENS (LSD, PCP, Ecstasy)	35.4	62	18.9 (12-30)	20.1	31	19.0 (13-27)	5.0
5. PILLS (downers, sedatives, tranquilizers)	24.0	42	19.1 (7-39)	17.5	27	19.5 (7-39)	7.3
6. PILLS (uppers, speed, crank)	21.7	38	18.7 (9-36)	12.9	20	19.7 (10-36)	5.9
7. AMPHETAMINES (ice, crystals)	8.0	14	20.2 (8-30)	5.1	8	23.5 (10-35)	6.6
8. OPIATES (heroin, T's and blues, dilauded)	17.7	31	22.1 (13-40)	14.2	22	24.6 (15-49)	7.5
9. COCAINE (non-intravenous, powder)	56.0	98	22.7 (10-45)	40.9	63	24.6 (15-42)	6.7
10. CRACK (freebase)	64.6	113	26.2 (12-51)	61.6	95	27.4 (17-50)	6.5
11. SPEEDBALL (non-intravenous)	6.3	11	27.4 (13-39)	3.9	6	25.6 (15-35)	8.0
12. BASUCO (Coca paste)	1.1	2	29.0 (22-36)	1.2	2	30.5 (25-36)	15.5
13. IV HEROIN	13.1	23	24.2 (12-44)	10.3	16	22.5 (15-44)	15.0
14. IV COCAINE	15.4	27	25.4 (12-37)	11.6	18	25.0 (14-35)	8.9
15. IV COCAINE/HEROIN (speedball-intravenous)	12.0	21	27.2 (14-50)	8.4	13	28.7 (15-50)	8.1
16. IV SPEED (ice, meth, crack)	4.0	7	20.6 (14-35)	2.5	4	24.0 (15-35)	8.8
17. IV OTHER NARCOTICS	1.7	3	18.0 (15-20)	1.3	2	18.0 (16-20)	10.0
18. ILLEGAL METHADONE	4.0	7	31.6 (13-48)	0.6	1	15 (15)	22.0

BASELINE-CONTROLS ONLY N=168

Life Use of the 18 DSI Substances-Control Group

DRUG	EVER USED Percent	EVER USED N	AGE:FIRST USE (Range)	REGULAR USE Percent	REGULAR USE N	AGE: REGULAR USE (Range)	MEAN YEARS OF REGULAR USE
1. ALCOHOL	97.6	164	14.5 (1-30)	78.5	132	18.3 (10-37)	13.2
2. MARIJUANA	89.9	151	15.3 (3-29)	76.2	128	17.0 (8-29)	11.6
3. INHALANTS (glue, solvents, paint , fuel, spray cans)	7.7	13	16.3 (11-25)	1.2	2	14.5 (11-18)	7.5
4. HALLUCINOGENS (LSD, PCP, Ecstasy)	41.1	69	19.0 (12-40)	25.3	35	19.4 (15-32)	4.9
5. PILLS (downers, sedatives, tranquilizers)	22.0	37	18.7 (11-36)	15.9	22	19.2 (11-36)	8.5
6. PILLS (uppers, speed, crank)	20.8	35	19.2 (11-41)	14.4	20	19.7 (11-30)	7.1
7. AMPHETAMINES (ice, crystals)	7.1	12	20.1 (14-35)	4.3	6	20.5 (16-27)	5.0
8. OPIATES (heroin, T's and blues, dilauded)	23.2	39	20.3 (13-40)	19.0	32	21.5 (13-46)	7.7
9. COCAINE (non-intravenous, powder)	54.8	92	22.8 (11-36)	41.3	57	23.6 (11-36)	6.4
10. CRACK (freebase)	66.1	111	26.6 (11-43)	55.3	93	27.3 (11-43)	5.9
11. SPEEDBALL (non-intravenous)	9.5	16	24.8 (13-34)	5.8	8	24.7 (13-35)	7.0
12. BASUCO (Coca paste)	1.2	2	22.5 (19-26)	----	---	-----	----
13. IV HEROIN	11.3	19	22.7 (12-40)	10.1	14	21.5 (12-41)	12.2
14. IV COCAINE	10.7	18	24.2 (12-36)	9.4	13	23.1 (16-35)	9.2
15. IV COCAINE/HEROIN (speedball-intravenous)	10.8	15	23.6 (13-40)	7.2	10	23.4 (13-41)	13.0
16. IV SPEED (ice, meth, crack)	3.6	6	22.5 (16-35)	3.6	5	23.4 (16-35)	7.4
17. IV OTHER NARCOTICS	4.2	7	19.0 (16-22)	3.6	5	18.0 (16-21)	11.4
18. ILLEGAL METHADONE	1.8	3	25.6 (20-32)	0.7	1	20 (20)	21.0

