

PATTERNS OF INTERPERSONAL PERCEPTION  
IN FAMILIES OF MALE OPIATE ADDICTS

by

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B.A.(Hons.), Simon Fraser University, 1972

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE DEGREE OF  
MASTER OF ARTS  
in the Department  
of  
Psychology

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SIMON FRASER UNIVERSITY

JANUARY, 1975

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## Abstract

As the number of adolescent and young adult addicts increases, examination of the family environment becomes increasingly significant in treatment considerations. It has been suggested (Chein et al, 1964) that the family background of addicts interferes with the development of self-competence, and impairs the ability to tolerate frustration and pain.

Five families in which a son was addicted to opiates and continued to maintain contact with the parents were solicited for the study. Five control families in which the son maintained contact with the parents were also selected, matched on the age and school of the son. Each of the participating family members used a Q-sort deck of 60 descriptive adjectives or phrases to provide descriptions of the son, his ideal, the father, and the mother. These descriptions were then intercorrelated for each family, and means taken by group. Such information is useful in distinguishing functional from dysfunctional families, and useful in describing the specific perceptual disparities operative in a family system.

The mean discrepancy for each item was also computed, and descriptive profiles of the two groups of sons were constructed.

The results suggest that addict sons have lower levels of self-esteem than do control sons. As well, the parents of addicts hold their sons in lower esteem than do parents of controls.

There was a non-significant trend for addict sons to be seen

as less similar to their parents than were control sons, and for there to be less agreement on the nature of the sons in addict families. The item discrepancies of sons, fathers, and mothers for addict families were found to be significantly more correlated than those of control families.

The addict sons were described by themselves and by their parents as too frequently bored, impatient, worried, and easily persuaded. By contrast, this same level of consensus on the sons' imperfections was not reached on any items in the control group.

The addict sons' list of most discrepant items bespeaks a problem of general competence, a basic dissatisfaction with life, and interpersonal weakness. The discrepancy list of the fathers of addicts characterizes the sons as having problems in the same three general areas as outlined by the sons, and in addition, suggests dissatisfaction with the sons' levels of drive and independence. The mothers of addicts see the sons as dissatisfied, and interpersonally weak, and also as too frequently absent-minded and messy.

Implications for research and therapy are discussed.

I would like to express my gratitude to Dr. Bruce K. Alexander for his invaluable assistance in research design, data collection and interpretation, and preparation of the manuscript. Thanks are also extended to Dr. Elinor W. Ames for her helpful suggestions and criticism. As well, I would like to express my appreciation to Bill Glackman for his assistance in management of the data, and to Alan Dibb, Dick Etches, and Bill Connaughton for their technical help in the final preparation of the manuscript. I am grateful for the support of the project by the Narcotic Addiction Foundation of British Columbia and by the Non-Medical Use of Drugs Directorate of Health and Welfare Canada.

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## Chapter 1

Heroin addiction is undergoing rapid change in response to changes in the social environment. In 1900, when the purchase and use of opiates was legal in the United States, the large majority of addicts were women (Brecher, 1972). With the passage of the Harrison Narcotic Act in 1914, the percentage of women addicts dropped substantially, and in 1918 a government commission estimated that there were equal numbers of male and female addicts. Since that time, the percentage of men in the total addict population has risen to approximately 85% (Ford Foundation, 1973).

Recent reports (e.g. Blum and associates, 1969) have suggested that heroin use is no longer concentrated in the lower class, but is spreading throughout all socioeconomic classes. In Blum's study, 29% of students in a suburban high school reported that they had had the opportunity to use heroin and 2% reported that they had actually done so. The Commission of Inquiry into the Non-Medical Use of Drugs (LeDain, Campbell, Lehmann, Stein, & Bertrand, 1973) established by the Canadian government, documented dramatic recent increases in the proportion of young people using narcotics.

As the number of adolescent and young adult addicts rises, examination of the family environment becomes increasingly significant in treatment considerations.

Ahmed (1967) suggested that drug users do not constitute a homogeneous group, and concluded that there were a number of

discriminable subgroups, differing in orientation, life style, views on the future, and the nature of their interpersonal relationships.

One such discriminable subgroup is the addicts who maintain close contact with their parents. In such families (referred to here as "addict families") the addicted son continues to maintain primary emotional ties with his parents at a time when he would normally be becoming increasingly independent of them. Alexander and Dibb (1974) searched the files of applicants to a methadone program at the Narcotics Addiction Foundation of British Columbia to determine the approximate percentage of male addicts who continued to have close contact with their parents. Of the 300 most recent files 23% of the addicts lived with their parents, 40% lived with a wife or woman friend, 21% lived with friends or relatives, and 15% lived alone. The percentage living with their parents decreased with age, accounting for 56% of those 19 and under, 45% of those 20 to 24, 20% of those 25 to 29, 8% of those 30 to 34, and 0% of those 35 and over.

Thus, a sizable minority of addicts continue to have close contact with their parents. These living situations are not normally taken into account in treatment programs.

#### Psychological Theories of Addiction

The addiction literature is replete with theories which describe the development of narcotic addiction, suggest avenues of cure, and propose various reasons for the remarkable perseverance of addiction.

Braucht, Brakarsh, Follingstad, and Berry (1973) reviewed a number of theories which suggested that heroin addicts have a weak, disturbed, unstable, or underdeveloped personality structure, and that heroin use can be seen as an attempt to compensate for these inadequacies. Khantzian, Mack, and Schatzberg (1974) proposed that drug-taking is an activity resorted to when people are faced by routine human problems such as pain, grief, disappointment, and anxiety. They suggest that addicts turn to drugs because "...they have failed to develop symptomatic, characterologic, or other solutions to stress..." (p. 160). Nyswander (1956) theorized that during childhood, addicts fail to develop adequate confidence in the areas of aggressive and sexual impulse control. The taking of opiates serves to inhibit the feared uncontrollable expression of these feelings.

An operant conditioning explanation of heroin addiction, although phrased in different terms, is essentially compatible with the position that drug-taking develops as a consequence of failure in the formation of adaptive emotional mechanisms to deal with stress. Hill (1962) posited that the family conditioning background leads to an inability to delay gratification and a heightened responsiveness to euphoria. A child whose wishes are continually and non-contingently gratified will have difficulty in learning to deal with delayed gratification. The pleasurable subjective effect of the drug itself is a potent positive reinforcer. In a similar manner, opiates can serve as an

effective means of blocking out painful or otherwise aversive environmental stimuli. In this case, either withdrawal symptoms or merely a generally unpleasant environment may serve as the negative reinforcement obviated by performing the operant, taking the drug.

Social reinforcement (such as peer pressure) may be instrumental in inducing experimentation with opiates (Chein & Rosenfeld, 1957; Clinard, 1968; Feldman, 1968; Hughes & Crawford, 1972; Little & Pearson, 1966; and Stevenson, Lingley, Trasov, and Stanfield, 1956). Once experienced, the pleasurable effects of the drug may then be assimilated into the pattern of continual gratification already established; the immediately foreseeable pleasure associated with drug-taking may far outweigh any adverse long-term considerations.

Many authors have asserted that addiction to heroin is symptomatic of basic maladjustment of the individual. Evidence for this comes both from psychometric examinations of the addict's abilities and personality (Gerard & Kornetsky, 1955; Haertzen & Hooks, 1969; Hill, Haertzen & Glaser, 1960; and Zimmering, Toolan, Safrin, & Wortis, 1952) and from clinical interviews and evaluations of addicts (Chein, Gerard, Lee, & Rosenfeld, 1964).

Clinical studies have shown addicts to have a low frustration tolerance (Bender, 1963; Gerard & Kornetsky, 1955; and Zimmering et al, 1952), to be psychopathically predisposed (Felix, 1939; Gilbert and Lombardi, 1967; and Hill,

1957), and to be psychoneurotic (Felix, 1944; Laskowitz, 1961; and Rosenberg, 1963). Based on the personality scales of the MMPI Gilbert and Lombardi (1967) characterized the addict as depressed, inadequate, irresponsible, impatient, lacking persistence, and egocentric.

Jamison (1972) pointed out, however, that most of these psychopathological diagnoses are limited by several "imperfections in design" which plague this type of research. First, clinical assessments of addicts are based on an ex post facto model; it is rarely possible to distinguish those personality characteristics which predisposed the addiction from those which are an effect of the addiction and its associated life style. Moreover, standardized measurement techniques are seldom used in describing addicts' personalities and there is widespread unproductive use of vague diagnostic categories (such as "basic character disorder"). Stevenson et al (1956), in a study of prisoners in British Columbia, found that the personality characteristics of the drug-using group were very similar to those of the non-drug-using group. They concluded that the differences in psychiatric dimensions postulated to exist between addicts and controls disappear when a control group matched for social and criminal history is employed. In a rigorously controlled Canadian study (subjects matched on age, intelligence, socioeconomic status, criminal experience, and opportunity for drug use), Gendreau and Gendreau (1970) concluded that the "addiction-prone personality" was an artifact of

improper sampling and matching techniques. Nyswander (1956), in her review of the literature relating personality type and predisposition to opiate use, concluded that drug dependence can exist within any type of psychic structure.

Addiction is a more complex phenomenon than was originally suspected. Since the notion of the "addictive personality" has not held up under empirical scrutiny, other avenues must be explored if progress is to be made in early identification and remediation. To this end, pre-addiction background variables and social factors are now receiving especial attention in the literature.

