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Measuring Heroin Availability:
A Demonstration

Conducted for
The Office of National Drug Control Policy

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BOTEC Analysis

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ACQUISITIONS

Measuring Heroin Availability: A Demonstration

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EXECUTIVE SUMMARY

I came out of the bank at ten past twelve, had to get to the "call back" phone; there are no call back phones that I know of in Everett. Took bus to Sullivan Station (ten minutes) train to Downtown Crossing and used the phone outside Jordan Marsh. Waited fifteen minutes. Then it was 1:00 (pm). At 1:15 the phone rang. It took me fifteen minutes to get to Auditorium station. And he was there in a store waiting for me.

—Thirty-five year old white male from downtown Boston

Rising heroin imports and falling heroin prices may lead to growth in the number of new heroin users. Lack of retail availability is a possible barrier to heroin initiation. But unlike price and purity, availability is not routinely measured.

One possible measure of availability is "search time": the time required to purchase heroin once the user has the money in hand. The longer the search time, the less available heroin is. Search time may vary from city to city, from week to week, and from user to user. The objective of this project was to develop and test a method of measuring search time in a single city.

Even if search time proved to be measurable, it might turn out to be so small as to pose only a trivial barrier to initiation and continued use. Ethnographers and users interviewed in advance of this study believed that observed search times would be negligible.

As it turned out, weekly interviews with heroin users demonstrated that search time is measurable, and, at least for this sample, it was not trivial. Search time ranged from zero—being approached and asked to buy heroin—to inability to secure heroin after a prolonged search. Mean total search time was 48 minutes (median 39 minutes). About 39 percent of that was travel time to the purchase location; another 41 percent was time spent waiting for the seller; the final 20 percent was time spent connecting with the dealer and completing the actual transaction. Since the sample consisted entirely of experienced, current heroin users, these figures tend to understate the availability barrier for new users. In fact, new users often had to employ experienced users as purchasing agents, due to the difficulty the new users have in buying heroin.

In addition to the search time measurement, we collected detailed information regarding the mechanics of purchasing heroin through extensive preliminary interviews, weekly follow-up interviews, and focus groups with female users and users vacillating between occasional and regular use. While most participants had connections with two or more dealers, they generally chose to rely on one dealer because of his dependability, convenient location, and consistent presence. Methods of contact included copping corners, beepers, and middlemen. The preferred method of administration was intravenous injection and the most commonly reported methods of financing heroin use were larceny and public assistance. Search time tended to be longer for the users who were single, had extensive heroin use experience, were white, resided in non-drug dealing locations, used heroin infrequently, and relied on one dealer or lacked a consistent connection. No correlation was found between search time and gender; both the focus groups

and weekly interviews reflected no significant difference in the way women and men purchase heroin.

Now that the existence and measurability of non-trivial search times has been established in one city, this research could usefully be extended. Continuing it in a single city for an extended period would begin to characterize seasonal and secular variability in search times. Extending the sample to several cities, including some heroin centers and some where heroin was less available, would provide data about city-to-city variability. More ambitiously, search time measurement could become a routine data-collection activity, like DAWN emergency room counts, DUF arrestee testing, or the National Household Survey. Changes in search times could then be used to evaluate retail-level enforcement efforts.

Extension over time, expansion to other cities, and conversion to routine data collection could be accomplished using the interview approach demonstrated here. Alternatively, including search time questions in DUF interviews might be able to provide both wider geographic coverage and a better-defined sampling frame, at modest cost.

BACKGROUND

Heroin prices have fallen significantly in the last five years, from an average of \$2.00 per pure milligram from 1979 to 1988 to the current price of \$0.90 per pure milligram (BOTEC Analysis Corporation, 1992). Drug Enforcement Administration (DEA) and US. Customs heroin seizures also rose dramatically, from a total of 1,443 pounds seized in 1987 to 3,192 pounds seized in 1988. If these data represent an increase in heroin use by established addicts, and if the increase remains confined to that group, then falling heroin prices will cause only limited social damage. Unfortunately, lower prices also make heroin more affordable for new users, and thus threaten to expand the user base. Given the damage heroin addiction inflicts on users, their families, and their neighbors, such a spread would constitute a significant problem. Whether this threat becomes a reality will depend largely on the availability of heroin to retail purchasers.

Compared to cocaine, heroin appears to have far fewer retail sellers, and they appear to be far more geographically concentrated. Thus, retail availability may constitute an important barrier to the initiation and continuation of heroin use.

The "effective price" of any drug is comprised of several factors: the dollar price of the drug, the likelihood of arrest or mugging during the transaction, the uncertainty about quality, the risk of overdose, and "the search time required to locate a willing seller" (Moore, 1973b, p. 415).

The last factor, "search time," is a possible quantitative measure of retail availability (Moore, 1973a, 1977; Kleiman and Smith, 1990; Kleiman and Young, 1992). As "search time" increases, so does the effective price of heroin (other factors of effective price being equal); and as the effective price rises, some potential users are deterred from buying it.

Current measures of the heroin problem—the National Institute of Justice's (NIJ) Drug Use Forecasting (DUF) data and Drug Abuse Warning Network (DAWN) data for instance—are lagging indicators. They reflect an increase in heroin availability only when addicts are committing more crimes to pay for their habits or are overdosing in greater numbers. By comparison, search time data, if they were available, could serve as leading indicators of change in the user population, offering an "early warning" of increased availability.

At the policy level, there appear to be trade-offs between attempts to influence price and attempts to influence search time. High-level enforcement primarily affects price, while retail enforcement often increases search time. There are theoretical reasons to believe that, given the choice, decreases in heroin consumption due to increases in search time will generate fewer unwanted side effects than would equivalent decreases in consumption brought about by increases in price (Kleiman and Young, 1992).

While the concept of search time has been explored extensively, no one has attempted to measure the distribution of search times over time and location. Indeed, relatively little has been written about the mechanics of heroin-buying and dealing. The extant research in this area comprises

primarily ethnographic studies that attempt to understand the lifestyle and community of heroin users (e.g., Agar, 1973) and the role of crime in the heroin economy (Johnson et al., 1985).

This project combines ethnographic techniques, survey research and micro-economic analysis to shed light on the mechanics of heroin-buying in general, as well as attempting to empirically assess the availability of heroin to street buyers. This methodology could prove to be useful in future analyses of drug and other criminal markets.

The project has two goals:

- (1) to learn more about the mechanics of retail heroin purchases; and
- (2) to demonstrate the feasibility of two methods of measuring the availability of heroin to street buyers:
 - (a) by using interviews to measure "search times" for Boston area heroin users and
 - (b) by observing the volume of activity at heroin-dealing locations in Boston.

Insofar as either approach to measuring availability proves out, it could be expanded to a national scale to generate a time series comparable to the time series of prices that can be computed from STRIDE (System to Retrieve Information from Drug Evidence, DEA 1992).

METHODOLOGY

OVERVIEW

This study was conducted in three phases: planning, data collection, and analysis. The planning phase included an extensive literature review, interviews with ethnographers and law enforcement officials, analysis of drug seizures, and focus groups. Data collection consisted of individual interviews and focus groups with current heroin users, and direct observations of heroin-dealing locations. The individual interviews and focus groups were very successful in that we were able to elicit detailed descriptions of heroin purchasing behavior, as well as demographics and drug use history from the 32 heroin users in the study. The observation of heroin dealing locations was less successful because heroin dealing remained underground in most areas and was difficult to distinguish from other activity in those few open market areas. The analysis phase included computations from numerical data and compilation of interview and focus group responses.

LAW ENFORCEMENT INFORMATION

Information was gathered from the Boston Police Department through a series of semi-structured interviews and tours of heroin-dealing sites given by the Deputy Superintendent in charge of the Drug Control Unit and his officers. Interviews focused on police knowledge of the mechanics of heroin buying in Boston, characteristics of users and dealers, locations of heroin-dealing sites, recommendations for safe data collection and official drug control strategy. Two tours of heroin-dealing sites focused on those areas in Boston where the bulk of overt heroin dealing takes place.

Heroin purity data from various local police departments' seizures were furnished by the Food and Drug Laboratory of the Massachusetts Department of Public Health. It is the laboratory's policy to analyze seizures made by state and local police that weigh 28 grams or more (the quantity which constitutes the offense of "trafficking" under Massachusetts law), and selected smaller seizures. During the study period (November 2, 1992 through December 27, 1992) the Food and Drug Laboratory analyzed 28 seizures ranging in size from one to 230 packets, with each packet averaging 21 milligrams of a mixture containing heroin. The average heroin purity level of these seizures was 78 percent, significantly higher than the purity levels of heroin seized eight to ten years back, which often ran in single digits.

FOCUS GROUPS

We conducted two preliminary focus groups to learn about the basic mechanics of heroin purchase and to help develop the interview and observation methodologies. The first group consisted of seven participants from the city of Cambridge, five who were active heroin users and two who were in recovery. They were recruited by one of our interviewers. The second

focus group was conducted at the minimum security facility of the Massachusetts Correctional Institution (MCI) at Shirley. Eight former heroin users were recruited by MCI-Shirley staff from Cottage Nine, an in-house residential drug treatment unit. Discussion in both focus groups centered around typical heroin-using days, as well as availability factors such as dealers, prices, and market changes.

Questions raised during the preliminary interviews led us to convene two additional focus groups. The first was conducted at MCI-Framingham, a medium security state correctional facility for women. Five former female heroin users were recruited by MCI-Framingham staff from the Key Program, an in-house residential drug treatment unit. The focus group targeted issues specifically related to women (e.g. prostitution for drugs), and highlighted the differences in the ways men and women buy heroin.

The final focus group was conducted to explore the differences, if any, in heroin-buying behavior between daily and occasional/new users. New and/or occasional heroin users proved difficult to locate. Instead, five current and one former user were recruited, most of whom vacillate between daily and occasional use. Discussion focused on their introduction to heroin, the process of becoming a daily user, and the buying-behavior differences between daily and occasional users.

Although the level of discussion varied among participants, most were forthright in discussing their heroin purchasing behavior and their theories about heroin use. The focus group participants were paid \$40 each for their (approximately two hour) participation. Each session was tape-recorded and notes were taken as well.

INTERVIEWS

Interviews were conducted over a three-month period with a panel of 32 current heroin users. Each participant was given a preliminary interview which lasted 1-1/2 to 2 hours covering demographic characteristics, drug use history, and heroin-buying patterns.

The follow-up interviews, which averaged 15 minutes, were conducted once per week for eight weeks. Participants were asked to describe, step by step, what they did the last time they bought heroin. They were also asked about their search time—that is, how long it was from the time they had the money in hand and decided to buy heroin, to the time they had actually acquired it. Finally, there were a number of questions relating to purchases that week, as well as questions about how and why they began using heroin and their current use patterns.

Interviewers

Five interviewers were recruited for the project. All were recovering heroin addicts with solid recovery histories and extensive contacts among current heroin users. One of the five also served as the interview supervisor. Each week, he distributed participants' payments and interview materials to the interviewers, and collected completed interviews and tapes. To determine the quality of the interviewers' questioning, he listened to numerous taped interviews; this allowed him to detect interview bias, problem questions, and interviewer mistakes, and to provide timely

feedback to the interviewers. Along with a research assistant, he also compared the tapes to the notes taken by the interviewers. This cross-check assured both that mistakes in written records were caught and that detailed stories were preserved. Finally, the interview supervisor acted as a liaison between the interviewers and the project director and aided in the interviewer training sessions.

Each interviewer was responsible for recruiting six active heroin users. Together they recruited users who "copped" and used heroin in various sections of Boston, including South Boston, Dorchester, the North End, the South End, Charlestown, downtown Boston, and various parts of Roxbury such as Mission Hill and Dudley Station.