APPENDIX E

How much of a problem was this at any time during 12 months of post-release supervision?

Percentage Reporting Some Problem

	Treatment	Control	Total
Finding a place to live	28.5	25.0	26.8
Having enough money for rent deposit	32.5	28.7	30.7
Keeping existing housing	15.2	16.8	16.0
Paying rent	21.9	25.6	23.6
Paying utilities	21.2	27.0	24.0
Keeping house clean	11.9	8.8	10.4
Getting food for self and family	13.9	11.0	12.5
Having a way to cook meals	6.0	6.6	6.3
Shopping for groceries	13.9	13.9	13.9
Using public transportation*	27.3	17.5	22.7
Getting a driver's license	31.1	40.2	35.4
Needing a car for work or emergencies	39.1	32.9	36.1
Having to make costly car repairs	16.6	17.5	17.0
Having clothes for different weather conditions	19.9	16.8	18.4
Having suitable work/job interview clothes	20.5	18.3	19.4
Needing clothes for family members	13.3	10.2	11.8
Finding recreational and leisure activities	14.6	16.8	15.6
Re-establishing contact with adult family members	21.9	22.6	22.2
Re-establishing contact with children	20.5	27.0	23.6

Getting along with spouse or domestic partner	34.0	29.9	32.1
Getting along with family members***	20.0	28.5	24.0
Getting along with children	4.6	8.1	6.3
Getting along with friends	12.8	19.1	15.7
Avoiding hanging out with family or friends who use alcohol or drugs	41.3	41.6	41.5
Avoiding hanging out with family or friends who commit crime	12.7	18..4	15.4
Controlling anger or expressing anger in non-physical or non-violent ways	38.4	37.2	37.9
Working on a GED	20:1	16.1	18.2
Completing a school degree	20.3	19.7	20.0
Getting technical training	14.9	14.7	14.8
Identifying job openings	18.8	16.1	17.5
Filling out job applications	11.6	11.7	11.6
Knowing how to have a successful job interview	13.6	12.4	13.0
Consistently arriving on time for work***	14.2	21.9	17.9
Getting along with your supervisor	12.2	7.3	9.8
Getting along with co-workers	6.8	6.6	6.7
Understanding the workplace rules and following them	3.4	7.3	5.3
Scheduling and keeping treatment and probation appointments that did not conflict with work hours ***	32.4	42.3	37.2
Improving job performance	6.1	8.0	7.0
Receiving positive reviews, rewards, responsibilities for doing a good job	10.1	5.8	8.1
Getting medical care	19.5	16.8	18.2

Getting dental care	24.2	21.9	23.1
Getting mental health care	8.0	10.2	9.1
Getting eyecare or glasses	13.3	8.8	11.2
Paying for prescription medication	10.7	14.6	12.5
Maintaining sobriety	52.4	59.6	55.8
Attending scheduled drug treatment programs	27.3	24.8	26.1
Getting adequate nutrition, sleep, exercise	24.2	26.3	25.2
Resolving health problems	14.7	12.4	13.6
Remaining drug free while living in your neighborhood	45.3	47.5	46.3

* significant at 0.05
*** significant at 0.10

APPENDIX F

Graduated Sanctions

The community organization and the parole or probation department must work together to develop a system of graduated sanctions for program violations. For example, since relapse is strongly associated with addiction, we can anticipate that participants in treatment may have episodes of relapse. Similarly, participants may miss scheduled appointments or fail to participate in certain activities.