#### The Role of the Family

There is considerable empirical verification of the existence of unstable home situations in the backgrounds of adolescent addicts. In the sample of Chein et al (1964) 97% of young drug addicts studied came from broken homes characterized by open hostility between family members. Vaillant (1966) and Willis (1969) found that a disproportionate number of male addicts lack a father due to death, separation, or divorce. Brill, Nash, and Langrod (1972) commented on the lack of support from the family reported by a group of 31 ex-addicts. They characterized the relationship with the family as

...troubled, dependent, and often guilt-ridden familial relationships during major portions of their addiction... (p. 62)

Further, they suggested that the familial relationship did not suddenly deteriorate at the onset of addiction, but that

relations had always been poor, destructive, and contributory to the addiction. Ganger and Shugart (1966) also took a strong stand on the issue of the role of the family in addiction. They concluded:

...addiction is specifically a familiogenic disease; consequently any attempt to cure it must be undertaken within the context of the family unit. (p. 649)

Blum and associates (1972) studied 101 white, middle class families and constructed a profile of the "high risk family" - a family in which the children have a higher chance of becoming drug (not necessarily heroin) users. Such a family

...is one in which the parents are uncertain of their roles, both as parents and husband and wife; in which the mother tends to be dominant and the father lacking in leadership in the family; in which the parents are permissive, hesitant to convey their values, and indeed unsure of their values, except the belief that children should be given freedom to develop their personalities; in which there is not a proper balance of affection and discipline; in which emotions are not expressed with freedom and confidence but problems tend rather to be intellectualized; in which the relations between husband and wife do not inspire a sense of security in the children; in which there is poor communication between the parents and children; in which there is a fairly heavy reliance by the parents on drugs of various kinds; in which there is a lack of religious belief, a hostility towards authority, and a progressive leaning on political and social issues... (summarized in LeDain et al, 1973, p. 26)

In another extensive series of clinical and epidemiological studies, Chein et al (1964) were able to distinguish addicts from controls primarily on family variables. They concluded

The one factor which we have found to be distinctly related to drug use and apparently



unrelated to delinquency per se is the experience of living with a relatively cohesive family. The users have, on the average, been more deprived in this respect than the non-users. (p. 125)

In further analyzing process in families of addicts, they developed and confirmed the following hypotheses:

(1) "The family background of the addict is conducive to the development of weak ego structure" (Chein et al, 1964, p. 256). In confirming this hypothesis, they isolated those background experiences which would interfere with the development of self-competence or would lead to the impairment of the ability to tolerate frustration and pain, and would impair the ability to correctly assess reality. (As an example of the latter, Chein et al (1964) suggested that overindulgence impairs both a veridical assessment of reality and the ability to tolerate frustration, pain, and delay of gratification).

(2) "The family background of the addict tends to make for defective superego functioning" (Chein et al, 1964, p. 260). The normal transmission of societal standards may be interrupted by deviant parent models (who themselves have not internalized conventional standards) or by the absence of parental models (with consequent failure of the development of dependency and identification). As well, excessive indulgence or denial of gratification or frequent threats of withdrawal of parental affection may contribute to faulty incorporation of reasonable internal standards.

(3) "The family background of the addict tends to impair the development of a realistic level of aspiration with respect

to long-range goals" (Chein et al, 1964, p. 265). This situation occurs when there is not a correspondence between the person's abilities, ambitions, and attributes, and existing opportunities.

Therapeutic Intervention with Families - The Systems Approach

Examination of family influence in the development of individual behaviour pathology has proven to be very productive (Ackerman, 1954, 1962). If the family is dysfunctional a change introduced at the level of an individual family member may be ineffective because of the homeostatic nature of the system, which tends to resist change (Jackson, 1957). Systems theory would advocate a change at the level of the system itself - in this case, the family relationships (Satir, 1967). In therapeutic terms, the change from individual to systems therapy is reflective of a change in focus from the individual and intrapsychic process to relationships and the social environment as the primary determinant of behaviour.

A systems theory interpretation may be seen in the case of the family of the schizophrenic child. There are noteworthy parallels between the situations of the addicted son and the schizophrenic son. In both, the pathology is resident ostensibly in one person (the "identified patient") - the naive observation is of an otherwise well family with one sick member.

Investigation of the family background of schizophrenic children led to the original development by Fromm-Reichmann (1948) of the concept of the "schizophrenogenic mother". Further

examination has revealed an entire constellation of family interaction and interperception patterns implicated in the etiology of schizophrenia. This pattern is characterized by a dominant and overprotective mother, a passive and weak father, an unsatisfactory marital relationship, and a style of communication that is routinely ambiguous and disqualified (conflicting messages are given simultaneously). Bateson, Jackson, Haley, and Weakland (1956) proposed that the weak ego development in the child is maintained by a communication style called the "double bind" - a system in which communications have two levels, each containing a contradictory message. In this manner, the child can never gain a clear and unambiguous understanding of what is expected of him, who his parents are or who he is. The intervention in the schizophrenic family is of a process nature - it is the styles of interacting and communication patterns that are studied and treated in therapy.

The success of the systems approach to the treatment of schizophrenia led to the investigation of the influence of the family in other pathologies (Haley, 1959; Lidz, Fleck, & Cornelison, 1965). Ackerman (1958) demonstrated the reciprocity between the psychopathological conflicts of the family members, and showed that many of these conflicts can be successfully remedied only by intervention at the family level, and by changing the existing modes of operation. Since the pathologies are inter-dependent, the system as a whole resists changes in its members.

Haley (1959; 1964) proposed that intervention into pathological behaviour at the level of the family will be expedited by the development of a descriptive classification system for families. Such a system would not differentiate different types of families based on their pathology, but rather, based on the dynamics and interaction characteristics that predispose and maintain the pathology.

In tracing the history of the exploration of family process, Haley (1964) outlined the following typology of family research methods:

(1) Statistical. This is the demographic method, which uses chiefly governmental and institutional data to infer trends.

(2) Anthropological. This type of study compares families in different cultures, outlining cultural influences on individual development and family structure.

(3) Individual. Another area of family study has been the investigation of individual family members. It was originally (and mistakenly) assumed that the individual was a reliable and accurate source of information about his family. This method compares the responses of individual family members on questionnaires, tests, or interviews to construct a model of the family.

(4) Interactional. In this type of study, the family members are brought together, and their interactions are observed and analyzed. It is this interactional type of family research, in which good data are so elusive, that is of most value to

clinicians.

### The Quantification of Family Interaction

The quantification of social interaction was originally developed for the examination of (non-family) group process. Bales' (1950) Interaction Process Analysis, an action classification scheme, and Leary's Interpersonal Check List, a verbal report method, have been adapted for use in the study of family interaction (Levinger, 1963). Strodtbeck's (1954) "revealed differences" interaction method was designed specifically for families, but its value is restricted by its closed-ended format - responses must be chosen from a fixed selection. Watzlawick (1966) developed the Structured Family Interview, a technique in which the family members responded to a number of individual and group decision-making tasks. A scoring manual for this instrument was written by Riskin and Faunce (1969). Based on this model, other systems have been developed, in which the family members, in a conjoint interview, respond to projective test stimuli, are assigned a decision-making task, or are required to play a game together. The responses to these tasks have then been recorded and analyzed, either by content (in which the verbal interactions are categorized) or by process (in which the structured aspects of the communication are examined). This type of research, while valuable, has certain inherent drawbacks. As Levinger (1963) has pointed out, family research is a particularly difficult area for the rigorous application of the scientific method. He isolates as factors complicating such

systematic research the sanctity of the home, the unmanageable number of variables involved, and the uniqueness of the family relationship. To reliably infer representative ongoing process with a structured time sampling procedure is very difficult. As the extent of the structure in the interview is decreased, the reliability of the observations decreases (Haley, 1964).

The present study is focussed on aspects of family process which are inaccessible to traditional interactional research techniques (response counting and verbal interchange categorization). It is assumed that the individual's perceptions of himself and of other family members are potent determining factors in the course of family interaction and individual development. The present research will use the data from family members to compare their perceptions of themselves and of each other. In this manner, the extent of shared perceptions in the family and the degree to which family members perceive themselves as similar may be examined. The distortion in individual report that becomes a confounding variable in other research is here, in a sense, a dependent variable; it is the extent and direction of distortion, disagreement, and mis-perception that is of interest here as an index of family process. Such information is useful in distinguishing functional from dysfunctional families, and useful in describing the specific communication anomalies operative in a family system.

Family members' perceptions of each other, in the form of structured descriptions, may be intercorrelated. In this

fashion, a fairly direct index of family interperception may be obtained.

The idea of observing the correlation between two personality descriptions is traceable to Rogers (1954). His original use of this technique was to follow the correspondence between a person's perceived self and ideal self during psychotherapy. It was his observation that, as therapy progressed, the correlation between the client's perceived self and ideal self increased (in the original study, from a mean  $r$  of .21 to a mean  $r$  of .69). He also determined that the ideal self was stable: it was the self perception that underwent change during therapy. Block and Thomas (1955) provided empirical support for Rogers' (1954) contention that a large discrepancy between one's perceived and ideal selves is indicative of psychological maladjustment as indexed by the MMPI scales.

The present research is designed to extend this type of analysis from the system of the individual to the system of the family. The systematic existence of interperception deficits is considered indicative of the breakdown of normal family communication and self-confirmation processes.

The procedure selected to assess the extent of agreement in intra-familial perception is based on a scaling technique developed by Stephenson (1953) known as "Q-methodology". Basically, the "Q-sort" technique involves the correlation of persons over measures, rather than the more usual correlation of measures over persons ("R-methodology"). Q-methodology holds

particular promise in clinical applications due to its relevance to the analysis of process within the individual and between individuals in an interacting group. It can be used both as a method of personality description and as a method of comparing various personality descriptions.