The interviewers were paid \$10/hour for the time they spent in training or at mandated meetings. Interviewers completed three two-hour training sessions which included basic interviewing tips, logistics of the project, review of the questions and sample interviews. Otherwise, they were paid per interview—\$40 for each preliminary interview they completed and \$20 for each follow-up interview. These fees included their payment for recruiting the interviewees, as well as any time they spent tracking down the interviewees for appointments. As an incentive to complete as many of the follow-up interviews as possible, they were also paid a small bonus based on their completion rates.

Throughout the data collection period, as expected, there were quality control issues and logistical problems. Our interview monitoring system was designed to catch errors or misrepresentations in data collection. At the end of the data collection period, this system of cross-checks revealed a serious problem with one of our interviewers. When he was unable to locate a participant, he would make up the information, filling out the questionnaire as if he had conducted the interviews. As one of the interviewers whose participants were paid in cash, he simply pocketed their payment and forged their receipts of payment. We were able to contact one of his interviewees who confirmed that she was not interviewed during various weeks. In all, 13 of his interviews without corresponding back-up tapes were counted as missing data for the study. Although this problem was disruptive and time-consuming, it had minimal impact on study results in that we still had 218 legitimate interviews on which to do the analysis.

Interview Participants

The study was initiated with 30 participants who were replaced if they missed more than one week. "Drop-outs" who returned in subsequent weeks were re-integrated into the study. Two additional participants were recruited during week six and were given both preliminary and follow-up interviews that week. This resulted in an overall sample of 32 participants.

The interview participants were paid \$25 for completing the preliminary interview and \$15 for completing each follow-up interview. They also received bonuses of \$20 for completing the first four interviews and another \$20 for completing the final four interviews. Depending on the interviewer and the location of their interviews, two methods of payment were utilized. Cash was disbursed to those interviewers who felt relatively safe carrying it and whose recruited participants were more concerned about their anonymity. However, for the two interviewers who

feared carrying cash, a local bank agreed to cash checks for interview participants without requiring identification.

To assist them in keeping track of time, participants were given inexpensive digital watches at the completion of the initial interview, regardless of whether they initially carried timepieces. As an incentive to wear the watch, they were told they would be paid an extra \$10 bonus if they were wearing that watch on the day of their final interview.

As with the focus groups, all interviews were taped in order to monitor interview quality and to capture as much detail as possible. We took a number of steps to protect ourselves and our research subjects, especially to preserve confidentiality and field-staff safety. (The procedures are described in Appendix D.)

Utilizing human subjects in a research study is always a sensitive topic; particularly in this one in which we recruited and paid active heroin users. Our concerns were two-fold: 1) that we were paying active heroin users to participate in the study, thus indirectly contributing to the financing of their heroin habits and 2) that in order to maintain participation in the study, the recruits had to be actively using heroin. We took a number of steps to address these concerns. The interviewers that we hired were former heroin users who were knowledgeable about recovery issues and resources. We provided them with information on treatment resources to assist those participants who expressed interest in discontinuing their heroin use. We also ensured that the interviewers did not pressure reluctant participants to remain in the study and set up a system of replacements for study participants who dropped out. More discussion regarding the utilization of human subjects in this type of study would be required should a long-term study be undertaken.

Participant Characteristics

Broad targets for participant demographics and the sampling plan for the study were based on two studies of heroin users in treatment in the Boston area (Krakow et al., 1992; Nardone, 1990). The studies showed that heroin users in treatment were 53 percent Caucasian, 23 percent African-American, 22 percent Hispanic and 2 percent in the "other" category; two-thirds were male and one-third female; age varied, but most were in their thirties. We asked interviewers to roughly follow these numbers when choosing interviewees and to recruit some relatively new users, in addition to the experienced users. With only two exceptions, these demographic targets were maintained. Interviewers recruited more blacks (44 percent) and fewer Hispanics (12.5 percent) than the targets called for and all of the participants recruited were experienced heroin users, as interviewers were unable to find and recruit new heroin users. Women were recruited by all of the interviewers and were not treated as a special group. The median age of the study participants was 37.5 years old, with a range of 30 to 61 years old. (For a more complete discussion of user characteristics and the associated tables, see Appendix A.)

Two-thirds of the participants had graduated from high school, half of whom had gone on to further education. Few participants worked; instead they relied on public assistance and/or illegal activity to support themselves and their heroin habits.

Most participants reported prior poly-drug use, and half reported use of a variety of drugs during each of the eight weeks of interviews. Alcohol was the most widely used, followed by cocaine which was either used alone or in combination with heroin ("speed balling"). Participants also reported high current usage of tranquilizers. Most of the heroin users in this study had participated in some type of formal substance abuse treatment. Three-fourths had been arrested on drug charges and half had been incarcerated.

OBSERVATIONS

The original proposed research methodology included observation of heroin-dealing locations in order to directly monitor activity as an alternative way of measuring street heroin availability. However, after interviews with the Boston police officers and discussions with the interviewers, potential observers, and the focus groups, it became clear that such direct observation on a large scale would be unreliable, difficult to replicate, and dangerous. Instead, observations were conducted on a smaller scale to supplement the information we received from the interviews, but not as a potential replacement of the interview process. Rather than hiring a number of observers as originally planned, the interview supervisor conducted the scaled-down observations himself.

After two tours of heroin-dealing locations in Boston, a handful of sites was selected for observation. Two methods of observation were used. The first was to drive through the selected sites at various times of the day. During the first two weeks, the observer drove through the sites each day, including weekends. However, at most of the sites, no drug activity was observed. In fact, it did not appear that there was much activity at all. The second method was to park in a selected site and observe for as long as possible, returning at various times of the day. The observer concentrated on the most promising site, Mission Hill in Roxbury, where police had reported very high heroin activity and where the observer had seen many loiterers during his drive-through observations. According to the police, there were a number of people dealing heroin in and around the housing projects there. Observations from a parked car were made several times a week, at various times of the day including early morning, late morning, afternoons and evenings. Over about four weeks, there appeared to be someone dealing in the area at all times, with the exception of a rainy afternoon and a Sunday morning. The observer saw numerous people drive up in their vehicles, make a quick exchange and leave immediately. Numerous exchanges also were seen between the people hanging around in the area (purportedly the dealers) and others walking into the area. The observer was approached once and asked if he was looking for something. Other times he was waved at or acknowledged with a nod. After a few weeks, the observer believed that he was drawing suspicion, especially after having been approached and declining to make a drug purchase; one time, bottles were thrown at his car as he was driving away. Due to the potential danger, observation was halted at this site. During the weeks he spent at this site, the observer found that it was sometimes difficult to distinguish the dealers from the many other people hanging out on the street. There were also no public places where one could observe less obtrusively. Overall, the observer found it impossible to discern whether he was observing heroin deals or sales of some other drug or merchandise.

Observations subsequently were begun at two new sites near Boston City Hospital and near the Veteran's Administration (VA) building in North Station. The area around Boston City Hospital was so densely populated that it was impossible to determine whether there were dealers among the crowd. Within the VA building, there is a methadone maintenance clinic. Although there is often heroin/methadone dealing near methadone clinics, no such activity was distinguishable among the many people gathered in front of or around the building. After about two weeks of fruitless observation at these two sites, observation was abandoned. From our experience, we have concluded that observation as a method of measuring heroin availability is difficult in the Boston area. With the exception of one dangerous area, much of the heroin dealing is underground. However, observation may be feasible in other cities with more open heroin markets.

FINDINGS

MECHANICS OF PURCHASING HEROIN

Overview

Each week, participants were asked to describe their most recent buy, with particular emphasis on their "search time." They were instructed to include the time it took to make telephone calls, solicit advice about where to buy heroin, travel to the dealing location, waiting time, and the actual transaction. They were not to include the amount of time it took for them to secure the money needed to buy heroin, nor return traveling time from the purchase location. The average search time of study participants was 48 minutes. Various factors influenced the ease or difficulty of purchasing heroin: time of day, day of week, weather, police presence, mode of transportation, quality and quantity of dealer's heroin, availability of dealer and type of connection (copping corner, beeper service, etc.). Search times ranged from zero—being approached and offered heroin—to failing to make any connection after a prolonged search.

Interviewees usually purchased heroin from one main source whom they had used for a median of eight months. They relied on one dealer for a variety of reasons including the quality of his heroin and the dealer's dependability, convenient location, and consistent presence. However, most participants had "back-up" dealers to turn to if their main source was unavailable. Dealers were contacted at copping corners or through a beeper or middleman. Once the interviewees connected with a source, they purchased an average of almost three bags at an average price of approximately \$18/bag. If these bags were similar to those tested by the Food and Drug Laboratory which averaged 21 milligrams of 78 percent pure heroin, then the price per pure milligram would have been just over one dollar. This is consistent with current national reports, but reflects a substantial price decrease from the 1979-87 period when heroin sold for more than \$2 per pure milligram.

"Shooting" heroin was cited as the exclusive method of administration for a majority of the participants. The respondents also reported using heroin in combination with a variety of other drugs, most frequently with cocaine. The two predominant methods of financing heroin use were larceny and public assistance. Almost two-thirds of the participants had attempted to stop using heroin at least once in the past year. The average age of first heroin use was just under 19 years old; duration of heroin use averaged 20 years. The average frequency of use was 6.5 days per week.

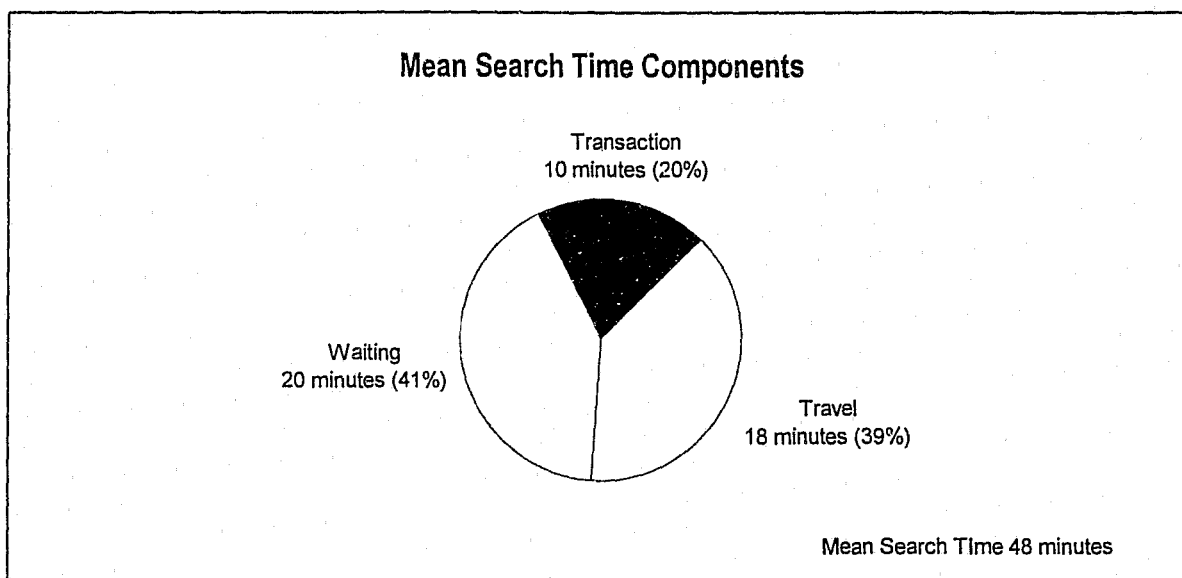
Search Times

At 8:15(am) I got off at Government Center. My clinic is open on Sunday early at 9:00 and my dealer does tend to close at 12:00 on Sundays—this one particular dealer. I called him around 8:15; he beeped me back in approximately ten more minutes so it would be 8:25. I got on the

train; I went to Hynes Auditorium. That was a ten minute ride on Sunday. So now it's 8:35. I met the dealer at approximately 8:45. And I had the dope in my hand 8:55, I'd say 9:00.