We do not anticipate that such violations should automatically result in program termination or re-incarceration. The program should devise a series of graduated, intermediate sanctions for program violations that allow the case manager and parole or probation officer programmatic flexibility, while still maintaining close control over the participant's behavior.

During the development stage of the demonstration, sites were asked to develop guidelines for defining and imposing sanctions. These guidelines were discussed and approved by all participating agencies as part of a cross-site conference held in St. Louis in February 1993 and are presented below:

Offender Demonstrated Lack of Responsibility By:	1st	2nd	3rd	4th
Failure to Attend Appointment (i.e., Employment, Case Manager Substance Abuse Tx, Counseling)	Informal	Level 1	Level 2	Level 3
Inability to Gain Employment	Informal	Level 1	Level 2	Level 3
Failure to Obtain/Maintain	Informal	Level 1	Level 2	Level 3
Positive Urinalysis	Level 2	Level 2	Level 3	Level 3
Arrest for New Charges				
City Ordinance	Level 2/3	Level 2/3	Level 2/3	Level 2/3
Misdemeanor	Level 2/3	Level 2/3	Level 2/3	Level 2/3
Felony	Level 2/3	Level 2/3	Level 2/3	Level 2/3
Conviction for New Charges				
City Ordinance	Level 1/2	Level 1/2	Level 2/3	Level 2/3
Misdemeanor	Level 1/2	Level 2/3	Level 2/3	Level 4
Felony	Level 4			

Severity	Possible Responses
Informal Sanction:	Telephone contact with Probation/Parole Officer, Case Manager, service provider.
Level 1:	Formal in-person conference with Probation/Parole Officer, Case Manager, service provider. Written plan to improve attendance, participation, attitude. View and report on video tape dealing with anger/resentment.
Level 2:	Case conference by service team with offender. Violation report to Court or Parole Board. Increased outpatient substance abuse treatment. Increased number of substance abuse support meetings. Increased urinalysis. Increased contact with Probation/Parole Officer. Participation in self-esteem group. Increased required employment contacts. Increased contacts with service provider. Community service hours.
Level 3:	Violation report to Court or Parole Board. Increased substance abuse treatment (i.e., out-patient to day treatment to in-patient). Conference with service team. Increased contact with Probation/Parole Officer. Referral to aggressive offender program. Referral to individual counseling. Increased community service hours.
Level 4:	Termination from program. Revocation of supervision.

In addition, some sites also developed a code of incentives or positive reinforcements. Examples of incentives included sporting event tickets for obtaining employment; free movie tickets for keeping all scheduled appointments within a month; etc.

APPENDIX G

Interaction Effects of OPTS:

The interactional effects of OPTS was examined by including an interaction term incorporating membership in OPTS[1] in each of the regression models presented in the chapters on substance abuse, crime and employment. The models were run for each of the models described in those chapters. In general, very weak interaction effects were observed: No interactional effects were observed at the 0.05 level of significance (one-tailed). A few effects were observed at the 0.10 level of significance (one-tailed): We need to stress, given the weak effects, these results should be considered exploratory (Note: even a few *"outliers"* can have an impact on the result) :

- For the substance abuse measures, the only interactional effects of membership in OPTS was observed on *any marijuana use in the past three months:* For the group that used marijuana in the three months before incarceration at the baseline, membership in OPTS resulted in lower levels of marijuana use (in the past three months) at the follow-up than the control group.

- For the criminal behavior measures, interactional effects were observed on *percentage of street time committing person and property crimes.* For the group that had committed a person crimes in the baseline, membership in OPTS resulted in lower levels of follow-up person crimes than the control group. However, an opposite effect was found for property crimes: For the group that had committed a property crime in the baseline, membership in OPTS resulted in higher levels of property crimes at the follow-up.

- No interactional effects of OPTS were found for employment behaviors.