#### Q-sort Methodology

There are several methodological considerations in the use of the Q-sort technique in clinical applications. The issue of whether to use a forced or unforced sorting distribution was raised by Cronbach and Gleser (1954) in their review of Stephenson's (1953) book. A forced sort (requiring that a predetermined number of items be placed in each cell of the sort and ensuring that each sort has the same mean and variance) has two major advantages: it ensures variance in responses and it eliminates response sets. The disadvantage of the forced procedure is that information about differences in scatter is lost. It is recognized that certain information of metric nature (such as scatter, kurtosis, and skewness) is lost by this procedure. Block (1956) pointed out, however, that interpretation of metric indices (i.e., response sets) is possible only when the ordering of items across sorters is virtually identical, and concludes that

...in almost all Q-sort circumstances, the psychological meaning of reliable metric differences is also available or could be made available from examination of Q-item order, i.e., item content. (p. 491)

Block (1956) required subjects to use a free distribution to



sort 76 items employing, at their discretion, any number of categories up to nine. Following this, the subjects were instructed to rearrange the items into a specified quasi-normal distribution (permitting no reversal of the original ordering). The correlation between such sorts is, of course, constrained by the transformation procedure to be high. For the 55 correlations reported by Block, the mean was .94, with only two correlation coefficients below .90. A test-retest index of sort stability was derived, leading Block to conclude that "...the forced sort is at least as stable as the unforced sort..." (p. 484). In addition, the forced sort provided significantly more discriminations than did the unforced data.

Thus, in the present research, the forced-choice procedure was chosen to take advantage of the greater number of discriminations and because of the ease of making comparisons between orderings of the items (since all sorters make the same number of discriminations).

Although Brown's (1968) review of 580 articles on Q-sort methodology concludes the "...the shape of the distribution probably does not matter at all..." (p. 589), a rectangular distribution (the same number of cards in each pile) was chosen for two reasons. First, subjects in pilot research reported that it was easier to sort the cards into the extreme ends of the distribution, which would suggest that a quasi-normal distribution was contra-indicated. Second, a rectangular distribution provides the maximum amount of reliable information,

by requiring the sorter to make the maximum possible number of discriminations (Livson and Nichols, 1956). A potential limitation of the forced choice method, that sorters may be forced to discriminate beyond their limits of evaluation, is avoided by using only five categories, a number shown in pilot work to be easily manageable by non-professional sorters.

The sorting criterion selected was one of frequency of occurrence. This method, being most closely linked to behaviour, has been demonstrated to be an efficacious criterion (Briggs & Wirt, 1960).

The Q-sort technique has been shown to be a reliable measure. Frank (1956) found test-retest correlations to be between .93 and .97. Hilden (1958) reported the average correlation in his reliability study to be .94.

Butler and Haigh (1954), in considering the issue of social desirability in Q-sorts, suggest that, while ideal self sorts are influenced heavily by social desirability, the perceived self sorts are relatively free of social desirability and are largely idiosyncratic. In support of this hypothesis, their data show a mean correlation of ideal sorts (across subjects) of .5, and a mean correlation of self sorts (across subjects) of .2.

Butler and Haigh also suggested that a large discrepancy between the self-concept and the concept of the desired or valued self reflects a sense of self-dissatisfaction, a result of experiences which indicate to the person that his self-organization is unsatisfactory.

Self-concept and life style are linked in a complex and inter-dependent system. The circularity of the system is recognized by those theories which conceptualize opiate addiction as an escapist response to psychologically stressful situations. These positions maintain that the person anticipating failure may turn to narcotic use, later relying on this dependence to rationalize his failures (Chein et al, 1964; Gerard & Kornetsky, 1955). This conclusion is consonant with that of LeDain et al (1973). They stated

Among these psychological factors which may be presumed to have a bearing on drug use, one of the most important is the opinion which the individual holds of himself. We see much non-medical drug use as having its origins in a poor self-image or a lack of self-acceptance. We believe that anything that seriously undermines the individual's sense of personal adequacy is likely to render him or her more vulnerable to involvement in excessive reliance on drug use. (p. 33)

Thus, the system is self-perpetuating -- the unfavourable self-image is stabilized by attempts to escape contemplation of it.

Chein et al (1964) suggested that the family may be instrumental in this impaired development of self-acceptance in the son. They proposed, for instance, that overindulgence of the son by the parents deprives him of experiences that form the foundation for general self-esteem. As a consequence, he does not develop the skills and resources needed to cope with such stress as pain, frustration, anxiety, and boredom without drugs. Such an overindulgent-overdependent relationship also predisposes

the son to difficulties in being able to handle delay of gratification.

Chein et al (1964) also suggested that affective imbalance may be a factor in the original impariment of self-acceptance -- "...the people whom I love and whose love I want do not love each other." (p.257). There is strong evidence of unstable home situations in the backgrounds of addicts that could engender such a situation (Chein et al, 1964; Vaillant, 1966; Willis, 1969).

One factor in the failure of addicts to live up to their aspirations may be that the family environment is not conducive to the formulation of realistic goals. The clinical observations of Chein et al (1964) and Alexander and Dibb (1974) suggest that, in some families the son must necessarily feel incompetent by the high standards imposed by his parents. Unrealistic expectations of him may affect his sense of self-competence if he can seldom experience success in the eyes of his parents.

Chein et al (1964) also note that, in many cases, there exists a complementarity of styles within the family -- the son's incompetence and underachievement fit well with the over-competence and overachievement of the parents. Such role reciprocity is homeostatic, and not liable to change, as there are demonstrable benefits for all involved in the interaction. The overdependent-overindulgent relationship in addict families may also be considered in the context of role reciprocity.

If, as posited here, a durable family homeostasis is in operation, there may be a built-in resistance that continually

undermines and subverts the already tenuous self-development, maintaining the son's level of functioning. Schiff (1959) found that adults who had become addicted during their teen-age years remained at the same level of self-esteem in adulthood. Chein et al (1964) said in this regard that

...the use of narcotics helps to preserve their self-esteem, presumably by freeing them of the obligation to confront their responsibilities as adults. (p. 192)

Laing (1961) speculated that the failure in development of an identity may be due to a divergence between a self-perception and a perception of the self presented to others. Such a discrepancy is cyclical as the self is continually redefined by relationships with others. In the case of the young addict, since the self he presents to others is unacceptable, he may come not to recognize a real self, or he may reject it completely. In order to have immediate existential reality, he may grasp at a convenient and potent identity easily available to him -- that of "junkie".

In Erikson's (1959) terms, the conscious sense of having a personal identity is based on two simultaneous observations: the recognition of one's stability and temporal continuity, and perception of the fact that others recognize one's sameness and continuity. The addict typically has difficulties in dealing with his normal mood fluctuations (Chein et al, 1964), his life is characterized by considerable instability, and his self-perceptions are subject to distortions as a consequence of drug-taking.

Erikson's view of a healthy individual is not of one without conflicts; rather it is of one who can handle adequately the conflicts of each developmental stage. This is conspicuously discrepant from the picture of the addict in the literature. He has not developed a sense of industry (Alexander and Dibb, 1974); and the constraints of physical addiction preclude true initiative and autonomy.

Erikson (1963) suggested that the developmental tasks of latency may be more difficult to achieve in complex and highly specialized societies, as the "goals of initiative" become increasingly indistinct. He concludes that the person with low self-esteem in our society feels discouraged from identifying with peers, and considers himself "doomed to mediocrity or inadequacy".

There are indications in the literature that narcotic addicts typically show lower levels of self-esteem than do controls (Schiff, 1959), and that the family is implicated in the maintenance of the son's low level of functioning in this regard (Chen et al, 1964). Cormier (1973) noted in his study of 20 multiple drug users a feeling of estrangement from the families. He also reported a low level of self-esteem and a "...poor sense of their own identity" (p.133).

Alexander and Dibb (1974) in a clinical study, reported that families of heroin addicts in therapy are characterized by particular patterns of interaction and interperception. These patterns are:

(1) a conspicuous discrepancy between addict and parents in social responsibility and competence (2) defensive overcongeniality (3) domination of the mother by the addict (and, in two-parent families, by the father) (4) an overdependent-overindulgent relationship between the addict and one or both parents (5) ineffective parental support of self-development in the addict, and (6) agreement in perception of the addict as failed and foreign. (p. 1)

Specific hypotheses in this research were derived from the above clinical impressions and from a pilot study which also suggested the existence of important differences in family interperception between addict and control families using a similar Q-sort method. The present research utilized the methodology developed in pilot work, with a more rigorous selection procedure for control families.

There are indications in the literature that addicts typically show lower levels of self-esteem than do controls (Schiff, 1959), and that the addict family is implicated in the maintenance of the son's low level of functioning in this regard (Chein et al, 1964). Cormier (1973) noted in his study of 20 multiple drug users a feeling of estrangement from the families. He also reported a low level of self-esteem and a "...poor sense of their own identity" (p. 133).

The "failed" and "foreign" parameters of the son's role in the family were investigated, and the direction and magnitude of discrepancies between descriptions of the son and of his ideal identified.

The items used were a modified version of Block's (1961) Q-sort for non-professional sorters. The son, father, and

mother used this standard set of descriptive items to provide descriptions of themselves and of the other two family members as well as a description of the son's ideal. These descriptions were then intercorrelated, resulting in a matrix of family interperception. Various means were then abstracted from this matrix, culminating in indices of self-esteem, the degree of family concurrence in descriptions of the son, and the degree of perceived similarity between the son and other family members.