—Thirty-five year old white male from downtown Boston

Search times, including travel, wait and transaction times, were computed for each participant and averaged over the eight-week study period. This enabled us to obtain the average total search time for each participant. The mean of all participants' average search times was 48 minutes; the median was 39 minutes. The lowest quartile of the participants' average search time was less than 30 minutes; the upper most quartile averaged almost an hour (57 minutes).



We asked participants about the time they had to wait for their dealer; whether waiting for him on the street, waiting for a delivery, or waiting for a return phone call. This waiting time accounted on average for 41 percent of the total search time. The percent of search time spent waiting for the dealer ranged from 0 percent to 73 percent, with a little over half of the participants spending 20 percent or less of their search time actually waiting. The mean of all of the participants' waiting time was 20 minutes. Two-thirds of the participants waited an average of 15 minutes or less.

Travel time was the next largest component, accounting on average for 39 percent of total search time. The mean of all of the participants' travel time was 18.5 minutes; the median was 16 minutes. The lowest quartile of the participants' average travel time was 12 minutes or less; the upper most quartile was 22 minutes or more.

The transaction time—the time during which the users connected with a dealer and actually purchased the heroin from the dealer—accounted on average for 20 percent of total search time. Participants' mean transaction time was just under ten minutes. Transactions included telephone

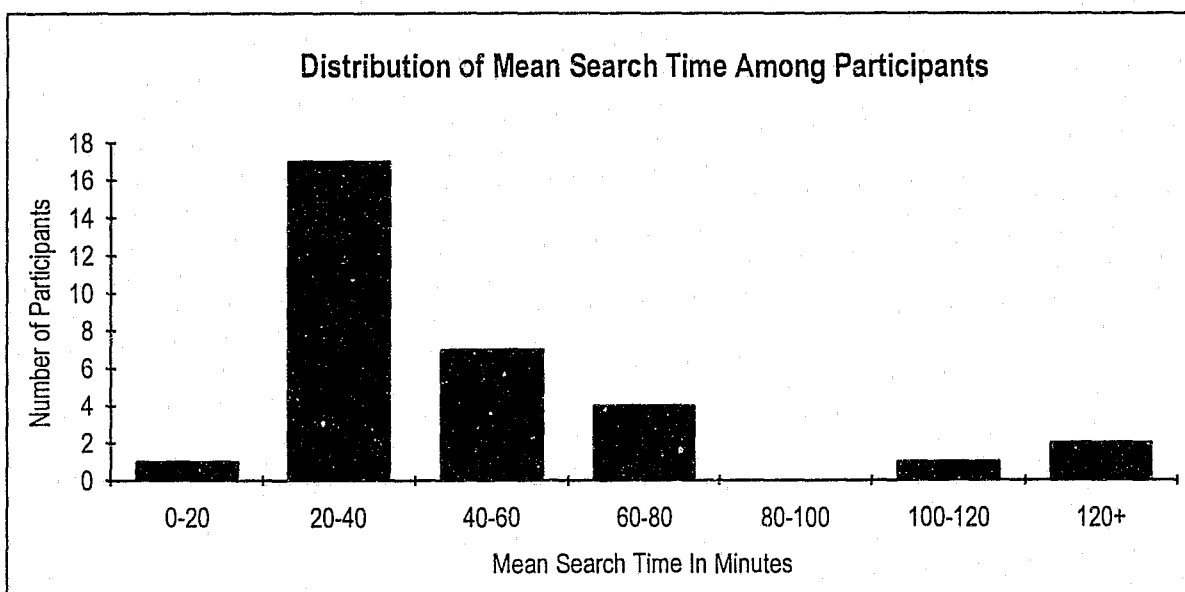
calls to dealers, discussions with fellow users about the quality and price of the product, and perhaps some bargaining, in addition to the actual exchange of money for the heroin.

These findings are contrary to what many ethnographers and heroin users predicted in discussions prior to the study. They believed that search time would be negligible, or at most, would simply represent travel time. However the interviews, in breaking down search time into components and asking for details, revealed that the travel and waiting time added substantially to overall search time and that even the actual transaction was far from instantaneous.

Table 1: Participants Mean Search Time in Minutes

	Mean	Median	Std Dev	Range	% of Mean Search Time
Participants' mean travel time	18	16	12	5-69	39
Participants' mean time waiting for the dealer	20	8	25	0-101	41
Participants' mean transaction time	10	7	7	1-25	20
Participants' mean total search time	48	39	28	12-124	100

Note: 32 valid cases for all of the above



Difficult vs. Easy "Cops"

Monday I had called four different beepers at 4:00 in the afternoon. By 5:30 I had gotten one response from the four beepers; one return call and they were still waiting for the stuff. Now I had to call a person who I had just met, didn't really trust, didn't know that well, to see if they could get something. Now it was 6:00; two hours had already gone by. They said they could get something in Lynn gave me a big price like \$24 for the bags, a ridiculous price for today's standards. Well I did it. He came and picked me up and took me to Lynn. By the time I got in my hand the dope it was 7:30; an hour and a half more driving in Lynn to different spots. All my sources were empty; I had to go to a stranger... to almost a stranger, not a stranger but almost. I thought I was going to get ripped off also.

—Forty-five year old white male from downtown Boston

Yesterday I got up; got on the bus; got off the bus. The first person I saw was the person I was looking for. Did my business, got in the cab, came home. When I stepped off the bus it was like "bing"—turn right around. I didn't have to walk no where; wait.

—Forty-three year old black father from Roxbury

To gauge the factors that affect search time, we asked participants about their most difficult and easiest heroin buys of the week. Two-thirds of the participants described "easy" cops every week. In contrast, only nine participants, less than one-third, reported "difficult" cops every week. The other two-thirds reported difficult cops most weeks or for a few of the weeks.

The mean of the participants' average easy cops was 24 minutes; the median was 22 minutes. The range was wide from an average of 10 minutes for one participant to 61 for another. One-third of the participants had average easy cops of 15 minutes or less. The mean of the participants' average difficult cops was 111 minutes, or almost two hours. The median was 86 minutes. The range was 36 minutes to almost 7.5 hours. Almost three-fourths of the participants spent an average of two hours or less searching for heroin during their most difficult heroin buys of the week. The ultimate in search time is failure to make a purchase at all. In the preliminary interviews, over half reported having failed at some time, most within the previous two months. Indeed, during the eight weeks of the study, there were two participants who reported being unable to "make a connection." (See Table I in Appendix B.) In the preliminary interview, the most frequently reported reason for the failure was dealer unavailability. A few cited police activity. When asked how they had managed the experience, the majority reported doing nothing. A handful of others reported having used other drugs.

Table 2: Search Times for Difficult and Easy Heroin Purchases in Minutes

	Mean	Median	Std Dev	Range	Valid n
Search time for difficult heroin purchase	111	87	91	36-445	30
Time spent traveling to difficult buy location	30	22	20	5-90	30
Percent of travel time to difficult buy of total search time	40%	39%	21%	6%-88%	30
Search time for easy heroin purchase	24	22	14	10-61	30
Time spent traveling to easy buy location	12	12	6	3-23	30
Percent of travel time to easy buy of total search time	53%	50%	18%	17%-100%	30

Note: The n is only 30 for this and other "difficult/easy" search time tables because two participants reported no easy purchases and two reported no difficult ones.

Each week participants were asked why a heroin buy was "easy" or why it was "difficult." Overall, there were three prominent reasons that determined whether heroin purchases were defined as difficult or easy: availability of the dealer, travel logistics and market conditions. The first, availability of the dealer, accounted for 38 percent of the reasons for "difficult" buys, and 46 percent of the reasons for easy buys. Depending on the participant, availability of the dealer could either mean: (1) that he could/could not be located on the street, or (2) that he could/could

not be reached by phone or beeper. Failure to locate a dealer usually resulted in increased waiting time or a need to locate another dealer. Indeed, almost three-fourths of the reported easy heroin buys were from the participant's main heroin source, while only 44 percent of the difficult buys were from the main source. No appreciable differences between easy and difficult buys were found with respect to dealer location. (See Tables F, G, and H in Appendix B.)

Travel logistics accounted for 17 percent of the difficult responses and 26 percent of the easy responses. The participants' average travel time to their most difficult cop was 30 minutes, compared to only 12 minutes for the easiest cop. This might indicate that the travel time was the important factor for the participants when defining a "difficult" or "easy" heroin buy. However, the mean percent of search time spent traveling to the difficult heroin buys was only 40 percent, compared to 50 percent for the easy buys.

Search times were similar for most modes of transportation, such as driving, taking a taxi, or getting a ride. However, two modes of transportation deviated from this pattern. For easy heroin buys there was a higher percent of people walking (39 percent) than riding public transportation (21 percent). For the difficult heroin buys, more people rode public transportation (34 percent) than walked (29 percent). Participants often complained about having to take the bus to buy heroin, especially if they had to travel to more than one area or had to make a number of bus connections. Thus, both travel time and mode of transportation are factors that affect the ease or difficulty of purchasing heroin.

The final reason for defining heroin purchases as "difficult" or "easy" is really a cluster of factors having to do with market conditions. For the difficult buys the most prominent of these was buying on a Sunday or holiday, when most dealers were "closed" (11 percent). Time of day, although not mentioned by participants, also played a role. Two-thirds of the easy heroin buys were made in the morning when heroin dealers are most accessible. In contrast, slightly less than half of the difficult buys were made in the morning; most of the remainder took place during the afternoon and a few in the evening. Other poor market conditions included bad weather, poor product quality, too many customers, and arguments with the dealer. Nine percent of the difficult buys were attributed to the dealer being out of heroin. Police presence accounted for only 4 percent of the difficult buys. Market conditions that made buys easy included having the heroin delivered by the dealer and being extended credit. Finally, some participants listed their financial situation at the time of the buy as a factor in determining the ease of the purchase.

Table 3: Reasons for Difficult and Easy Purchases

Why Was Difficult Heroin Purchase so Defined?			Why Was Easy Heroin Purchase so Defined?		
	Count	%		Count	%
Dealer not on street	49	24	Dealer on street	87	40
Couldn't reach dealer	29	14	Dealer contacted easily	13	6
No money	11	5	Travel time easy	57	26
Quality problems	7	3	Had the money	22	10
Bad weather	6	3	Dealer expecting them	7	3
Sunday/holiday	23	11	Delivered	9	4
Had to find new dealer	15	7	Other	23	11
Police in area	9	4	Total responses	218	100
Dealer out of dope	19	9	Valid cases	30	
Travel problems	36	17	<i>Note: Multiple responses are included</i>		
Other	4	2			
Total responses	208	100			
Valid cases	30				

Heroin Purchase Logistics

It was raining; ran into girlfriend. A lot of people don't stand out when it is raining. We went to Dudley, there wasn't nobody out there; we went to Mission Hill—nobody was out there. We went to Orchard Park, nobody was out there. Then we back tracked so it took us about two hours to finally get something. We copped at Hammond Street, Roxbury.

—Forty year old black mother from Jamaica Plain

Morning (45 percent) and afternoon (35 percent) appeared to be the time when most of the heroin purchases were made. This is probably due to a combination of factors including that heroin users feel "dope sick" in the morning and need to cop, and the selling time restrictions that heroin dealers reportedly maintain. One-third of the participants walked to copping locations, one-third took public transportation or a taxi, and one-third drove themselves or got rides from dealers or friends.

Heroin buys made during the most recent day of "copping" were split evenly between inside and outside locations. Ten participants always purchased heroin in outside locations, five always made their purchases inside. Specifically, half of the heroin users went to a "copping corner"—an outside location where their dealer could usually be found. One-fourth of the participants reported going to a house or apartment to buy. A similar number contacted their main source through a beeper, after which a meeting location was arranged. Sometimes dealers delivered to participants' homes. (See Table J in Appendix B.)