We need to stress that all of the above interactional effects were weak. Further, no consistent effects were found across the set of measures within any domain. The small sample sizes do limit the analysis that can be done to examine the interactional effects of OPTS.

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[1]The interaction term was a product of membership in OPTS and the initial baseline measure corresponding to the outcome.

APPENDIX H

The following table utilizes data collected on the full sample of eligibles, not simply for those we have baseline surveys. The final number was 336 (out of 398) for arrest records and 335 (out of 398) for violation records. However, we do not have enough information to examine attrition on the roughly sixty individuals for whom records were not available because not all of them were baselined. This limits us from drawing any conclusions using N's of 336 for official arrest outcomes and 335 for violation outcomes.

Regression Models for Official Records Without Correction for Attrition
Basic Model

Coefficients of the Linear Model

	Dependent Measures	
	Arrests	**Technical Violations**
Membership in OPTS	.02	.28**
Corresponding Baseline Problem Behavior	.04**	n.a.
Site (Tampa)	.01	-.31*
Site (Kansas City)	.79**	-.66**
Constant	.71**	1.18**
R^2	0.12	.05
N	335	333

** $p < .05$; * $p < .10$

The above table shows that the number of arrests (column one) did not significantly differ between the treatment and control group. The total number of arrests (ever) before respondents' OPTS incarceration was positively related to the number of arrests in the follow-up year, as was a respondent being from Tampa or Kansas City. For technical violations, OPTS clients showed significantly more violations, and not being from Kansas City or Tampa, but being part of the St. Louis site, was related to having significantly more technical violations.

APPENDIX I

APPENDIX FOR STRUCTURAL EQUATION MODEL

(1)
Nonlinear Principal Component Hard Drug Use Scale

Category Quantification for Hard Drug Use at Follow-up

Eigenvalue 0.70

Variable	*Component Loadings*
Drug use description	-0.76
Desire for drugs	0.63
Drug use in the past 12 months	0.94
Drug use frequency	0.92
Daily drug use expenditure	0.89

(1) Variable: *Drug use description*

How would you describe your drug use the 12 months on the calendar? Which of these statements best describes what happened?

Category	*Quantification*
Continued to use drugs as before	-1.01
Switch to using more alcohol or less serious drugs	-0.21
Cut back drug use, but used on an occasional or more controlled basis	-0.84
Quit for awhile, but started using later	-1.15
Quit, but slipped a few times during recovery	-0.16
Never used	1.45
Other	0.33

(2) Variable: *Desire for drugs*

During the last 3 months on the calendar, would you say your desire to use drugs has:

Category	*Quantification*
Increased	1.54
Decreased	0.07
Remained the same	0.48
Not Applicable	-1.76

(3) Variable: *Drug use in the past 12 months*

During the last 12 months on the calendar have you used any hard drugs:

Category	*Quantification*
No	-0.91
Yes	0.93

(4) Variable: *Drug use frequency*

During the last 3 months on the calendar, were you using drugs several times a day, once a day, several times a week, once a week, 1-3 times a month, 1 to 5 times total, or not at all?

Category	*Quantification*
6 several times a day	1.25
5 once a day	1.25
4 several times/week	1.25
3 about once/week	1.18
2 1-3 times a month	1.01
1 1-5 times total	0.84
0 not at all	-0.84

(5) Variable: *Daily drug use expenditure*

During the last 3 months on the calendar, how much money did you spend each day on hard drugs?

Category	*Quantification*
0 $	-0.84
2$	1.08
3-70$	1.25
72$	1.26
73-125$	1.29
> 125$	1.38

Category Quantification for Hard Drug Use at Baseline

Eigenvalue: 0.78

Variable	*Component Loadings*
Life-time drug use:	0.78
Drug frequency:	0.94
Daily drug use expenditure:	0.92

(1) Variable: *Life-time drug use*

Have you ever used any hard drugs?

Category	*Quantification*
No	-2.09
Yes	0.29

(2) Variable: *Drug frequency*

During the last 3 months on the calendar, were you using drugs several times a day, once a day, several times a week, once a week, 1-3 times a month, 1 to 5 times total, or not at all?