A normal control group was employed and data were collected from the addict's family of origin, the environment in which his personality in general, and his self-concept and life goals in particular, developed.

The hypotheses were:

(1) Addict sons have a lower level of self-esteem than do control sons. The measure of self-esteem used is the correlation between the self sort (SS)\* and the ideal self sort (SSI).

(2) The parents of addicts perceive their sons as having achieved less of their self ideal than do parents of controls. It is hypothesized that the mean correlation of MS/MSI and FS/FSI will be lower in addict families than in control families.

(3) There is less correlation between descriptions of the son by himself (SS) and his description of his parents (SF & SM) in addict families than in control families. Similarly, the correlations of descriptions of the sons by the parents (FS & MS) with the parents' descriptions of themselves and each other (FF, FM,



and MF,MM) are hypothesized to be lower in addict families.

(4) The nature of the son is less agreed upon in addict families. The correlations of descriptions of the son by himself (SS) with those of him by his parents (FS, MS) are hypothesized to be lower in addict families.

\* Key to interpreting correlation codes: F = Father M = Mother S = Son. In the coding, the first letter refers to the person who sorted that particular deck; the remaining letter(s) identify the object of the sort (e.g., MSI/MF is the correlation between the mother's description of the son's ideal and her description of the father).

## Chapter 2 - Method

Subjects

Experimental Group. Families were selected from middle class suburban areas of Greater Vancouver. Initially, the records of a suburban unit of the Vancouver Narcotic Addiction Foundation were searched. All males in the program who maintained primary social ties (defined as contact with their family at or exceeding the level of three time per month) with their parents were eligible to participate in the research. As this procedure produced only one family, referrals were solicited from other addiction treatment facilities, which provided three more families. Families with only one parent living at home and families in which either of the parents or the son refused to participate were excluded from the study. The eligible families were asked if they would spend several hours in a research program, with the understanding that they would be offered family therapy.

Two of the sons were involved in a methadone maintenance or withdrawal program at the time of testing and subsequent family therapy.

Control Group. Each control family was matched to an addict family on a one-to-one basis. Each addict son was asked the name of the high school he had last attended, and the year of his termination or graduation. From the high school directory, families were selected randomly until one was found which conformed to all of the criteria used in the selection of addict

families, i.e., both parents present in the home, maintenance of a primary social tie between the son and his parents, and the willingness of all three to participate. In one case in which the addict son had attended school outside of the greater Vancouver area, a control family was chosen (matched on the year of graduation of the son) from the records of the high school nearest to the present home of the addict family. Five of eight eligible families contacted agreed to participate.

The Blishen (1968) Socioeconomic Index for Occupations in Canada was used to describe the socioeconomic status of the family members. The scale outlines six socioeconomic classes based on the percentage of males in each occupation whose income exceeds \$5000 in the preceding 12-month period and the percentage who had attended the fourth year of high school. The Index ranges from "1" for manual labouring occupations to "6" for professional occupations.

The age, education, and socioeconomic status of the family members are listed by group in Table 1.

T-tests showed no significant differences between groups on any of the nine means.

#### Procedure

The families were interviewed in the evenings at Simon Fraser University or in their homes, at their preference. Following a brief explanation of the project (omitting mention of specific hypotheses) each of the three family members involved

Table 1

## Demographic Characteristics of Families in Sample

Family Number		ADDICT			CONTROL		
		Age	SES	Education	Age	SES	Education
1	son	25	1	10	24	4	13
	father	54	2	8	47✓	3	11
	mother	53	-	11	45	-	10
2	son	26	-	13	25	2	14
	father	60	5	8	55✓	3	10
	mother	58	-	10	53	2	12
3	son	20	2	10	21	2	10
	father	45	1	10	47✓	2	9
	mother	41	3	8	45	-	11
4	son	19	-	11	18✓	-	12
	father	46	1	11	39	3	12
	mother	44	-	8	39	-	9
5	son	22	-	10	19	1	12
	father	50	4	10	43	3	11
	mother	47	1	10	37	2	10
Means	son	22.4	1.5	10.8	21.4	2.25	12.2
	father	51.0	2.6	9.4	46.2	2.80	10.6
	mother	48.6	2.0	9.4	43.8	2.0	10.4

was seated in a different room and read the Q-sort instructions (see Appendix 1). Questions about the sorting procedure were answered, and the family members given the Q-sort decks. A deck consisted of of 60 computer cards, each with an adjective or phrase printed on it, in alphabetical order (see Appendix 2 for the list of Q-sort items). The sorters were instructed to sort the cards into five piles of twelve cards each, with the piles ranging from "most frequently descriptive" to "least frequently descriptive" of the object of the sort. The decks were sorted in the following order:

		Code
Son	1. Describes self	SS
	2. Describes father	SF
	3. Describes mother	SM
	4. Describes his own ideal	SSI
Father	1. Describes son	FS
	2. Describes self	FF
	3. Describes wife	FM
	4. Describes son's ideal	FSI
Mother	1. Describes son	MS
	2. Describes self	MM
	3. Describes husband	MF
	4. Describes son's ideal	MSI

\* One family (AF2) was tested with an earlier, slightly different version of the Q-sort, in which 13 of the items were reworded or replaced. The list of these items is also in Appendix 3.

## Chapter 3 - Results

Each family's 12 Q-sorts were reduced to a single correlation matrix (see Appendix 3) by means of a Fortran program written for this purpose (see Appendix 4). A second Fortran program (see Appendix 5) took means of corresponding correlations in the two groups of matrices in order to test each hypothesis. Eleven pairs of means about which differences were predicted were tested with one-tailed tests; the remaining 55 were tested with two-tailed tests.\*

Since matching the two groups (on age and high school attended of the son) did not significantly reduce the effect of subject-to-subject variability on the dependent variable, the "correlated -t" method was not used, as it requires the covariance of the paired variables (which is proportional to the correlation between them) to compensate for the reduced degrees of freedom used in the t-formula for paired samples.

Table 2 shows the mean correlation of each element of the correlation matrix for each group. The mean correlations, standard deviations, t-values, and probability levels of each individual comparison are in Appendix 6. The mean correlations, standard deviation, t-values, and probability levels of each composite index are in Appendix 7.

#### Evaluation of the hypotheses

Hypothesis 1: Addict sons have a lower level of self-esteem than do control sons. (The mean SS/SSI correlation is lower in the addict group).

\* It should be noted that, in computing 66 individual tests, at the .05 level, 3.3 of the comparisons will be significant by chance alone.

Table 2  
Interperception Matrix Means by Group

	SS	SSI	SF	SM	FS	FSI	FF	FM	MS	MSI	MF
SSI	.12* .59										
SF	.12 .27	.48 .40									
SM	.31 .28	.23 .41	.36 .35								
FS	.38 .48	.22* .52	.09 .33	.26 .34							
FSI	.09* .45	.78* .62	.50 .35	.20 .44	.25* .65						
FF	.26 .14	.41 .26	.48 .39	.28 .13	.28 .34	.44 .32					
FM	.17 .26	.39 .38	.28 .23	.47 .44	.32 .45	.44 .53	.39 .25				
MS	.36 .47	.14 .47	.12 .31	.22 .40	.46 .49	.16 .54	.21 .12	.17 .36			
MSI	.06* .45	.67 .63	.42 .43	.21 .43	.26* .59	.71 .74	.38 .30	.38 .45	.18 .58		
MF	.18 .21	.54 .30	.47 .37	.25 .31	.26 .30	.54 .35	.54 .45	.38 .31	.31 .33	.59 .40	
MM	.12 .32	.22* .39	.21 .50	.39 .45	.23 .41	.28 .46	.28 .29	.47 .45	.20* .45	.35 .53	.34 .31

\*  $p < .05$

Addict group mean correlations on top

Table 3 shows the difference between the addict group and the control group on the first comparison, the mean correlation between the sons' self descriptions and their descriptions of their ideals. The addict group shows a significantly lower mean correlation than does the control group. The range of the addict group is  $-.19$  to  $.34$ . The range of the control group is  $.36$  to  $.74$ .

Table 3  
Mean SS/SSI Correlations

	Mean	Standard Deviation
Addict	.12	.23
Control	.59	.14

$t=3.92$ ;  $df=8$ ;  $p < .002$

The mean correlation of all 10 of the SS sorts with each other was  $.13$ . The mean intercorrelation of all 10 SSI sorts was  $.49$ .

Hypothesis 2: The parents of addicts perceive their sons as having achieved less of their self ideal than do parents of controls (the FS/FSI and MS/MSI correlations are lower in addict families).

Table 4 shows the difference between groups on the correlation between the parents' descriptions of their sons and their descriptions of their sons' ideals. A composite index consisting of the mean of the FS/FSI and MS/MSI correlations was obtained for each family. The mean of this index is significantly lower in addict families. The range of mean correlations in the addict group is  $-.10$  to  $.43$ . The range in the control group is  $.29$  to  $.82$ .

The correlations of the mothers' and fathers' sorts may also



Table 4  
Mean FS/FSI and MS/MSI Correlations

	Mean	Standard Deviation
Addict	.21	.21
Control	.62	.21

t=3.06; df=8; p <.008

be considered separately. The mean correlation between the fathers' descriptions of their sons and of their sons' ideals is significantly lower for the addict group than for the control group. Although the mean correlation of the mothers' descriptions of their sons and of their sons' ideals is lower in the addict group than in the control group, the difference is not statistically significant.