Sixty percent of the "most recent" heroin buys occurred in Roxbury, in either Mission Hill or near the Dudley Station area. At least 3 percent of the purchases were made each in Dorchester, the South End, Charlestown, downtown Boston and South Boston. The remaining nine percent of the purchases were made outside of Boston in Quincy, Lowell, Lynn, Brookline, Cambridge, Brockton, Arlington, Everett, Revere and Providence, Rhode Island. However, when multiple daily purchases are controlled, the number of purchases decreases slightly in Mission Hill,

Dorchester, and Roxbury, and increases slightly in most other locations, especially in Charlestown, downtown Boston, South Boston and Lowell. (See Table K in Appendix B.)

User-Dealer Relationship

I have to call a beeper number and wait for their return call which could be anywhere from fifteen minutes to four or five hours. I woke up sick, drug sick. Fortunately I had the money already that I had borrowed. I called the dealer; that was about 11:00 (am)... waited for the return call around 12:00 (pm). He called back and then the heroin was delivered around 2:00 (pm).

Sixty-one year old white mother from South Boston

Most of the heroin users in this study purchased heroin for much of the time from one main source. Throughout the study however, it became evident that the participants did not rely solely on one source; they knew other dealers from whom they could purchase heroin if necessary. When asked why they liked buying from their main source, over one-fourth of the respondents highlighted the quality of "dope" that their dealer sold. Others cited the convenient location of their main source, as well as their perception that their dealer was dependable, consistent and reliable. These appear similar to the factors important to consumers of licit goods as they make their daily judgments in retail markets.

Two-thirds of the respondents had been using their main source for less than one year. The remaining one-third had been with their dealers for two to 10 years. The median length of time with the same dealer was eight months. Thirty of 32 participants said they could get heroin from other sources if their preferred source was unavailable. Though two-thirds of the respondents used only one or two dealers on a regular basis—usually their main dealer and a back-up—the median number of dealers known to the respondents was ten. A handful reported knowing fifty or more. Participants reported making a majority of their purchases directly from their dealer, with less than 11 percent using a runner or middleman.

Table 4: Dealer Information

	Mean	Median	Std Dev	Range	Valid n
Length of use of same source (in months)	19	8	25	1-120	32
Number of sources used in past week	3	2	4	1-20	32
Number of dealers known	29	10	55	1-300	32

Why Use Main Source?

	Count	%
Quality is good	11	26
Dealer always has it/is there	12	28
Convenient/easy to get to	8	19
Dealer is dependable/reliable	9	21
Other	3	7
Total responses	43	100
Valid cases	29	

In the preliminary interviews, one-third of the respondents said they could contact their main source through a beeper, and over half knew other dealers that they could contact through a beeper. However, during the follow-up interviews, when asked if they had used a beeper to contact their dealer the previous day, 91 percent said no. Seven participants never reported using a beeper on the day prior to the interview, and only one participant used it consistently all eight weeks. Thus, it appears that while some of the participants' dealers did have beepers, the users we interviewed did not rely heavily on them to make contact. It also appears that on the whole, participants perceive their dealers as readily available. Participants reported few time restrictions, although police and others reported that dealers come out in the morning, close shop for a few hours, and then deal again in the afternoon. Almost half reported no restrictions whatsoever, while a similar number reported that their main source was unavailable late at night. A handful reported other restrictions, such as lack of availability on Sunday or being available mornings only. (See Table L in Appendix B.)

We also inquired about the frequency with which participants were approached and asked to buy heroin. More than 40 percent had not been approached at all in any given week. Of those who were approached, the median number of approaches per week was four. Participants were (almost) never approached by strangers; the median number of approaches by acquaintances was two approaches per week. One-fourth of the participants had been approached each week to buy drugs. Only one was not approached throughout the eight weeks.

Frequency, Quantity and Cost of Heroin Purchases

Now being winter and with daylight savings time setting the clocks back, it's dark at 5:00 (pm). I wanted to get there before dark at 5:00 (pm) and before I had a chance at getting beat because, you know, the younger kids they run around and take money. I walked into the courtyard of Orchard Park, and I saw one of the fellows I knew. And I said to him, "What's happening?" And he said he had O.P.P. double sealed bags, the eagle sealed. I said, "Beautiful, let me get three." And he put three fingers up to his boy and he said that's \$45. I said let me get them for \$40; he said, "I can't do that." I said, "I'm getting three bags." He said, "I don't care whether you get ten bags." He says, "I can't go short." So to make a long story short, I just went ahead and gave him the \$45 for three bags. Then the other fellow came over and gave me three bags; they were yellow bags with O.P.P. on them and they were glassine bags.

—Forty-three year old black male from Mattapan

Each week, we asked the participants how many times they had purchased heroin during the previous week. Averaging the number of weekly heroin purchases for each participant, we found that half of the participants copped seven times per week or less. Twenty-eight percent copped between eight and fourteen times per week, or about twice daily. The remainder copped multiple times per day. The mean number of buys per week for the participants was nine.

Table 5: Frequency of Heroin Purchases per Week

	Mean	Median	Std Dev	Range	Valid n
Participants' average number of weekly purchases of heroin as reported during follow ups	9	7	8	1-30	32

The average purchase was almost three bags of heroin; the median was two bags. Almost half of the participants averaged less than two bags per purchase. The average price paid per bag of heroin was \$17.58. While the majority of the participants' average price clustered around that figure, the average price for individual participants ranged from \$12.85 per bag to \$33.33 per bag. On average, participants were carrying \$67 at the time of purchase. They spent an average of \$45 per purchase.

Looking at the last full day of buys, the median expenditure per buy was \$30. Respondents rated the quality of the heroin purchased in these "cops" to be "good" 50 percent of the time. Forty-five percent of the heroin purchased was rated fair and, only 5 percent was rated as "bad." During the preliminary interview, participants reported spending an average of \$17.50 per bag. The median was \$20 per bag. When asked to compare current price to the price a year before, over half reported the price had increased; one-third said they were spending less now per bag and a handful reported paying the same price but that the quality had improved. One-half reported that the heroin they are buying is less pure now than it was last year. Again, a handful reported higher purity. These reports of lower purity both in interviews and focus groups contradict the reality of heroin purity, which is much higher than in the past. Perhaps this can be attributed to rising tolerance levels among users. (See Table M in Appendix B.)

Table 6: Quantity and Cost of Heroin

	Mean	Median	Std Dev	Range	Valid n
Mean number of bags purchased during most recent purchase	3	2	2	1-10	32
Mean price per bag during most recent purchase	\$18	\$18	\$4	\$13-33	32
Mean % of \$ spent on heroin of total \$ had during most recent purchase	86%	88%	12%	56%-100%	32
Average price of a bag of heroin reported in preliminary interview	\$18	\$20	\$4	\$7-25	32

Heroin Use Behavior

What happened is um, yesterday, right, I beat somebody with some kind of money. I stole some people's money, right. And this morning I had my money already; thinking about getting high buying a bag of dope and everything. So I set him up myself and say, "Look I am going to the Blackstone Park and I'm going to buy me two bags of dope because I got the money and I can cover it up." So I went down to Blackstone Park, you know, I went out to the main man, he was out on the bicycle. He don't have nothing. And then another guy come, you know, and he said he got the coffee strong and fresh. And I bought it, you know, it was a bullshit dope so I shoot it.

Thirty-one year old Hispanic father from Lynn

The average age of first heroin use was just under 19 years old. Based on current age and age at first heroin use, we calculated length of heroin use. Almost all of the participants in this study could be categorized as very experienced users, averaging 20 years.

During the eight weeks of follow-up interviews, all but one of the 32 participants used heroin every week. Almost half averaged daily use; the median number of days that participants used heroin was 6.5 days per week. Participants reported using more often during the preliminary interviews than they reported week-to-week in the follow-ups; this may suggest a tendency to "telescope" and exaggerate, which weekly interviews counteract.

"Shooting" heroin—intravenous injection—was cited as the exclusive method of administration for 26 of the 32 participants. Three reported both injection and snorting; three reported snorting alone. More than half of the participants reported using heroin in combination with cocaine. However many variations in drug combinations were reported by the participants, including heroin in combination with alcohol, marijuana, tranquilizers and methadone, as well as methadone in combination with tranquilizers.

Most of the participants reported two or three sources of income. When asked how they supported their heroin use, almost two-thirds reported that they committed some type of larceny. A similar proportion reported receiving some sort of public assistance or disability payments on a regular basis. About one-third said they made money by dealing drugs. Only seven respondents, less than one-third, reported employment as one of their sources of income. A handful of women reported prostitution as a means of income.

Almost two-thirds had tried to stop using heroin at least once in the past year; of those, half had tried three or more separate times to quit. During their most recent attempt to stop, half had sought treatment. The median number of days that the participant did not use heroin during these quit attempts was 18 days, with a range from one day to four months.

Table 7: Characteristics of Heroin Users

	Mean	Median	Std Dev	Range	Valid n
Length of heroin use in years	20	21	8	5-33	32
Mean number of days in week using heroin	5	6	2	1-7	32
How many bags used to get high (from Preliminary Interview)	3	2	4	1-20	32
How often got high each day	3	2	1	1-5	21
How much spent per day on heroin	\$100	\$60	\$95	\$20-400	\$31
Number of times tried to stop in last year	4	1	9	0-50	32
Number of days stopped in most recent stop attempt	28	18	32	1-120	18

Frequency of Heroin Use In Last 3 Months

	n	%
More than once a day	19	59
Once a day	4	12
1 - 6 times/ week	6	19
1 - 3 times/month	1	3
Once a month	2	6
Valid cases	32	100

Count of Responses to Combinations of Drugs Used

	Count	%
Heroin & cocaine	18	53
Heroin & crack	4	12
Heroin & other*	7	21
Methadone & other	5	15
Total responses	34	100
Valid cases	28	
*Other includes alcohol, marijuana, tranquilizers, and methadone	28	

Comparison of Previous Use to Current Use

	n	%
Use more now than before	17	53
Use same now as before	12	38
Use less now than before	3	9
Valid cases	32	100

Count of Responses to Source of Support for Heroin Use

	Count	%
Public assistance	15	25
Workmen's compensation	2	3
Stealing	18	30
Prostitution	5	8
Dealing drugs	11	18
Working	7	12
Other	3	5
Total responses	61	100
Valid cases	32	

Each week, we asked participants how and where they used heroin after their most recent buy. Sixty percent of the time, respondents went home to use their heroin. Twelve percent used it outdoors, near where they copped. Other locations for heroin use included other people's houses, random buildings, restaurants, bars, parked cars or at work. The median time before use for participants was 18 minutes, while the median travel time to their use location was 11 minutes. Traveling consumed 51 percent of the time between purchase and use.

During the preliminary interview, one-quarter of the participants each reported using one, two and three bags of heroin per session. The overwhelming percent of the time (83 percent), participants reported they did not save a "wake-up shot" for themselves. Only three participants reported saving wake-up shots at all.

Finally, we attempted to determine whether "copping" and using heroin were private behaviors or were shared with others. When speaking about the last full day of heroin purchases, participants copped alone 78 percent of the time and administered it alone 75 percent of the time.

In the preliminary interview, participants reported using heroin with others a median of two times per week. This is notable, considering that most participants use heroin at least daily and some many times per day. A handful of participants claimed that they never used heroin with anyone else.