Category	*Quantification*
6 several times a day	0.69
5 once a day	0.69
4 several times/week	0.59
3 about once/week	0.59
2 1-3 times a month	0.49
1 1-5 times total	-0.14
0 not at all	-1.62

(3) Variable: *Daily drug use expenditure*

During the last 3 months on the calendar, how much money did you spend each day on hard drugs?

Category	*Quantification*
0 $	-1.46
1$	-0.16
2$	0.60
4-70$	0.64
75-120$	0.72
125-186$	0.75
200-500$	0.76
>500$	0.77

(2) **Results of the SEM** (Note: one tailed significance reported below)

Linkage	*Unstandardized Coefficients*	*Standardized Coefficients*
Membership in OPTS ---> Outpatient Treatment	-0.04	-0.01
Membership in OPTS ---> Number of Service Domains	1.16**	0.42
Membership in OPTS ---> Any Drug Service	0.06*	0.08
Membership in OPTS ---> AA/NA Treatment	0.63	0.06
Membership in OPTS ---> Any Health service	0.27**	0.35
Membership in OPTS ---> Case Manager Interaction	9.50**	0.50
Site (Tampa) ---> Number of Service Domains	-0.98**	-0.32
Site (Kansas City) ---> Number of Service Domains	-0.27**	-0.09
Site (Tampa) ---> Any Drug Service	-0.13**	-0.15
Site (Kansas City) ---> Any Drug Service	-0.08*	-0.09
Site (Tampa) ---> Outpatient Treatment	-1.08**	-0.13
Site (Kansas City) ---> Outpatient Treatment	-0.29	-0.04
Site (Tampa) ---> AA/NA Treatment	-1.32**	-0.12
Site (Kansas City) ---> AA/NA Treatment	-1.61**	-0.14
Site (Tampa) ---> Any Health service	-0.14**	-0.16
Site (Kansas City) ---> Any Health service	-0.09**	-0.11
Site (Tampa) ---> Case Manager Interaction	-2.61**	-0.12
Site (Kansas City) ---> Case Manager Interaction	-0.28	-0.01
Membership in OPTS ---> Drug testing	4.39**	0.12
Membership in OPTS ---> Family Drug Use	-0.03	-0.05
Membership in OPTS ---> Peer Drug Use	0.04	0.04
Age ---> Any Drug Service	0.01**	0.13
Baseline Part time Job ---> Follow-up Part Time Job	0.04	0.04
Baseline Full time Job ---> Follow-up Full Time Job	0.30**	0.30
Baseline Hard Drug Use ---> Follow-up Hard Drug Use	0.39**	0.39
Baseline Alcohol use ---> Follow-up Alcohol Use	0.26**	0.29
Baseline Marijuana Use ---> Follow-up Marijuana Use	0.26**	0.34
Membership in OPTS ---> Follow-up Full Time Job	0.04	0.05
Membership in OPTS ---> Follow-up Part Time Job	-0.06*	-0.11
Membership in OPTS ---> Follow-up Alcohol Use	-0.12**	-0.14
Membership in OPTS ---> Follow-up Marijuana Use	-0.10**	-0.14
Membership in OPTS ---> Follow-up Hard Drug Use	0.09	0.04
Number of Service Domains ---> Follow-up Hard Drug Use	0.02	0.02
Any Drug Service ---> Follow-up Hard Drug Use	0.39**	0.15
Outpatient Treatment ----> Follow-up Hard Drug Use	-0.01	-0.05
AA/NA Treatment ---> Follow-up Hard Drug Use	-0.07**	-0.33
Any Health Service ---> Follow-up Hard Drug Use	-0.15	-0.06
Casemanager Interaction ---> Follow-up Hard Drug Use	-0.00	-0.02
Number of Service Domains ---> Follow-up Marijuana Use	-0.00	-0.01
Any Drug Service ---> Follow-up Marijuana Use	0.09*	0.10
Outpatient Treatment ----> Follow-up Marijuana Use	-0.00	-0.05
AA/NA Treatment ---> Follow-up Marijuana Use	-0.01**	-0.21
Any Health Service ---> Follow-up Marijuana Use	0.12**	0.13
Casemanager Interaction ---> Follow-up Marijuana Use	0.00	0.02
Site (Tampa) ---> Follow-up Full Time Job	0.06	0.07
Site (Tampa) ---> Follow-up Part TimeJob	0.02	0.03
Site (Tampa) ---> Follow-up Marijuana Use	-0.05**	-0.06
Site (Tampa) ---> Follow-up Alcohol Use	-0.12**	-0.12
Site (Tampa) ---> Follow-up Hard Drug Use	-0.28**	-0.12
Site (Kansas City) ---> Follow-up Full Time Job	0.08*	0.10