Hypothesis 3: Addict sons are seen as less similar to their parents than are control sons. The mean correlation of SS with SF and SM is lower in addict families. Similarly, the mean FS/FF and FS/FM correlation and the mean MS/MF and MS/MM correlation are lower in addict families.

Tables 5, 6, and 7 concern group differences between descriptions of the son and descriptions of the parents, as described by the son, father, and mother, respectively.

Table 5 shows by group the mean correlation of the son's description of himself (SS) with his descriptions of his father (SF) and the son's description of himself with his description of his mother (SM). The mean correlation of the addict group is lower, but not significantly different from the corresponding mean correlation of the control group. The range of the addict group means is .02 to .31. The range of the control group means

is  $-.19$  to  $.50$ .

Table 5  
Mean SS/SF and SS/SM Correlations

	Mean	Standard Deviation
Addict	.22	.13
Control	.27	.28

$t=0.41$ ;  $df=8$ ;  $p < .350$

Table 6 shows by group the mean correlation of the fathers' descriptions of the sons (FS) with their descriptions of themselves (FF) and of the fathers' descriptions of their sons (FS) with their descriptions of their wives (FM). The mean correlation in the addict group is lower, but not significantly different from the corresponding mean correlation of the control group. The range of the addict group means is  $.18$  to  $.39$ . The range of the control group means is  $.04$  to  $.61$ .

Table 6  
Mean FS/FF and FS/FM Correlations

	Mean	Standard Deviation
Addict	.30	.08
Control	.40	.25

$t=0.80$ ;  $df=8$ ;  $p < .220$

Table 7 shows by group the mean correlation of the mothers' descriptions of the sons (MS) with their descriptions of themselves and the mothers' descriptions of their sons (MS) with their descriptions of their husbands (MF). The mean correlation for the addict group is lower, but not significantly different from the corresponding mean correlation of the control group. The range of the addict group means is  $-.04$  to  $.39$ . The range of the control group means is  $.17$  to  $.70$ .

When the six comparisons relevant to hypothesis 3 are made

Table 7  
Mean MS/MF and MS/MM Correlations

	Mean	Standard Deviation
Addict	.26	.17
Control	.39	.23

$t=1.06$ ;  $df=8$ ;  $p < .160$

individually, five are in the predicted direction, although only one of the five is statistically significant (Table 2).

Hypothesis 4: There is less agreement on the nature of the sons in addict families. The correlations of the sons' descriptions of themselves (SS) with those of them by the parents (FS and MS) are lower in addict families.

Table 8 shows by group the mean correlation between the sons' descriptions of themselves and the parents' descriptions of them. In the addict group, this correlation is lower, but not significantly different from that of the control group. The range of the addict group means is .30 to .49. The range of the control group means is .11 to .70.

Table 3  
Mean SS/FS and SS/MS Correlations

	Mean	Standard Deviation
Addict	.37	.08
Control	.48	.22

$t=0.99$ ;  $df=8$ ;  $p < .180$

When the mean correlations relevant to hypothesis 4 are compared individually, both are in the predicted direction, but neither is significant (Table 2).

#### Non-predicted effects

Five significant differences between correlations of the two

groups that were not predicted a priori were found.

1. The correlation between the fathers' descriptions of the sons and the sons' descriptions of their own ideals (FS/SSI - Table 9) is significantly lower for the addict group than for the control group.

Table 9  
Mean FS/SSI Correlations

	Mean	Standard Deviation
Addict	.23	.13
Control	.52	.17

$t=3.09$ ;  $df=8$ ;  $p < .015$

2. Similarly, the correlation between the fathers' descriptions of the son and the mothers' descriptions of the sons' ideals (FS/MSI - Table 10) is significantly lower for the addict group than for the control group.

Table 10  
Mean FS/MSI Correlations

	Mean	Standard Deviation
Addict	.26	.10
Control	.59	.13

$t=4.54$ ;  $df=8$ ;  $p < .002$

3. The mean correlation of the sons' descriptions of themselves and the fathers' descriptions of the sons' ideals (SS/FSI - Table 11) is significantly lower for the addict group.

Table 11  
Mean SS/FSI Correlations

	Mean	Standard Deviation
Addict	.09	.21
Control	.45	.17

$t=2.97$ ;  $df=8$ ,  $p < .018$

4. Similarly, the mean correlation of the sons'

descriptions of themselves and the mothers' descriptions of the sons' ideals (SS/MSI - Table 12) is significantly lower for the addict group.

Table 12  
Mean SS/MSI Correlations

	Mean	Standard Deviation
Addict	.06	.22
Control	.45	.22

$t=2.80$ ;  $df=8$ ,  $p<.023$

5. In only one instance is the mean correlation of the addict family group significantly higher than that of the control family group. In that case, the mean correlation of the sons' descriptions of their ideals with the fathers' descriptions of the sons' ideals (FSI/SSI - Table 13) is significantly higher for the addict group.

Table 13  
Mean FSI/SSI Correlations

	Mean	Standard Deviation
Addict	.78	.04
Control	.62	.14

$t=-2.45$ ;  $df=8$ ;  $p<.040$

Discrepancy scores were computed for each item by subtracting the mean item placement score (ranging from 1 for "most frequently descriptive" to 5 for "least frequently descriptive") of that item in the description of the son's ideal from that in the description of him. This procedure was carried out for the SS/SSI, FS/FSI, and MS/MSI sorts. (The complete list of item discrepancy scores for these sorts is in Appendix 8).

A positive item discrepancy score, therefore, indicates that

the item is characteristic to a greater degree of the sons' ideals or the parents' perceptions of their sons' ideals than it is of the sons' or parents' perceptions of the sons.

A negative item discrepancy score indicates that the item is characteristic to a greater degree of descriptions of the sons as they are perceived by themselves and by their parents than it is of their ideals (as perceived by themselves and by their parents).

The tables are divided into categories based on the magnitude of the discrepancy. In the addict families, 24 items have discrepancy scores greater than or equal to 2.00. By contrast, only one item has a score of that magnitude in the control family group.

The content of the discordance between descriptions of the sons and descriptions of their ideals revealed in the test of Hypotheses 1 and 2 was further examined separately for addict families (Table 14) and control families (Table 15). In those tables, the q-sort items which showed the largest mean discrepancies are listed.

The mean discrepancies between descriptions of the sons and descriptions of their ideals (SS-SSI, FS-FSI, and MS-MSI) were intercorrelated to yield an index of the extent of agreement between sons, fathers, and mothers on the differences between the sons and their ideals. Table 16 shows the correlations of item discrepancies in addict families; Table 17 shows the correlations of item discrepancies in control families.

Table 14  
Discrepancy Scores Between Descriptions of the Sons  
and Descriptions of their Ideals

## Addict Families

Discrep.	SS-SSI	FS-FSI	MS-MSI
> 3.0	Easily persuaded (-3.00)	Bored (-3.20) Dependent upon others (-3.20) Easily persuaded (-3.00)	
2.5  -  3.0	Bored (-2.80) Impatient (-2.80) Worried (-2.80) Confident (2.60) On top of situations (2.60)	Strong willed (2.75)	Worried (-2.80) Dependent upon others (-2.80)
2.0  -  2.5	Shy (-2.40) Happy (2.20) Carries out plans (2.00) Complaining (-2.00) Reliable (2.00)	Worried (-2.40) Reliable (2.40) Carries out plans (2.00) Impatient (-2.00) Independent (2.00) Plans ahead (2.00) Success-oriented (2.00)	Bored (-2.40) Impatient (-2.40) Easily persuaded (-2.25) Absent-minded (-2.00) Messy (-2.00)

Table 15  
Discrepancy Scores between Descriptions of the Sons  
and Descriptions of their ideals

## Control Families

Discrep.	SS-SSI	FS-FSI	MS-MSI
2.0   1.5  -  2.0	Bossy (-2.00) On top of situations (1.60)		On top of sit- uations (1.60)
1.0  -  1.5	Bored (-1.40) Carries out plans (1.40) Competitive (-1.40) Secretive (-1.40) Self-critical (-1.40) Calm (1.20) Absent-minded (-1.00) Messy (-1.00) Open about feelings (1.00) Strong-willed (-1.00)	Bossy (-1.40) Independent (-1.20) Worried (-1.20) Decisive (1.00) Frank (1.00) Irritable (-1.00) Messy (-1.00) Suspicious (1.00)	Stubborn (-1.40) Happy (1.20) Active (1.00) Complaining (-1.00) Sexually-oriented (1.00)

Table 16  
Correlations of mean item discrepancies in descriptions  
of the sons and descriptions of their ideals  
Addict families

	SS-SSI	FS-FSI
FS-FS I	.78	
MS-MSI	.79	.78

Table 17  
Correlations of mean item discrepancies in descriptions  
of the sons and descriptions of their ideals  
Control families

	SS-SSI	FS-FSI
FS-FS I	.25	
MS/MSI	.32	.34

The correlations of discrepancies were also computed individually for each family, and means taken by group. Table 18 shows the means of the addict group correlations; Table 19 shows the means of the control group correlations.