Table 8: Characteristics of Heroin Use Behavior

	Mean	Median	Std Dev	Range	Valid n
Participants' mean time in minutes between buying and using heroin during most recent purchase	22	18	16	3-88	32
Participants' mean travel time in minutes from purchase location to use location during most recent purchase	12	11	9	1-33	32
Percent of use time spent traveling	53%	51%	18%	4%-87%	32
Participants' mean number of bags of heroin bought during most recent purchase	2	2	1	1-4	32
Participants' mean weekly number of wake-up shots saved	1	0	2	0-7	32

Heroin Use Location

	Count	%
Home	131	60
On street/outside	25	12
Other persons' house	25	12
In the car	7	3
Hallway/random building	16	7
Other	14	6
Total responses	218	100
Valid cases	32	

Use Heroin Alone (Most Recent Day of Purchases)?

	Count	%
No	79	26
Yes	231	74
Total responses	310	100
Valid cases	32	

Purchased Heroin Alone (Most Recent Day of Purchases)?

	Count	%
No	70	22
Yes	244	78
Total responses	314	100
Valid cases	32	

CORRELATIONS BETWEEN SEARCH TIME AND USER CHARACTERISTICS

Overview

With participants' mean search times ranging from 12 minutes to just over two hours, we wanted to explore user characteristics to shed light on what factors affect search time. First we conducted two focus groups: one with females who were former heroin users to discuss differences in the way men and women purchase heroin, and a second with current heroin users whose patterns vacillated between occasional and regular use. In addition, we correlated two measures of search time with a number of user characteristics. Each of the tables that follow contains a mean and standard deviation for the user characteristic of total search time and search time less travel time.

Contrary to general belief, we found no correlation between search time and gender. Discussion during a focus group of female heroin users concluded that there were no large differences in the copping behavior of men or women. There were correlations between search time and both marital status and whether participants lived with their children, in that those who were married and those who lived with their children had the lowest search times. A curious correlation between search time and age was found—that is the older the participant, the longer the search time. A similar positive correlation existed between search time and years of heroin use, leading us to believe that extensive years of use most likely leads to increased inefficiency and isolation from the heroin network of users and dealers. The final two personal characteristics, race and residence, correlated similarly to search time. It became clear that those minorities living in drug-dealing areas of the city had search times that were significantly less than those whites living in other city neighborhoods.

Analysis of most of the variables associated with frequency of use showed that participants who used more heroin reported shorter search times. These included frequency of weekly use, frequency of weekly purchases, and total money spent on heroin. Interestingly, poly-drug users who always used other drugs more than heroin had heroin search times that were significantly shorter than those who only used other drugs more than heroin on an occasional basis. As expected, those who used mostly heroin had the shortest search times.

Looking at the user-dealer relationships, it appears that participants with two or three regular heroin dealers had lower search times than either those with one main dealer or those with no stable connections. Copping outside, especially on "copping corners" appeared to be the quickest way to buy heroin. Using beepers and arranging meeting times/places resulted in longer search times.

Personal Characteristics

I bumped into a boy that had an automobile and he was like, "Oh man, I'm uptight; I need to cop. Can you cop for me? Do you know where there is something good?" I said, "Sure." He said, "I'll take you anywhere you got to go." I said "Beautiful." So I had something for him and he had something for me.

—Forty-three year old black male from Mattapan

It is as much the absence of correlations between search time and various personal characteristics as their presence that is interesting. No correlations were found between search time and gender or education, while correlations were found between search time and race, residence, age, marital status, and whether or not participants resided with their children.

Prior to the research, several ethnographers suggested excluding women, or at least treating them as a separate group, since their copping behavior was very different from that of men. They believed that most women purchased their heroin through a man, usually their spouse or current mate, and that their search times would be rendered incomparable. We did not find this to be the case. Women purchased their heroin directly from dealers with the same frequency of men. There were times when women purchased their heroin through a middleman, similarly to men,

and other times when they accompanied their spouse or mate to make the purchases. In our female focus group, there was overwhelming agreement that the process of "copping" heroin was no different for women than men, with a few minor exceptions. Most of these women recalled times in their heroin use careers when they had been with a mate or even a "sugar daddy" who either purchased heroin for them or with them. They reported, however, that these periods were usually limited and that for most of their heroin careers, they purchased it themselves. Some of the focus group participants would not allow men to purchase for them due to distrust. As one woman put it, "I don't want to give up my hard-earned money to give to someone else no, I don't think so. I want to make dammed sure that I'm getting what I worked for, cause I can go to jail for how I got this money, and then not to get my dope?...."

When the female focus group participants were asked if it was easier or more difficult for women to purchase heroin than men, there were mixed responses. A couple of the participants believed that a woman was more apt to "get beat," that is, be sold poor quality heroin. However, others disagreed, saying it was the personality of the individual, not gender, that was the issue. They believed that if a woman was assertive and demanded a taste of the product, the likelihood of "getting beat" was low. One woman reported regularly carrying a gun or machete when she purchased heroin. All agreed that their chances of "getting beat" rose significantly when their main sources were unavailable and alternative sources in other locations were used.

Some of the women believed that they had an advantage over men in purchasing heroin, either because they were given a lower price or more apt to be extended credit when needed. Finally, there was discussion that overall heroin use was more degrading for women because society looks down on female heroin addicts, especially those who are mothers, more than male addicts. They also referred to the degradation associated with prostitution that was sometimes necessary to support their habit.

The "copping" behaviors of the women in the focus group were very similar to those of the female participants we interviewed. When their main sources were available, their search times were relatively short and consisted mostly of travel time. However, just like men, they were forced to go to alternative sources on a regular basis which always took much longer. As mentioned previously, there was no correlation between search time and gender. Although the consequences of regular heroin use, such as prostitution, loss of custody of children, complicated health problems and domestic abuse, are surely different for women and men, there appears to be no significant differences in their coping behaviors.

Table 9: Analysis of Search Time by Gender

Gender	n	Search Time		Search Time less Travel Time	
		Mean	Std Dev	Mean	Std Dev
Female	12	52	30	32	31
Male	20	48	29	28	23

There was no correlation between search time and education, despite the broad range of formal education (7th grade to college graduate). Apparently becoming streetwise and connected into the heroin network is not a function of formal education.

Table 10: Analysis of Search Time by Education

Education Level	n	Search Time		Search Time less Travel Time	
		Mean	Std Dev	Mean	Std Dev
< High school grad	8	41	14	27	15
High school grad	11	53	38	36	38
> High school grad	13	51	28	25	17

Looking at the marital status of participants, there is not much difference in search times for the two largest groups—those who are single (46 minutes) and those who are separated or divorced (51 minutes). However, the group with the lowest search times were the married participants (37 minutes). Perhaps the differences can be explained by looking at the relationship between search time and whether one resides with children, since married participants are the most likely ones to be living with their children.

Table 11: Analysis of Search Time by Marital Status

Marital Status	n	Search Time		Search Time less Travel Time	
		Mean	Std Dev	Mean	Std Dev
Single	17	46	28	25	20
Divorced/Separated	8	51	28	33	26
Married	5	37	9	23	14
Widowed	1	131	0	116	0
Live-in lover	1	58	0	24	0

Those participants with no children had the highest search time (62 minutes). On the other hand, participants who had children living with them had the lowest search time (32 minutes). In between were those who had children but were not living with them. Presumably those with children living with them do not have the time to shop around for quality and price, but must be quick in their heroin search. Perhaps the lives of those who never had children revolve more around the purchase and use of the drug, thus accounting for longer search times.

Table 12: Analysis of Search Time by Children

Children	n	Search Time		Search Time less Travel Time	
		Mean	Std Dev	Mean	Std Dev
Yes, and live with	6	32	9	13	6
Yes, but don't live with	17	49	29	30	27
No	9	62	33	40	26

There is a positive correlation between search time and age: the older the participant, the longer was the search time. Since there is a similar correlation between search time and years of heroin use (described in a later section), we believe that age is related to search time via years of heroin use. At first glance, the findings run counter to logic, since a more experienced user should also be a more experienced searcher, having had plenty of practice over the years, presumably resulting in an established network of heroin users/dealers. However, we heard from several older users who have abandoned the heroin network and culture, preferring to keep their heroin use to themselves. Perhaps also, years of heroin use debilitates a person, resulting in both physical and psychological inefficiency and estrangement from others.

Table 13: Analysis of Search Time by Age

Age	n	Search Time		Search Time less Travel Time	
		Mean	Std Dev	Mean	Std Dev
34 and under	9	33	6	15	7
35 to 39	10	44	17	27	17
40 and over	13	64	38	42	34

Table 14: Analysis of Search Time by Years of Heroin Use

Years of Heroin Use	n	Search Time		Search Time less Travel Time	
		Mean	Std Dev	Mean	Std Dev
Less than 18 years	10	43	16	24	17
18 - 24 years	13	46	24	28	24
25 years or more	9	61	43	38	35

Non-whites had search times that on average were over half an hour shorter than those of whites. Hispanics, with average search times of 31 minutes, had the shortest search times in our sample. We believe that race is related to search time via residence; almost all of the black and Hispanic participants in this study lived in either Roxbury or Dorchester, both areas where participants had search times under 40 minutes. None of the study's white participants lived in these areas, but instead resided in other areas of the city where the average search times were over one hour. Thus, it is clear that minorities living in drug-dealing areas of the city had search times that were substantially less than those whites living in areas where drug-dealing is either non-existent or at least underground.

Table 15: Analysis of Search Time Variables by Race

Race	n	Search Time		Search Time less Travel Time	
		Mean	Std Dev	Mean	Std Dev
White	12	69	37	47	34
Black	14	39	15	21	12
Hispanic	4	31	2	12	5
Other	2	34	5	23	6

Table 16: Analysis of Search Time by Residence

Place of Residence	n	Search Time		Search Time less Travel Time	
		Mean	Std Dev	Mean	Std Dev
Roxbury	12	34	12	20	12
Dorchester	4	38	7	18	6
South End	2	62	72	51	62
Mattapan	1	47	0	31	0
Charlestown	3	64	34	47	22
North End	1	80	0	69	0
Downtown	3	74	32	30	12
South Boston	3	71	52	53	54
Jamaica Plain	1	67	0	20	0
Lynn	1	32	0	5	0
Mission Hill	1	38	0	19	0

Heroin Use Behavior

I left the house. I had \$25. I walked to Dudley Street from my house. I ran into someone else who was getting ready to cop. We got down; we got two bags of dope and a bag of coke together. We walked to the gallery around the corner and we got high. I came out of the gallery and I came around here to get my money so I can cop again.

—Thirty-eight year old black father from Roxbury

As we expected, participants who used more heroin reported shorter search times. Analysis of most of the variables associated with frequency of use supported this hypothesis. Participants who used heroin daily had the shortest average search times (38 minutes), compared to those who used four to six times a week (62 minutes) or those who used less (53 minutes). Similarly, those participants who "copped" 11 or more times per week had shorter search times (32 minutes) than those copping less than four times weekly (63 minutes). Besides frequency of use and purchase, the amount purchased was also significant. There was an inverse relationship between the value of heroin purchased by participants and the time it took to make a purchase. Users who purchased less than \$50 worth took well over an hour on average to make a purchase. Users who purchased more than \$100 of heroin, on the other hand, took closer to half an hour.

Obviously, people who purchase heroin frequently or who purchase a lot of it have solid dealer connections and are also probably more driven by their addiction to make timely purchases.