Linkage	Unstandardized Coefficients	Standardized Coefficients
Site (Kansas City) ---> Follow-up Part TimeJob	-0.03	-0.06
Site (Kansas City) ---> Follow-up Marijuana Use	-0.04	-0.05
Site (Kansas City) ---> Follow-up Alcohol Use	-0.05	-0.05
Site (Kansas City) ---> Follow-up Hard Drug Use	-0.11	-0.05
Casemanager Interaction ---> Follow-up Full Time Job	0.01*	0.09
Any Health Service ---> Follow-up Full Time Job	-0.03	-0.03
Any Health Service ---> Follow-up Part Time Job	0.03	0.05
AA/NA Treatment ---> Follow-up Full Time Job	0.03**	0.33
AA/NA Treatment ---> Follow-up Part Time Job	0.01*	0.12
Age ---> Follow-up Hard Drug Use	0.02**	0.11
Male ---> Follow-up Hard Drug Use	0.31**	0.11
Hazard (Attrition) ---> Follow-up Hard Drug Use	-0.44	-0.04
Hazard (Attrition) ---> Follow-up Full Time Job	0.27	0.07
Hazard (Attrition) ---> Follow-up Part Time Job	0.04	0.02
Hazard (Attrition) ---> Follow-up Marijuana Use	0.26	0.07
Hazard (Attrition) ---> Follow-up Alcohol Use	-0.22	-0.05
Casemanager Interaction ---> Follow-up Alcohol Use	0.00	0.00
Any Health Service ---> Follow-up Alcohol Use	-0.10	-0.09
AA/NA Treatment---> Follow-up Alcohol Use	-0.02**	-0.19
Outpatient Treatment ---> Follow-up Alcohol Use	-0.00	-0.01
Any Drug Service---> Follow-up Alcohol Use	0.12*	0.10
Number of Service Domains ---> Follow-up Alcohol Use	0.02	0.05
Outpatient Treatment ---> Follow-up Full Time Job	0.02**	0.17
Number of Service Domains ---> Follow-up Full Time Job	0.01	0.04
Number of Service Domains ---> Follow-up Part Time Job	0.01	0.07
Any Drug Service ---> Follow-up Full Time Job	-0.14**	-0.15
Any Drug Service ---> Follow-up Part Time Job	-0.02	-0.03
Outpatient Treatment ---> Follow-up Part Time Job	-0.00	-0.03
CaseManager Interaction ---> Follow-up Part Time Job	-0.00	-0.02
Drug Testing ---> Follow-up Hard Drug Use	0.00	0.00
Drug Testing ----> Follow-up Alcohol Use	-0.00	-0.07
Drug Testing ---> Follow-up Marijuana Use	-0.00	-0.06
Family Drug Use ---> Follow-up Hard Drug use	0.16	0.05
Family Drug Use ----> Follow-up Marijuana Use	0.06	0.05
Peer Drug Use ---> Follow-up Hard Drug Use	0.33**	0.15
Peer Drug Use ---> Follow-up Alcohol Use	0.17**	0.17
Baseline Drug Dealing ---> Follow-up Drug Dealing	0.20**	0.28
Baseline Property Crimes ---> Follow-up Property Crimes	0.21**	0.28
Baseline Person Crimes ---> Follow-up Person Crimes	0.08	0.06
Follow-up Hard Drug Use ---> Follow-up Person Crimes	0.05	0.00
Follow-up Hard Drug Use ---> Follow-up Property Crimes	5.23**	0.24
Follow-up Hard Drug Use ---> Follow-up Drug Dealing	4.19**	0.14
Membership in OPTS ---> Follow-up Person Crimes	-0.14	-0.01
Membership in OPTS ---> Follow-up Property Crimes	0.28	0.01
Membership in OPTS ---> Follow-up Drug Dealing	2.38	0.04
Follow-up Part Time Job ---> Follow-up Person Crimes	-3.87*	-0.09
Follow-up Full Time Job ---> Follow-up Person Crimes	-4.11**	-0.13
Follow-up Part Time Job ---> Follow-up Property Crimes	-11.31**	-0.13
Follow-up Full Time Job ---> Follow-up Property Crimes	-7.57**	-0.13
Follow-up Part Time Job ---> Follow-up Drug Dealing	-11.93**	-0.10
Follow-up Full Time Job ---> Follow-up Drug Dealing	-19.86**	-0.24
Site (Tampa) ---> Follow-up Person Crimes	1.58	0.06