Table 18  
Means of Correlations of Individual Families of Discrepancies  
between Descriptions of the Sons and Descriptions of their Ideals  
Addict Families

	SS-SSI	FS-FSI
FS-FSI	.52	
MS-MSI	.47	.48

Table 19  
Means of Correlations of Individual Families of Discrepancies  
between Descriptions of the Sons and Descriptions of their Ideals  
Control Families

	SS-SSI	FS-FSI
FS-FSI	.16	
MS-MSI	.21	.11



## Chapter 4 - Discussion

The main purpose of this study was to investigate the patterns of interpersonal perception in the families of addicts who maintain contact with their parents. A survey of biographical information of 450 addicts suggested the existence of two very different types of family relationships (Alexander & Dibb, 1974). In the more common type, addicts left home early, rarely if ever returned, and reported extreme dissatisfaction with the parent-child relationship. Complaints included parental alcoholism, lack of concern for the addict, abandonment, and lack of love. In the addict family type, addicts left home later, if at all, maintained close contact with the parents if living away, and reported satisfaction with the parent-child relationship. The life of an addict continuing to live with his family is radically different from that of the "street addict". His needs are taken care of by the parents; he does not need to develop the skills, initiative, and independence that would be required of him if he were to live away from his family. Because the social matrix of the "addict family" addict is so different from that of other addicts, the conclusions of this research are not generalizable to other groups of addicts.

This research demonstrates that the family perceptions of addict families are systematically different from those of control families in which the sons maintain contact with their parents. Specifically, this study investigated the suggestion that addicts are seen in the context of their families as failed

and foreign and that perceptions of them are inconsistent between family members.

The data provide strong support for the hypotheses that the addict son sees himself as deviating from his ideal, and also that the parents see him as deviating from their perceptions of his ideal (hypotheses 1 and 2). Four of the statistically significant comparisons made post hoc also provide support for hypotheses 1 and 2.

Although it is clear that addict sons are perceived as having failed to achieve their ideals, to understand the nature of this perceived failure, three aspects of the data must be considered.

First, there is a high level of agreement within the addict families in descriptions of the sons' ideals. (The mean SSI/FSI correlation was .78; the mean SSI/MSI correlation was .68; and the mean FSI/MSI correlation was .71). There was also a high level of agreement within the control families in descriptions of the sons' ideals. (The mean SSI/FSI correlation was .62; the mean SSI/MSI correlation was .63; and the mean FSI/MSI correlation was .74). The mean correlation of the self ideal descriptions of all ten sons was also quite high (.49). (By contrast, the mean correlation of the self descriptions of the ten sons was .13).

Thus, the addicts and their parents share a conception of the sons' ideals, as do the control sons and their parents. Further, the intercorrelation across families suggests that

the ideal sorts are, to some extent, culturally determined. It is interesting to note that the ideals of addicts are very similar to those of controls; that addicts who remain with their families do not have the deviant values and goals of other types of addicts described in the literature.

Second, the level of agreement between descriptions of the sons in addict families is much lower than the level of agreement between descriptions of the ideals. (The mean SS/FS correlation was .38; the mean SS/MS correlation was .36; and the mean FS/MS correlation was .46). In the control family group, there was also less agreement on descriptions of the sons than of their ideals.

Third, there is, in addict families, a high level of agreement between sons, fathers, and mothers on the specific direction and magnitude of item discrepancies in descriptions of the sons and descriptions of their ideals. The mean correlation of these mean item discrepancy scores (of sons, fathers, and mothers) for the addict group was .78. The corresponding mean correlation of mean item discrepancy scores for the control group was .30. These high correlations of the addict group indicate a high level of agreement on the discrepant items both within individual families (among family members) and between families in the addict group.

Low correlations (as in the control group), however, might be due to two factors: (1) a low level of agreement on item discrepancies within families, or (2) a low level of agreement on

item discrepancies between families within a group.

To ensure that the difference between the magnitude of the discrepancy correlations in the two groups was not an artifact of averaging, the correlations of discrepancies were also computed individually for each family, and means taken by group (Tables 16 and 17). The correlations of the addict group were significantly higher than those of the control group. The observed differences are, therefore, due to a lower level of agreement within the individual families of the control group.

This difference between groups may be, to some extent, a function of discrepancy magnitude. In the addict group 24 items had a mean discrepancy score of 2.00 categories or higher. In the control group only 1 item had a score of that size. It is possible that, since the item discrepancies are of a smaller magnitude in control families, recognition of them is less extensive and more idiosyncratic. Since the addict sons' very conspicuous shortcomings are topics of frequent family contemplation and discussion, there may be, as a result, more widespread agreement of the sons' imperfections.

Examination of the items which are most discrepant in descriptions of the sons and descriptions (by the same sorter) of their ideals (Tables 14 and 15) sheds further light on the nature of differences between addict and control families.

In scanning the list of mean item discrepancy scores of the addict group, certain themes emerge. The sons' list contains items suggesting that they see themselves as having a problem of

general competence (too infrequently on top of situations, too infrequently carries out plans, is too infrequently reliable) and a basic dissatisfaction with life (unhappy, bored, complaining, worried, and not confident). There is also a less clear cluster of items suggesting interpersonal weaknesses (too easily persuaded, too shy, and too impatient).

The discrepancy list of the fathers of addicts has items in the same three categories as does the list of their sons. In addition, the fathers' list has items suggesting dissatisfaction with the sons' level of independence and drive (too frequently dependent upon others, too infrequently independent, too infrequently strong-willed, and too infrequently success-oriented).

The discrepancy list of the mothers of addicts has items in common with the sons' and fathers' basic dissatisfaction with life and interpersonal weakness themes, but does not contain any of the general competence items. Mothers of addicts see their sons as also discrepant on the items "absent-minded" and "messy".

In the control group, the only item which had a mean discrepancy score of 2.00 or greater was "bossy" (in the SS-SSI sorts). In order to compare the discrepancy profiles of the addict and control groups, the criterion level for discussion was dropped to a mean discrepancy of 1.00 or more categories for the control group.

Clear themes do not emerge in the lists of discrepant items of the control group. It is clear, however, that the

discrepancy lists of the control group included several items which are clearly incongruous with the profile of the addict. Control sons were seen as too bossy, too competitive, and too stubborn. None of these items were high on the discrepancy lists of the addoct group. Two of the items, "strong-willed" and "independent", were seen as too frequently characteristic of the control sons, while the addicts were seen as deviating from the ideal in the opposite direction.

Another cluster of items which differentiates addicts and controls concerns openness: control sons were seen as too frequently secretive and too infrequently open about feelings and frank.

There is much less agreement on the discrepant items among control families. There were no items on which all three family members had a discrepancy score of 1.00 or higher. The fathers and sons both indicated that the sons were too frequently bossy and too frequently messy. The sons and mothers both indicated that the sons were not frequently enough on top of situations. There were no discrepant items agreed to by the fathers and mothers at the criterion level.

Thus, there are major differences in the patterns of interpersonal perception between addict and control families. In addict families, there is strong agreement between the sons, fathers, and mothers both in descriptions of the sons' ideal selves, and in isolation of the particular items on which the sons deviate from this ideals. There is not, however, a

comparable level of agreement in their perceptions of the son.

By contrast, in control families, there is agreement in descriptions of the sons' ideals, but not on the particular items on which the sons deviate from their ideals. There is a moderate level of agreement in descriptions of the sons within control families.

Although the hypotheses (3 and 4) that the sons are seen as dissimilar to their parents and that the descriptions of the sons are less agreed-upon in addict families were not supported statistically, it would be premature to discard them at this point, as the direction of these findings is very clear.

Five of the six mean correlations relevant to hypothesis 3 were in the predicted direction; that is, the mean correlations of the descriptions of the sons were lower in the addict group. (One of these five differences was significant by a one-tailed test).

A broader test of perceived similarity of addicts and controls can be made by comparing all correlations of descriptions of the sons (SS, FS, and MS) with descriptions of the parents (SF, SM, FF, FM, MF, and MM). In 15 of these 18 cases, the mean correlations were lower in addict families. (Four of the 15 differences were significant by a one-tailed test).

In hypothesis 4, both of the correlations between the sons' descriptions of themselves and those of them by their parents were again in the predicted direction; that is, lower in addict

families.

An interesting difference in perceptions of the parents is evident in the table of Interperception Matrix means by group (Table 1). Examined were the correlations of descriptions of the parents (SM, FM, and MM; SF, FF, and MF) with descriptions of the sons' ideals (SSI, FSI, and MSI). In eight of the nine correlations between descriptions of the mothers and of the sons' ideals, the mean correlation was higher for the control group mothers. In eight of the nine correlations between descriptions of the fathers and of the sons' ideals, the mean correlation was higher for the addict group fathers.

These differences, while not achieving statistical significance, nevertheless strongly indicate that Addict sons admire their fathers more than their mothers (descriptions of their ideals are closer to descriptions of the fathers than of the mothers); control sons admire their mothers more than their fathers. This might be seen as supporting the clinical observation of Alexander and Dibb (1974) that mothers in addict families have low status within the family and are often meek and repressed.

Certain similarities are evident between the descriptive profile of the addict given by the addict himself and by his parents and the descriptions existing in the literature. This research supports the portrayal of the addict in the literature as easily persuaded (Vaillant, 1966), bored (Larner & Tefferteller, 1964), dependent upon others (Steffenhagen, McAree & Zheutlin,



1969; Vaillant, 1966), and impatient (Gilbert & Lombardi, 1967), as well as generally displaying a low level of self-esteem (Chein et al, 1964; Cormier, 1973; Torda, 1968).

These personal features, in combination with the characteristic family environment, may be significant factors in the understanding of habitual opiate use in the son. At a broader level, Ausubel (1958), Nyswander (1956), and Wilner and Kassebaum (1966) have suggested that drug use served a compensatory function, by inhibiting the expression of aggressive or sexual impulses. Khantzian, Mack and Schatzberg (1974) proposed that maternal overindulgence may precipitate the failure to develop adequate resources for dealing with disappointment and delay of gratification.