Table 17: Analysis of Search Time by Frequency of Heroin Use

# of Days Used Per Week	n	Search Time		Search Time less Travel Time	
		Mean	Std Dev	Mean	Std Dev
Less than 4 days	11	53	22	32	22
4 - 6 days	8	62	39	40	33
7 days	13	38	24	21	23

Table 18: Analysis of Search Time by Number of Purchases Per Week

Number of Purchases Per Week	n	Search Time		Search Time less Travel Time	
		Mean	Std Dev	Mean	Std Dev
Less than 4 purchases	12	63	31	39	27
4 - 10 purchases	10	50	32	32	32
11 or more purchases	10	32	7	16	6

Table 19: Analysis of Search Time by Total \$ Spent During Most Recent Purchase

Total Dollars Spent	n	Search Time		Search Time less Travel Time	
		Mean	Std Dev	Mean	Std Dev
Less than \$50	9	69	40	49	36
\$50 - \$100	11	46	25	29	19
\$100 or more	11	37	12	16	7

There were two variables describing heroin use behavior that did not fall into the higher use/shorter search time pattern. The first, years of heroin use, showed that participants who had used heroin the longest also had the longest search times, as discussed previously. The other one, incidence of poly-drug use, was not clear-cut. Participants who never used other drugs more than heroin had the shortest search time (33 minutes). One would expect that a user who was partial to heroin would have shorter search times than someone who uses heroin with the same or less frequency than other drugs. One might then hypothesize that those participants who always used other drugs more than heroin would have the highest search times. This did not prove to be true since this group had shorter search times (42 minutes) than those who sometimes used other drugs more than heroin (58 minutes). Perhaps heavy poly-drug users who always used other drugs more than heroin, may simply have been very experienced and connected drug users who generally found it easy to purchase any type of drug.

Table 20: Analysis of Search Time Variables by Incidence of Poly-drug Use

Uses Other Drugs More Than Heroin	n	Search Time		Search Time less Travel Time	
		Mean	Std Dev	Mean	Std Dev
Never	7	33	7	14	7
Sometimes	18	58	34	36	30
Always	7	42	22	30	20

Prior to the commencement of the interviews, we were told that search time for heroin was negligible or at best was equivalent to travel time. We then refocused part of the study to look at new versus experienced users by adding a focus group. While new users proved impossible to recruit, we conducted a focus group of heroin users who vacillated between regular and occasional use. Among other topics, there was much discussion about initiation into heroin use and the process of purchasing heroin for new users. All of the focus group participants believed that if one knew someone who used heroin, it was relatively easy to purchase heroin, either through that person (usually at first) or to be introduced by that person to a dealer. Most of the group's participants related that they had purchased heroin through someone the first several times, perhaps the first week or month of use, then were able to make the purchase themselves. While search time increases dramatically (perhaps by hours or even days), while the new user purchases through a middleman, the new user status is so transient, as to make it difficult to study.

User-Dealer Relationships

I got a new dope connection, as a matter of fact a couple of new ones now in Southie. I got another one the past week but I haven't been following up on it... but I got it anyway. I called them and they shoot out and grab it for me. It's a middleman so I don't use it really or I make a call to my main source and I walk down it takes me ten minutes to get there and I'm all set.

—Thirty-eight year old white male from South Boston

One might expect that persons who always obtained heroin from the same source would be able to obtain heroin more quickly than those who used multiple sources. However, there is little relationship between using one main source and the time needed to travel and/or obtain heroin. In fact, participants who reported using lots of sources seemed to be able to obtain heroin about twenty minutes more quickly on average than others. This might be because those with multiple sources were not stuck waiting if their main source was unavailable.

Table 21: Analysis of Search Time by Use of Main Source

Use a Main Source?	n	Search Time		Search Time less Travel Time	
		Mean	Std Dev	Mean	Std Dev
Always	8	42	15	24	11
Most of the time	15	60	37	40	33
Sometimes	6	46	12	22	10
NA—Use lots of sources	3	21	8	9	3

There was a curvilinear relationship between the number of dealers participants actually frequented and the time it took them to purchase heroin. Users with one source needed an average of about an hour to find heroin. Users with two or three regular sources took closer to half an hour. Users who frequented many dealers required an average of over three quarters of an hour. It was probably advantageous to have several regular sources: if one was not available another would be easy to find. On the other hand, users with one source may have had to exert themselves on occasion to find him while users with many sources may actually have had no regular ones and always had to engage in a search to find a dealer.

Table 22: Analysis of Search Time by Number of Heroin Sources

Number of Heroin Sources	n	Search Time		Search Time less Travel Time	
		Mean	Std Dev	Mean	Std Dev
1 source	11	62	34	42	36
2-3 sources	11	38	26	17	11
4+ sources	10	48	23	29	19

Overall it appears that having two or three steady heroin connections is preferable. Always using the same dealer over a long period of time necessitates taking the time to track him down when he is unavailable since there is no other source. Indeed, analysis of search time by duration of connection reveals that the longer a person used his dealer, the longer it took him to purchase heroin. Having no regular connections however, adds to search time, because one must constantly shop around and deal with the issues of trust, quality and price. Focus group participants preferred having two or three regular sources since they often lost dealers for a variety of reasons. They reported that it usually took about a week to develop a new heroin connection through other users.

Table 4: Analysis of Search Time by Duration of Connection

Duration of Connection	n	Search Time		Search Time less Travel Time	
		Mean	Std Dev	Mean	Std Dev
Less than 6 months	9	35	11	18	10
6 - 12 months	10	47	15	27	12
12 months or more	13	61	40	40	36

Heroin was obtained most quickly by those who bought it from "copping corners" (38 minutes), next most quickly by those who bought it from indoor locations (45 minutes), and least quickly by those who purchased from someone using a beeper system (75 minutes). The amount of travel needed to reach heroin selling locations had no impact on this relationship. Dealers who sell on the streets or on "copping corners," are probably always out during their "regular" hours. Those who deal inside presumably have to be phoned first so that a meeting time and place can be designated. Use of a beeper prolongs this process because the participant must wait for the dealer to call back. Copping outside was quicker for study participants than copping inside, presumably because the user-dealer relationship of the former were more business-like while the relationship of the latter less formal since it involves a much higher level of trust and probably kinship with the dealer.

Table 24: Analysis of Search Time by Type of Heroin Connection

How Connects with Main Source?	n	Search Time		Search Time less Travel Time	
		Mean	Std Dev	Mean	Std Dev
Copping corner	15	38	16	22	13
Inside house/apartment	8	45	29	27	28
Through a beeper	7	76	38	47	35
Dealer on bike/in car	1	32	0	5	0
Meet at restaurant	1	80	0	69	0

Table 25: Analysis of Search Time by Inside/Outside Purchase Location

Purchase Heroin Inside/Outside	n	Search Time		Search Time less Travel Time	
		Mean	Std Dev	Mean	Std Dev
Inside	7	57	30	39	30
Outside	23	47	30	28	25
Both	2	41	17	19	7

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APPENDIX A. User Characteristics

Demographics

Most of the 32 participants in the study were African-American, just over one-third were Caucasian, and one-eighth were Hispanic; about one-third of the respondents were female. The participants ranged from 30 to 61 years in age. The median age was 37.5 years. Over one-half of the participants were single; the remainder were either divorced/separated, married, widowed, or living with a lover/mate. Of the 23 respondents who reported having children, more than half did not live with their children.

Over one-third of the participants lived alone, one-quarter lived with a spouse or mate, and another quarter lived with family or friends. Two-thirds reported paying rent. Roxbury was home to a little over one-third of the sample; the other most frequently reported places of residence were Dorchester, Charlestown, downtown Boston and South Boston.

Formal education ranged from 7 to 16 years. Over one-third of the participants had completed 12 years of education or received a G.E.D. Another third of the sample had completed more than 12 years of education. Only one-eighth of the participants were employed either full or part time. A little under one-fourth was recently unemployed. Another fourth of the sample was not looking for work. Almost half of the participants received public assistance, either SSI/General relief, AFDC, or SS disability/workmen's compensation. (See Table A.)

Substance Abuse History

More than half of the study participants began drinking alcohol prior to their initial illicit drug use. Although two of the participants never drank, the majority began drinking before the age of 17, the average age being 16 years old. The average age of first illicit drug use was slightly higher, 17 years old, with the majority having started drug use by their eighteenth year. For half of the participants, the first drug used was marijuana. Heroin was the first illicit drug used by six of the participants. The remainder of the drugs reported as first used varied evenly among a number of other drugs. Smoking marijuana and drinking alcohol were the most prevalent, but many had experimented with harder drugs including cocaine, amphetamines, depressants, and opiates before they began using heroin.

The average age of first heroin use was just under 19 years old; while the median was 18 years old. While over two-thirds of the heroin users began in their teenage years (eight under the age of 16), there were three users who didn't begin until they were over 28 years old. Over half of the heroin users began snorting heroin and over a third by injection, with most doing so intravenously and a few "skin-popping" it. One participant initially smoked it. It appears that once the participants had experimented with heroin, they immediately began somewhat regular usage. Only six people said that following initiation they used it less than weekly. The

remainder used heroin at least weekly, with 12 participants using it daily right from the beginning. (See Table B.)

Besides heroin, the most frequently used drug was cocaine, which was used by nearly 80 percent of the participants, followed by tranquilizers and crack. All but one of the participants had smoked marijuana, although less than one-third still consume it. While there had been a lot of experimenting with other drugs, most were no longer being used. (See Table C.)

Substance Abuse Treatment History

Most of the heroin users in this study had participated in some type of formal substance abuse treatment. Over two-thirds had been admitted into a detox center; and half of them had been admitted into detox four or more times. Two-thirds had also been placed on methadone maintenance, though most of those had only been on methadone maintenance once. Nine heroin users had entered a therapeutic community or halfway house for their addiction. Many of the heroin users participated in self-help groups such as Alcoholics Anonymous (AA) or Narcotics Anonymous (NA). (See Table D.)

Criminal History

As a result of their heroin use, many of the heroin users had encounters with the criminal justice system. Three-fourths had been arrested on some type of drug charge, including possession of a drug or syringe, forging false prescriptions, or drug dealing. While we did not inquire about the number of arrests for other drug-related offenses (such as armed robbery and larceny), we did learn that half of the participants had served time as a result of some criminal conviction.

Current Drug Use Patterns

In the preliminary interviews, all but two of the participants reported getting drunk at some point in their lives, though one-third said that they no longer drink at all. However, a similar number of participants did report daily drinking and five reported drinking more than once a day. These results were confirmed by questions concerning alcohol use that we asked during weekly follow-up interviews. In fact, after heroin, alcohol was the most readily used substance, with two-thirds of the participants reporting its use during the eight weeks. (See Table E.)

All of the participants reported use of illicit drugs other than heroin at some point during the eight weeks of interviews; 17 participants, over half, reported using other drugs all eight weeks. Overall, after heroin, cocaine was the most widely used illicit drug; 18 of the participants reported its use in combination with heroin, most often in the form of "speed balling." In fact, when asked what their favorite drug or drug combination was, the use of heroin in combination with cocaine came in second to heroin alone, with over one-third listing it as one of their two favorite drugs or drug combinations. In addition, eight participants reported using it as much or more than heroin alone during some weeks. Although cocaine was cited as being frequently used in both the preliminary and follow-up interviews, that was not the case with crack. One-third of

the participants reported current use of crack in the preliminary interview; but during the follow-up interviews, crack use was only reported six times.

Following cocaine, tranquilizers were most frequently used, with Zanax and Valium topping the list. Although only a few participants listed tranquilizers as one of their favorite drugs, almost half used them regularly, and half of them reported using tranquilizers as much or more than heroin. Other types of depressants, such as barbiturates and clonopin, were also frequently used. One-third reported smoking marijuana.

Finally, participants reported using several drugs that are not controlled substances. Of these, Clonidine, an anti-hypertensive, and Elavil, an anti-depressant, were cited most often. Pharmacists and other experts explained that these and other similar drugs were used by heroin users to boost the effects of heroin or methadone. Eight participants used methadone during the eight weeks, some of whom were currently enrolled in methadone maintenance clinics.