Linkage	Unstandardized Coefficients	Standardized Coefficients
Site (Kansas City) ---> Follow-up Person Crimes	0.12	0.00
Site (Kansas City) ---> Follow-up Property Crimes	-4.49*	-0.09
Site (Kansas City) ---> Follow-up Drug Dealing	-1.05	-0.02
Age ---> Follow-up Drug Dealing	-0.30*	-0.07
Male ---> Follow-up Property Crimes	6.44**	0.10
Age ---> Follow-up Person Crimes	-0.08	-0.05
Age ---> Follow-up Property Crimes	-0.25*	-0.08
Male ---> Follow-up Drug Dealing	-3.66	-0.04
Male ---> Follow-up Person Crimes	2.03	0.06
Hazard (Attrition) ---> Follow-up Person Crimes	4.59	0.04
Hazard (Attrition) ---> Follow-up Property Crimes	-0.93	-0.00
Hazard (Attrition) ---> Follow-up Drug Dealing	37.65**	0.12
Follow-up Alcohol Use ---> Follow-up Property Crimes	-1.68	-0.03
Follow-up Alcohol Use ---> Follow-up Drug Dealing	1.67	0.02
Follow-up Alcohol Use ---> Follow-up Person Crimes	1.79	0.07
Follow-up Marijuana Use ---> Follow-up Property Crimes	-2.03	-0.03
Follow-up Marijuana Use ---> Follow-up Drug Dealing	11.46**	0.13
Follow-up Marijuana Use ---> Follow-up Person Crimes	7.38**	0.22
Number of Service Domains ---> Follow-up Drug Dealing	-3.94**	-0.17
Family Drug Use ---> Follow-up Drug Dealing	12.19**	0.12
Family Drug Use ---> Follow-up Person Crimes	2.22	0.06
Family Drug Use ---> Follow-up Property Crimes	-3.93	-0.05
Peer Drug Use ---> Follow-up Drug Dealing	9.54**	0.14
Peer Drug Use ---> Follow-up Property Crimes	0.53	0.01
Peer Drug Use ---> Follow-up Person Crimes	-3.31**	0.12

*p < 0.10; **p<0.05

Tests of Robustness of the SEM

The estimates of the structural equation model are based on maximum likelihood estimates. In general, structural equation methodology is better suited for continuous measures, since maximum likelihood estimates tend to be biased for dichotomous measures (Joreskog and Sorbom, 1993) The model is run using bootstrapping methods (Arbuckle, 1997; Efron, 1982) for evaluating the empirical sampling distribution of parameter estimates and the Bollen-Stine bootstrapping procedures to test the hypothesis that the model is correct (Bollen and Stine, 1992). Reasonably consistent results were obtained using these multiple methods.