Psychological characteristics, family influence, and a host of other less-clearly defined factors (peer relations, social and economic conditions, societal attitudes, etc.) may interact in unique ways to nurture the development of illicit drug use. It may be through the identification and isolation of the effects of these salient factors that insight into prevention will eventually emerge.

LeDain et al (1973) conclude that

...(much drug use may be accounted for by) stress produced by the nervous strain of modern living. Much adult non-medical drug use has the relief of stress as its main objective... (p. 25).

They further propose that people who suffer from low self-esteem

may "...seek relief from a painful consciousness of self in sedation...(to)...dispel the painful awareness of personal inadequacy." (p. 25).

The position on family influence taken by Westley and Epstein (1969) in a large epidemiological study of Canadian families seems relevant to the case of addiction. They caution

...the way in which a family organized itself and functioned as a unit was both a consequence and a cause of mental health or illness of family members. (p. 6)

Thus, it is not suggested here that the family environment is the cause of the addiction in the son. It is proposed, however, that the family can nurture and prolong the addiction. Possibly the principal role of the family in perpetuating addiction involves its failure to expect, encourage, and facilitate a reasonable level of performance and change of the son. If the family demands immediate perfection of the son, he will recognize the hopelessness and impossibility of his task, and forsake it completely. By having unrealistically low expectations of the son, the family may also be instrumental in the maintenance of the low level of his self-esteem. As parents of addicts tend to be extremely competent and capable people, the abilities and skills of the son seem, by contrast, meagre. Since the addict is seen as unable to competently manage an independent, adult life style, he continues to live at home, where many of his needs and responsibilities are managed by others. In this manner, his development of the skills and resources necessary to function independently (of the family and

of drugs) is further retarded. By relying on the parents' greater competence for meeting reality demands, the son fails to develop the sense of self-esteem that comes from the experience of dealing successfully with the normal range of life situations.

The overindulgent/overdependent relationship noted in addict families by Alexander and Dibb (1974) and Chein et al (1964) may also be instrumental in maintaining the low level of self-esteem in the son, by providing him with no impetus to change his current level of functioning. Accepting the extravagant overindulgence of his parents and manipulating them by nagging and threatening self-destruction (Alexander & Dibb, 1974) inculcates social behaviours which are ill-suited to adult relationships.

Schiff (1959) concluded that, for the type of individual who becomes involved in narcotic use, the transition to adult status is particularly traumatic, and that adolescent narcotic use effectively prevents this transition. As long as the son needs to remain closely tied to the family (especially when he is in his twenties) he needs an excuse for doing so. Physical addiction serves well as such a rationalization.

#### Directions for future research

(A) Improvements in design. First, it would be advantageous to employ a more detailed matching and screening procedure in the selection of control families. In the present study, one control family was clearly dysfunctional in the opinions of the three interviewers, and contributed

disproportionately to the variance of the control group. When the same statistics were computed without the data of that one family, 15 of the 66 correlations were significantly different between the two groups (including the 8 significant correlations with the data of that family included).

Due to the sizable variability of data from non-addict controls and their families, collection of normative data might be more appropriate to this type of research than a one-to-one matching procedure for controls.

Although the difference between the educational level of sons in the two groups was statistically insignificant, the disparity may, nonetheless have influenced the results. The addict sons have a mean of 10.8 years of education; the control sons have a mean of 12.2 years of education (Table 1). It is possible, however, that since only one out of five addict sons completed high school (cf. 4 out of 5 control sons), any effects on self-esteem of high school graduation could have systematically influenced the data.

It is not, however, advisable to match groups on educational level, as dropping out of school is likely a routine consequence of opiate addiction, but not directly related to intelligence. For this reason, a control group matched on education would likely be mis-matched on intelligence. Such a bias could be handled by treating intelligence as a covariate.

In future work, if the content of Q-sorts is to be considered in detail, it would be prudent to employ a free

Q-sorting distribution. This procedure would enable the use of such statistics as analysis of variance, as item placement would have fewer restraints due to requirements of the sorting distribution.

(B) Areas for Future Investigation. The direction most immediately indicated for future investigation is an extension of the present study; a larger sample is needed to examine in more detail many of the indications in this research.

Once this type of data is available on a large number of families it would be most instructive to examine the content of the various sorts, to construct complete descriptive profiles of addict and control families based on their Q-sorts. The Q-sort method could also be used to provide descriptions of the parents of addicts and controls. Perhaps in this manner, the nature of the addict sons' admiration of the fathers (cf. the control sons' greater admiration of the mothers) can be explained. It would also be instructive to examine the Q-sorts of friends and siblings of addicts. It would be particularly interesting to study non-addicted siblings of addicts, to see how they have coped with the same general social environment without addiction. To see in proper perspective the mechanisms involved in addict families, it would be desirable to collect Q-sort data on other types of addicts as well (such as "street addicts" and medical addicts).

If, as has been widely proposed (LeDain et al, 1973; Satir, 1967), the family interaction and interperception patterns

preceded the development of the symptom in a family member, the method holds considerable diagnostic promise.

It seems likely that different presenting problems would yield discriminable profiles -- that the interperception matrices of families in which the child was a delinquent would be statistically distinguishable from the matrices of families in which the child had been diagnosed as schizophrenic.

Furthermore, the interperception matrix method can be used for any members of an interacting group and the Q-sort items can be tailored to be appropriate to any context.

Implications for research and therapy.

The use of correlated Q-sorts has a 20-year history in the psychological literature in dealing with individuals. Its application to group process is a logical extension of the method. An area in which the interperception matrix has particular potential is that of clinical outcome research. In any theoretical framework which posits that individual dysfunction is symptomatic of underlying disturbances in relationships, if the intervention is effective, one would expect its influence to be apparent in the interperception matrix.

In this conceptualization of heroin addiction as inextricably involved in the system of family interaction, some directions for therapeutic intervention emerge. It seems essential, particularly with addicts remaining in the parental home beyond their teens, to examine the role of the family in perpetuating the addiction. If the family is found to be

instrumental in maintaining the addiction, there are two courses of action: change the family (so that the son can develop the ability to deal with normal life stresses), or remove the son from the family.

In endeavoring to intervene within the family context, the gradual independence of the son from the family should be promoted. If a graded series of manageable tasks can be required of the addict, he may be able, through experiencing success, to develop some of the adult skills and social maturity needed to build his self-esteem. As he becomes more self-sufficient, the likelihood of being able to develop a viable alternative life style without addiction increases.

In cases in which it is impractical or undesirable for the son to remain in the family, it is crucial to assist him in developing a substitute life style and network of supportive relationships to replace the comfortable and intact family relationships. The success of such "therapeutic communities" as Synanon, Daytop Village, Odyssey House, and Phoenix House may be viewed in this context. These programs offer a complete and highly structured life style free from drugs with strong social pressure towards continued abstinence. In one sense, they are substitutes for the independence-fostering relationships the addict may have been unable to achieve with his family. The positive regard that such programs direct towards the addict is fully contingent upon drug abstinence.

The individual family interperception matrix contains much

information of value to both individual and family therapy. Particularly in early sessions, the content of the Q-sorts suggests concrete areas for exploration in therapy, and the correlation matrix provides an index of family interaction and isolates areas in which the normal family communication and self-confirmation processes have broken down.



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Appendix 1

19 April, 1974

## Q-SORT INSTRUCTIONS AND INTERVIEW PROCEDURE:

First, we are interested in the way in which you describe yourself. Here is a deck of 60 cards, each with a word or phrase on it. What I would like you to do is to sort these cards into 5 piles of 12 each, based on how good a description a word is of you, as you are now, as you say within the last two weeks. The piles will range from the one on your far left, which will contain those words or phrases which are at least descriptive of you, to the pile on your far right, which will contain those words which are best descriptive of you. The way you sort the cards will be confidential, even from the other members of your family.

A good way to sort the cards is to go through the deck, one card at a time, picking out only those cards which seem very frequently true, if you have less than 12, go through the remainder of the deck, and pick out the next most descriptive cards, until you have 12. If you have more than 12, go through them, and pick out the 12 most descriptive. Then repeat this process, picking out the 12 next most descriptive cards until you have 5 piles of 12 cards each, ranging from most frequently descriptive to least frequently descriptive.

SON: Now, with the same sorting method, please describe your father/mother/ as they are now. Remember, your description will be completely confidential. Now, describe your ideal self, the person you would most want to become.

FATHER: Now, with the same sorting method, please describe your son/wife/ as they are now. Remember, your description will be completely confidential. Now describe your son's ideal, the person he would most like to become.

MOTHER: Now, with the same sorting method, please describe your son/husband/ as they are now. Remember, your description will be completely confidential. Now describe your son's ideal, the person he would most like to become.

Do you have any questions?

Interviewer stacks piles with MOST ON TOP.