Table A: Demographics

Age		
Mean		39
Median		38
Range		30-61
Standard deviation		7

Race/Ethnicity	n	%
Black	14	44
White	12	38
Hispanic	3	12
Other	5	6

Gender	n	%
Male	20	62
Female	12	38

Years of Education Completed		
Mean		12
Median		12
Range		7-16
Standard deviation		2
Note: GED=12		

Employment Status	n	%
Not looking for work	8	25
Recently unemployed	7	22
SSI/General relief	6	19
SS disability/workmen's	4	12
Employed full time	3	9
AFDC	3	9
Employed part time	1	3

Marital Status	n	%
Single	17	53
Divorced/separated	8	25
Married	5	16
Widowed	1	3
Live-in lover/mate	1	3

Children	N	%
Yes, living with	6	19
Yes, not living with	17	53
None	9	28

Living Arrangements	n	%
Alone	12	38
With spouse/mate	8	25
With family	5	16
Homeless/shelter	4	12
With friends	3	9

How Pay For Living Arrangement	n	%
Pay rent	21	66
Live rent-free	6	19
Other/Homeless	5	16

Residence	n	%
Roxbury	12	38
Dorchester	4	12
Charlestown	3	9
Downtown	3	9
South Boston	3	9
South End	2	6
Mattapan	1	3
North End	1	3
Jamaica Plain	1	3
Lynn	1	3
Mission Hill	1	3

Table B: Substance Abuse History

Ever Been Drunk ?	n	%
Yes	30	94
No	2	6

Age When First Drunk		
Mean		16
Median		15
Standard deviation		5
Range		8-30

How Often Drink Now ?	n	%
more than once a day	5	16
once a day	4	12
1 - 6 times/week	5	16
1 - 3 times/month	5	16
once a month	2	6
Not at all	11	34

Age When First Used Illicit Drugs		
Mean		17
Median		16
Standard deviation		5
Range		9-29

First Illicit Drug Used	n	%
Marijuana/hashish	16	52
Heroin	6	19
Opiates	2	6
Amphetamines/crys.meth	2	6
Cocaine	1	3
Hallucinogens	1	3
Inhalants	1	3
Tranquilizers	1	3
Other	1	3

Note: 1 missing case

Age First Used Heroin		
Mean		19
Median		18
Standard deviation		5
Range		10-33

Shoot Heroin?	n	%
Yes	29	91
No	3	9

Snort Heroin?	n	%
Yes	6	19
No	26	81

Level of Use When First Using	n	%
More than once a day	5	16
Once a day	7	22
1-6 times/week	14	44
1-3 times/month	6	19

Table C: Specific Drug Use History

Used Heroin?	n	%	Used PCP?	n	%
Yes, before and now	32	100	Yes, before and now	0	0
No, never used	0	0	Yes, before, but not now	16	50
			No, never used	16	50
Used Opiates?	n	%	Used LSD?	n	%
Yes, before and now	6	19	Yes, before and now	1	3
Yes, before, but not now	23	72	Yes, before, but not now	18	56
No, never used	3	9	No, never used	13	41
Used Cocaine?	n	%	Used Inhalants?	n	%
Yes, before and now	25	78	Yes, before and now	0	0
Yes, before, but not now	6	19	Yes, before, but not now	13	41
No, never used	1	3	No, never used	19	59
Used Crack?	n	%	Used Tranquilizers?	n	%
Yes, before and now	11	34	Yes, before and now	12	38
Yes, before, but not now	11	34	Yes, before, but not now	16	50
No, never used	10	31	No, never used	4	12
Used Amphetamines?	n	%	Used Barbiturates?	n	%
Yes, before and now	2	6	Yes, before and now	4	12
Yes, before, but not now	17	53	Yes, before, but not now	17	53
No, never used	13	41	No, never used	11	34
Used Marijuana?	n	%			
Yes, before and now	9	28			
Yes, before, but not now	22	69			
No, never used	1	3			

Table D: Treatment and Criminal History

Times In Methadone Maintenance		Participate In AA		n	%
Mean	2	Participate now	3	3	9
Median	1	Did, but not now	19	59	
Standard deviation	3	Never participated	10	31	
Range	0-9				
Times In Detox		Participate In NA		n	%
Mean	4	Participate now	1	3	
Median	2	Did, but not now	22	69	
Standard deviation	7	Never participated	9	28	
Range	0-40				
Times In a Therapeutic Community		Arrested On Drug Charges		n	%
Mean	1	Arrested for dealing drugs	8	25	
Median	0	Arrested for possession of drugs	6	19	
Standard deviation	1	Arrested for needle possession	3	9	
Range	0-4	Arrested for false prescription	1	3	
		Arrested multiple reasons	6	19	
		Never on drug charges	8	25	
Times In Individual Counseling		Prison Time		n	%
Mean	1	Served prison time	16	50	
Median	1	Never served prison time	16	50	
Standard deviation	1				
Range	0-5				

Table E: Reported Drug Use

Number of Weeks Reported Use	Cocaine		Tranquilizer		Barbiturates		Marijuana		Methadone		Opiates		Clonidine	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
0	16	50	18	56	20	62	23	72	24	75	26	81	26	81
1	1	3	2	6	5	16	2	6	2	6	3	9	1	3
2	2	6	2	6	0	0	3	9	0	0	0	0	2	6
3	0	0	1	3	4	12	1	3	3	9	2	6	1	3
4	1	3	2	6	0	0	0	0	0	0	0	0	1	3
5	4	12	4	12	2	6	0	0	0	0	0	0	1	3
6	4	12	1	3	1	3	1	3	0	0	1	3	0	0
7	2	6	1	3	0	0	1	3	3	9	0	0	0	0
8	2	6	1	3	0	0	1	3	0	0	0	0	0	0

Number of Weeks Reported Use	Alcohol	
	n	%
0	10	31
1	4	12
2	2	6
3	2	6
4	2	6
5	2	6
6	2	6
7	4	12
8	4	12

Number of Weeks Used > Heroin	Cocaine		Tranquilizer		Barbiturates		Marijuana		Methadone		Opiates		Clonidine	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
0	24	75	21	66	32	100	29	91	26	81	32	100	32	100
1	1	3	4	12	0	0	0	0	1	3	0	0	0	0
2	4	12	2	6	0	0	0	0	1	3	0	0	0	0
3	1	3	0	0	0	0	0	0	1	3	0	0	0	0
4	1	3	2	6	0	0	1	3	0	0	0	0	0	0
5	0	0	2	6	0	0	0	0	1	3	0	0	0	0
6	0	0	1	3	0	0	1	3	0	0	0	0	0	0
7	0	0	0	0	0	0	1	3	1	3	0	0	0	0
8	1	3	0	0	0	0	0	0	0	0	0	0	0	0

APPENDIX B. Additional Tables

Table F: The Effect of Time of Day on Difficult and Easy Purchases

Time of Day of Difficult Heroin Purchase			Time of Day of Easy Heroin Purchase		
	Count	%		Count	%
Morning 6am-11:59am	74	48	Morning 6-11:59am	127	67
Afternoon 12:00-4:59pm	72	46	Afternoon 12:00-4:59pm	52	27
Evening 5:00pm-9:59pm	9	6	Evening 5:00-9:59pm	10	5
Total responses	155	100	Late night 10:00-5:59am	1	1
Valid cases	30		Total responses	190	100
			Valid cases	30	

Note: the Total Number of Responses for the variables describing both difficult and easy heroin purchases varies due to missing information and multiple responses.

Table G: Mode of Transportation for Difficult and Easy Purchases

Mode of Transportation for Difficult Heroin Purchase			Mode of Transportation for Easy Heroin Purchase		
	Count	%		Count	%
Own car	14	9	Own car	19	10
Bus/subway	55	34	Bus/subway	41	21
Walk	46	29	Walk	76	39
Taxi	14	9	Taxi	17	9
Got a ride	21	13	Got a ride	28	14
At home/no travel	10	6	Other	1	1
Total responses	160	100	At home/ no travel	13	7
Valid cases	30		Total responses	195	100
			Valid cases	30	

Table H: Purchase Source for Difficult and Easy Purchases

Difficult Heroin Purchase Made From Main Source?			Easy Heroin Purchase Made From Main Source?		
	Count	%		Count	%
No	86	56	No	50	26
Yes	69	45	Yes	140	74
Total responses	155	100	Total responses	190	100
Valid cases	30		Valid cases	30	

Table I: Ability to Make Heroin Connection

Have You Ever Not Been Able to Make a Connection?	n	%
Yes	18	56
No	14	44
Valid cases	32	

Number of Months Since Could Not Make a Connection	
Mean	9
Median	1
Std Dev	25
Range	0-108
Valid cases	18

Table J: Heroin Purchase Logistics

Time of Day Heroin Purchased (Most Recent Day of Purchases)	Count	%
Morning 6:00am-11:59pm	138	45
Afternoon 12:00pm-4:59pm	107	35
Evening 5:00pm-9:59pm	53	17
Late night 10:00pm-5:59am	9	3
Total responses	307	100
Valid cases	32	

Type of Transportation Used (Most Recent Day of Purchases)	Count	%
Own car	26	8
Bus/subway	88	28
Walk	119	38
Taxi	23	7
Got a ride	34	11
Other	2	1
Delivered	23	7
Total responses	315	100
Valid cases	32	

Indoor vs. Outdoor Purchase (Most Recent Day of Purchases)	Count	%
Inside	153	49
Outside	159	51
Total responses	312	100
Valid cases	32	

What Type of Connection is Main Source?	n	%
Copping corner	15	47
Inside house/apartment	8	25
Through a beeper	7	22
Other	2	6
Valid Cases	32	100

Table K: Heroin Purchase Location

Buying Location (Most Recent Day of Purchases)	Count	%
Dudley (section of Roxbury)	48	22
Mission Hill (section of Roxbury)	41	19
Other sections of Roxbury	25	12
Downtown	16	7
Charlestown	14	6
Dorchester	13	6
South End	13	6
South Boston	10	5
Quincy	8	4
Lowell	7	3
Brookline	3	1
Cambridge	3	1
East Boston	3	1
Boston	2	1
North End	2	1
Jamaica Plain	2	1
Mattapan	1	1
Lynn	1	1
Brockton	1	1
Arlington	1	1
Everett	1	1
Rhode Island	1	1
Revere	1	1
Total responses	217	100
Valid cases	32	

Table L: Source Availability/Convenience

Main Source Uses Beeper?

	n	%
Yes	12	38
No	20	63
Valid cases	32	100

Number of Times Beeper Used (Most Recent Day of Purchases)

	Count	%
0	197	91
1	11	5
2	5	2
3	2	1
5	1	1
28	1	1
Total responses	217	100
Valid cases	32	

Others Sources Use beepers?

	n	%
Yes	18	56
No	13	41
NA - no other source	1	3
Valid cases	32	100

Main Source Have Time Restrictions?

	Count	%
No restrictions	14	41
Open mornings only	1	3
Closed mornings	1	3
Closed morn./late night	2	6
Closed late night	12	35
Closed evening/late night	2	6
Other	2	6
Total responses	34	100
Valid cases	32	

Table M: Characteristics of Heroin Purchased

Quality of Purchases (During Most Recent Day of Purchases)

	Count	%
Good	155	50
Okay/mediocre	140	45
Bad	16	5
Total responses	311	100
Valid cases	32	

Is Price the Same as Last Year?

	n	%
More now than before	17	57
Less now than before	11	37
Same as before	1	3
Quality better	1	3
Valid cases	30	100

Has Purity Changed in Last Year?

	n	%
More pure	6	19
Equally pure	9	28
Less pure	17	53
Valid cases	32	100

APPENDIX C. Advisory Panel

BOTEC assembled a panel of researchers to advise us on study design, research methodology, construction of the focus group guide and interview instruments, and management issues. They also advised us on data collection issues and analysis, and provided feedback on the interim report.

The Advisory Panel members were: John French, Director of the Data Analysis and Epidemiology Unit, Division of Alcohol, Drug Abuse, and Addiction Services, New Jersey Department of Health; Gerard Garrett, Ph.D., Professor of Sociology, University of Massachusetts-Boston; Janet Wilson Knight, Ph.D., Director of Research, Massachusetts Department of Correction; Richard LaBrie, Ed.D., Research Director, Project Outreach; Mark Moore, Ph.D., Professor of Criminal Justice Policy and Management, John F. Kennedy School of Government, Harvard University; and Wayne Wiebel, Ph.D., Associate Professor of Epidemiology, School of Public Health, University of Illinois at Chicago.

APPENDIX D. Confidentiality Issues and Procedures to Ensure Field Staff Safety

Confidentiality Certificate

We received a confidentiality certificate from the Drug Enforcement Administration (DEA) that authorized us "to withhold the names and other identifying characteristics" of our study participants. We "may not be compelled in any Federal, State, or local civil, criminal, administrative, legislative, or other proceeding to identify the subjects of (our) research" (21CFR 1316.23).

Informed Consent

We required that all participants read and sign informed consent forms. To protect their confidentiality and privacy, we asked them to sign a pseudonym or their initials. While we offered our research subjects a copy of the informed consent form, we also suggested that they not keep a copy of it for their own safety.

Coding of data

To protect the confidentiality and privacy of our participants, we assigned each participant a number that was used on all data collected from them. Although we have a master list of the names and the code numbers, this list will be destroyed at the completion of the study. Similarly, any payment checks that are made out to the participants will have all identifying information removed from them.

Limited Access to Paper and Computer Files

We also stored all data for this study in a locked desk. Only the Project Director and Research Assistant had access. Similarly, we limited access to computer files to those working directly on the project.

Procedures to Ensure Field Staff Safety

We prepared laminated identification cards for all interviewers. These cards included a picture, the bearer's name and indicated that the bearer of the card was working on BOTEC's Heroin Availability Project.

We also prepared slips of paper on BOTEC letterhead indicating briefly what our study was about and what our field staff were doing. Such documents were created to be presented to the police and to heroin buyers and dealers as well, if needed. A copy of the ID card and a list of

field staff were provided to the Boston Police. We requested that the police call us if any of our field staff were arrested.

APPENDIX E. Respondent Stories

During the analysis phase of the study, participant responses were coded and analyzed quantitatively. However, participants often answered questions with detailed "stories" that gave a qualitative flavor to what purchasing heroin was like. The following "stories" were selected from the first few weeks of interviews before participants became familiar with the weekly questions and ceased giving us such detailed responses. We are including these "stories" in this appendix and throughout the study to add qualitative depth to the study and to demonstrate the numerous circumstances, factors and personalities that come into play during the purchase of heroin.

What happened the last time you copped?

I had the money in my hand. I left my house around 11:30 (am) I went down, you know, to the area where, you know the dealers be. In this case the dealers I deal with live in Roxbury where I do. Once I got to the actual spot it took about 15 minutes to get to the actual spot where these particular dealers are. Once I copped, I immediately left. No hanging around, no nothing. I went home.

—Thirty-seven year old black mother from Roxbury

I met somebody in the West End who had a car and he asked me to got to Lowell with him to cop. I said "sure." Got in the car took us about 35-40 minutes to get up there. I knew the house to go to. I went and copped and we were on our way home.

—Forty-five year old white male from downtown Boston

I got up. I called my son and I went down and got \$40. And then I came back on the train, and I got off at Dudley.

—Forty-nine year old black father from Roxbury

It was about 10:30 (am). I decided I wanted to buy a couple of bags, so I had to hop on the Orange Line and I had to take a train to Central Square. When I got to Central Square, took about half an hour to get there, I was there no more than five minutes when I bumped into a few people that I know that I do business with. We decided to catch the bus to go over the bridge to go into Boston. That was about 11:30 (am) by the time we got to Boston. I usually give him the money and I usually wait on the corner or wait at the bus stop and he will go take care of

business. Took him about 20-25 minutes to come back. Then he met me and we got on the bus with the dope around 11:55/12:00(pm).

—Forty-eight year old white father from Charlestown

I left work at lunch time [11:30 am]. I hopped on a bus; went over to Boston. I walked up Tremont Street. Ran into a few people; they didn't have nothing. Finally someone came along and I got something at quarter past twelve.

—Forty year old white male from Charlestown

Because I am sick I had to go through a friend. I called her. Then she had to contact her contact. And then she came over, got the money from me, and went back to where she gets it and then she came back to my house. Started at nine and she got back to my house at 10:30(am).

—Thirty-five year old white female from the North End

I got up at 6:30(am). I left the house at 6:45. I waited for a bus until 7:45. There was a bus but it was on holiday schedule. I must have just missed it. So I finally caught a cab with no money and I went out to Harbor Point. I got there about 8:00, 8:05. Ten more minutes I talked to the people about doing me a favor because I had no money. I got credit; I have to pay him back this afternoon.

—Fifty-three year old black mother from Dorchester

I was standing on the corner in North Station waiting for a couple of friends to show up as we had made plans the night before to meet and go to a specific place to get this dope that we all liked. We met at about 8:20(am). We bickered around a bit to see how much money we had totaled; decided how many bags we were going to get and proceeded to go about 25 miles to get this. When we went to Lowell it was about one minute; we went right to the house—went in, came out with over a bundle, with about fourteen bags.

—Forty-five year old white male from downtown Boston

I just made a phone call and the fellow was there and he left and came here... and was here in 10 minutes. That's not a usual thing.

—Sixty-one year old white mother from South Boston

Why is this time longer or shorter than other times you have copped?

Longer:

I had to take a bus. My usual contact wasn't there. I had to wait around for a secondary.

—Forty year old white male from Charlestown

Shorter:

Because I knew where I was going and I didn't have to look or hunt and peck; you know, get a read out on who had what bags. Whatever they had I was going to take because I was given credit at the time. It took me about ten extra minutes to talk to the people about doing me a favor because I didn't have any money. But if I had been in the street I would have been looking... you know checking out different things; who got what talking to different people; getting a readout.

—Fifty-three year old black mother from Dorchester

Because normally I do see my man, and I have to read the paper; shoot the shit while he serves this one, that one. And he comes down and never brings anything with him so I have to wait there; tell him what I want; give him my money and he sends one of his runners. But on Sunday they had that price special in Dorchester at \$10 per bag and they like to keep the people moving; keep the traffic moving.

—Forty-three year old black male from Mattapan

Where do you go to shoot up?

I made another stop to get some powder cocaine, and then I took the bus to Forest Hills then from there I took a cab home to shoot it.

—Forty-three year old black male from Mattapan

I went back; took the train back to Beacon Hill... the Metro Deli. They have a bathroom; a restaurant on Cambridge Street. Used some hot and cold water and about a quarter bleach.

—Thirty-five year old white male from downtown Boston

I went into the projects and I got off because I had no time for no playing.

—Forty-nine year old black father from Roxbury

What happened the last time you were approached?

They just said that they had something and they said what it was and I kept on stepping because I was already going to somebody else. I heard about what they had and it wasn't nothing; I was going to somebody else.

—Thirty-two year old Hispanic mother from Roxbury

I was at the clinic yesterday morning. I got in the subway station and was using the phone. A guy comes by and he like nods to me, meaning do I want any? I said no.

—Thirty-five year old white male from downtown Boston

It was morning, 10:00 (am), got off at Government Center, ready to go have a cup of coffee... as I got the newspaper an acquaintance walked by and asked if I was going north, that meant Lowell. I said no. He said he had it on him because he just got back from Lowell.

—Thirty-five year old white male from downtown Boston

Yesterday, I was standing on the corner, and they said, "What's happening, man? What brings you in our part of town?" I said, "you know." "Boy's got that! I can bring you to him. It's good and all that." I said, "No. I've already given my money to this cousin of mine that lives right there and the people in the house are doing it."

—Forty-three year old black male from Mattapan

[They said] the usual, you know, "You're looking, I got it."

—Forty-eight year old white father from Charlestown

He just came up to me and asked me if I was straight. I said I was fine. He said "okay." And he went on about his business and I went on with mine.

—Forty-five year old white male from the South End

Yesterday, I was standing down there on Mission and um a fellow came up, told me what he had and asked me was I looking. Well yesterday I had like four or five people approach me.

—Thirty-six year old black father from Roxbury

I was at Government Center in the restaurant having a coffee and someone already copped from a different city and they had extra bags on them and they offered to sell me some and actually, I bought some.

—Thirty-five year old white male from downtown Boston

Yesterday he came in the restaurant and told me what he had. I said, "No, I'm cool." I didn't know him.

—Thirty-two year old Cape Verdian father from Dorchester

Could you describe for me the easiest cop of the week?

Friday, I copped about 9:00 in the morning. I got right down to the spot in Roxbury where most people cop. I took the bus from my house. Once I got the bus, I got off. And in the area, the person that I copped from was right there. I had to do no waiting, no talking. I gave him \$40; he gave me two bags and I started walking back over to take the bus home.

—Forty-three year old black male from Mattapan

Because, like I said, they knew I was coming; they was waiting for me. I didn't have to do nothing but get there, give them the money, get what I was going to get and go on.

—Thirty-two year old Hispanic mother from Roxbury

I had a ride and my main connection was right there. So everything was beautiful; it worked out good.

—Forty year old white male from Charlestown

I was home, had just gotten a \$100. I called friend in Lowell; asked what was good up there and if he could get it quick. He said, "I'll call you when I get to Lowell." Then I turned around and called a friend of mine who had a car. I said I could afford to buy him a bag for the ride up and back. He lives three minutes from my house. He came right over and picked me up. We went up to Lowell; I called my friend and he picked him up. It was a matter of five minutes I had the dope in my hand and him dropped off at his house and was heading home. It was all set up for me; I didn't even have to go into the house and see the people. That's what I like when I don't have to go in case there is a bust, I am not there.

—Forty-five year old white male from downtown Boston

As soon as I got out there he was there.

—Forty-nine year old black father from Roxbury

There was no traffic and it was there when I got there.

—Thirty-five year old white female from the North End

What about the most difficult time you had trying to cop?

Sunday I started making calls at 10:00 (am) and didn't wind up copping until about 8:00 that night. I couldn't reach him and when he finally came he said he had just returned from out of state. I tried two others and one has been disconnected and the other one I just couldn't get an answer.

—Sixty-one year old white mother from South Boston

I had to sit and listen to the music. People and runners would come out and explain to us that they were "so and so after this guy; don't pull up in front of the cop spot or you blow your turn." People were pretty cool with that.

—Forty-three year old black male from Mattapan

Two days ago. The police was out real heavy. A lot of people that had something was afraid to bring it out. It wasn't dry; it was extra hot and what was there we didn't want because we'd had it; you know. So we got to Dudley and the police pulled us out of the cab. I said, "Man, why don't you all leave so we can get some."

—Forty-three year old black father from Roxbury

I got to the spot... wasn't nothing out there. What was out there couldn't find the guy because the police was all over. The police was out there... there wasn't nothing really out there and the guy was laying low 'til the police left.

—Thirty-two year old Hispanic mother from Roxbury

I tried to get something stronger that I heard about. I left at 11:10; I remember the time specifically. I was at North Station; I went out of the city for this. I took the train to Lowell; and as I went to the house in Lowell which was at about 12:10 plus fifteen minutes; around 12:30; they were not home. So I went back six times within an hour. I heard the stuff was potent and I got the address from a friend. They were not home; there was a note on the door saying he would be back but he never showed up. It was a wasted trip. I went back to Boston and copped. I got tired of waiting.

—Thirty-five year old white male from downtown Boston

Sunday afternoon. Nothing out there. There was like fifty people out there looking; Sunday and Monday was bad days. Everything back to normal now.

—Forty-three year old black father from Roxbury