SON	MOTHER	FATHER
SS	MM	FF
SF	MS	FS
SM	MF	FM
SSI	MSI	FMI



Appendix 2

1. absent-minded
2. active
3. ambitious
4. angry
5. ashamed
6. bored
7. bossy
8. calm
9. capable
10. carries out plans
11. cautious
12. charming
13. competitive
14. complaining
15. confident
16. considerate
17. cruel
18. decisive
19. dependent upon others
20. easily persuaded
21. fair
22. feminine
23. frank
24. friendly
25. happy
26. hardworking
27. helpful
28. helpless
29. imaginative
30. impatient
31. independent
32. intelligent
33. irritable
34. jealous
35. masculine
36. materialistic
37. messy
38. on top on situations
39. open about feelings
40. plans ahead
41. quiet
42. reasonable
43. reliable
44. shy
45. religious or spiritual
46. sullen
47. secretive
48. self-critical
49. sensitive to others' feelings
50. sexually-oriented
51. strong-willed
52. stubborn
53. success-oriented
54. supportive to others
55. suspicious
56. sympathetic
57. tricky
58. trustworthy
59. warm
60. worried

Appendix 3

## Interperception Matrix - Addict Family 1

	SS	SSI	SF	SM	FS	FSI	FF	FM	MS	MSI	MF
SSI	-.04										
SF	-.23	.40									
SM	.27	.39	.11								
FS	.54	.23	-.02	.25							
FSI	-.10	.78	.52	.28	.20						
FF	-.09	.43	.65	.22	.21	.47					
FM	.12	.23	.09	.71	.14	.27	.23				
MS	.43	.22	.05	.21	.69	.23	.19	.13			
MSI	-.17	.68	.38	.23	.20	.73	.32	.22	.28		
MF	-.12	.70	.53	.32	.23	.72	.45	.21	.28	.76	
MM	.04	.62	.31	.60	.30	.56	.43	.60	.35	.67	.59

## Interperception Matrix.- Addict Family 2

	SS	SSI	SF	SM	FS	FSI	FF	FM	MS	MSI	MF
SSI	.22										
SF	.26	.73									
SM	.37	.64	.68								
FS	.27	.44	.39	.38							
FSI	.17	.74	.73	.58	.45						
FF	.28	.47	.59	.31	.33	.63					
FM	.12	.65	.58	.64	.45	.68	.44				
MS	.33	.36	.50	.35	.48	.46	.43	.41			
MSI	.08	.67	.65	.43	.42	.72	.68	.66	.41		
MF	.32	.60	.52	.31	.29	.62	.68	.50	.41	.64	
MM	.08	.30	.37	.53	.43	.43	.23	.64	.23	.35	.18

## Interperception Matrix - Addict Family 3

	SS	SSI	SF	SM	FS	FSI	FF	FM	MS	MSI	MF
SSI	.28										
SF	.08	.70									
SM	.51	.48	.31								
FS	.45	.17	-.16	.43							
FSI	.33	.85	.57	.48	.26						
FF	.41	.66	.52	.54	.23	.63					
FM	.36	.34	.09	.57	.48	.38	.58				
MS	.42	-.04	-.12	.26	.38	-.06	.15	.17			
MSI	.21	.73	.39	.47	.23	.71	.48	.34	-.02		
MF	.28	.54	.55	.45	.17	.48	.61	.34	.24	.50	
MM	.24	-.15	-.07	.17	.20	-.03	.14	.06	.35	.04	.13

## Interperception Matrix - Addict Family 4

	SS	SSI	SF	SM	FS	FSI	FF	FM	MS	MSI	MF
SSI	.34										
SF	.33	.44									
SM	.27	.13	.52								
FS	.40	.18	.14	.11							
FSI	.21	.75	.40	.02	.22						
FF	.36	.46	.19	.15	.38	.38					
FM	.23	.28	.29	.46	.23	.28	.46				
MS	.28	.38	.17	.24	.53	.44	.36	.31			
MSI	.33	.67	.50	.25	.28	.73	.48	.34	.52		
MF	.16	.36	.29	.40	.28	.36	.64	.38	.50	.54	
MM	.08	.13	.14	.53	-.04	.09	.23	.53	.28	.30	.49

## Interperception Matrix - Addict Family 5

	SS	SSI	SF	SM	FS	FSI	FF	FM	MS	MSI	MF
SSI	-.19										
SF	.16	.13									
SM	.16	-.51	.18								
FS	.26	.11	.10	.11							
FSI	-.17	.79	.31	-.33	.10						
FF	.35	.01	.44	.18	.26	.08					
FM	.03	.47	.33	-.02	.31	.58	.25				
MS	.35	-.23	-.03	.06	.22	-.27	-.04	-.16			
MSI	-.13	.63	.18	-.33	.18	.66	-.08	.34	-.29		
MF	.24	.50	.43	-.22	.32	.53	.29	.47	.12	.48	
MM	.18	.18	.31	.13	.26	.38	.36	.52	-.20	.38	.30



## Interperception Matrix - Control Family 1

	SS	SSI	SF	SM	FS	FSI	FF	FM	MS	MSI	MF
SSI	.74										
SF	.27	.16									
SM	.69	.58	.45								
FS	.66	.59	.16	.54							
FSI	.63	.74	.00	.47	.73						
FF	-.52	-.52	.13	-.35	-.41	-.43					
FM	.32	.24	.06	.34	.48	.33	-.13				
MS	.74	.74	.28	.65	.69	.75	-.47	.38			
MSI	.73	.78	.24	.61	.67	.77	-.45	.22	.91		
MF	-.19	-.06	.39	-.08	-.10	-.10	.43	-.23	-.06	-.01	
MM	.28	.33	.28	.52	.29	.38	-.18	.20	.45	.48	.14

## Interperception Matrix - Control Family 2

	SS	SSI	SF	SM	FS	FSI	FF	FM	MS	MSI	MF
SSI	.64										
SF	.50	.75									
SM	.50	.72	.76								
FS	.63	.74	.63	.60							
FSI	.58	.64	.63	.61	.86						
FF	.37	.56	.57	.38	.55	.34					
FM	.43	.45	.55	.64	.48	.54	.13				
MS	.46	.47	.53	.48	.58	.58	.23	.53			
MSI	.40	.63	.67	.48	.77	.78	.43	.43	.59		
MF	.38	.49	.56	.41	.44	.28	.58	.18	.52	.39	
MM	.39	.48	.59	.66	.53	.51	.27	.72	.57	.56	.32

## Interperception Matrix - Control Family 3

	SS	SSI	SF	SM	FS	FSI	FF	FM	MS	MSI	MF
SSI	.58										
SF	.10	.28									
SM	-.48	-.29	.04								
FS	.23	.31	.17	-.18							
FSI	.21	.37	.21	-.13	.67						
FF	.27	.47	.19	-.05	.67	.70					
FM	-.01	.26	.17	-.03	.54	.57	.71				
MS	-.01	-.15	-.13	-.08	.18	.03	-.05	-.09			
MSI	.12	.40	.23	-.05	.44	.66	.66	.63	-.09		
MF	.19	.19	.14	-.03	.29	.28	.37	.28	.15	.43	
MM	-.04	.18	.16	.19	.32	.38	.39	.55	.19	.45	.38

## Interperception Matrix - Control Family 4

	SS	SSI	SF	SM	FS	FSI	FF	FM	MS	MSI	MF
SSI	.63										
SF	.47	.54									
SM	.13	.39	.30								
FS	.38	.40	.44	.28							
FSI	.39	.67	.59	.54	.39						
FF	.25	.23	.63	.13	.24	.32					
FM	.12	.37	.28	.63	.25	.51	.09				
MS	.67	.64	.60	.24	.43	.53	.33	.32			
MSI	.51	.72	.64	.45	.54	.70	.34	.43	.70		
MF	.13	.33	.34	.53	.24	.47	.18	.72	.24	.45	
MM	.43	.43	.70	.17	.42	.43	.54	.09	.45	.54	.13

## Interperception Matrix - Control Family 5

	SS	SSI	SF	SM	FS	FSI	FF	FM	MS	MSI	MF
SSI	.36										
SF	.03	.29									
SM	.53	.64	.21								
FS	.51	.54	.23	.44							
FSI	.43	.67	.33	.73	.63						
FF	.33	.53	.41	.52	.65	.68					
FM	.43	.55	.08	.60	.50	.68	.45				
MS	.50	.64	.30	.71	.60	.82	.60	.67			
MSI	.49	.63	.35	.68	.53	.78	.51	.55	.78		
MF	.53	.56	.43	.72	.63	.81	.70	.62	.78	.76	
MM	.53	.53	.11	.70	.50	.58	.44	.71	.61	.63	.59

Appendix 4

AM IV G LEVEL 21

MAIN

DATE = 74078

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```

DIMENSION N(60,14)
DIMENSION TITLE(216),NO(300),NAME(480)
REAL*8 X(60,14)
DO7 I=1,60
  LZ=3 I-7
  LX=3*I
7  READ(5,8)(NAME(LL),LL=LZ,LX)
8  FORMAT(8A4)
  K=1
  WRITE(6,12)
12  FORMAT(' THE 2-SPRT DECKS WERE PROCESSED IN THE ORDER:')
19  IZ=4*K-3
  IX=4*K
  READ(5,1,END=999)(TITLE(I),I=IZ,IX)
1  FORMAT(4A4)
  WRITE(6,4)(TITLE(I),I=IZ,IX)
4  FORMAT(' ',4A4)
  DO2 I=1,60
  READ(5,3) J
3  FORMAT(74X, I2)
  X(J,K)=5
  IF (I.LE.48)X(J,K)=4
  IF (I.LE.36)X(J,K)=3
  IF (I.LE.24)X(J,K)=2
  IF (I.LE.12)X(J,K)=1
2  CONTINUE
  K=K+1
  KSUB=K-1
  GO TO 19
999  CONTINUE
  WRITE(6,9)
9  FORMAT('1', 'DATA PASSED TO CORREL - RANGING FROM "1" FOR MOST DESC
  RIPTIVE TO "5" FOR LEAST DESCRIPTIVE.')
  IF (KSUB.EQ.2)WRITE(6,20)
20  FORMAT('0', 'VARIABLE NUMBER', 31X, 'SS      SSI')
  IF (KSUB.EQ.6)WRITE(6,21)
21  FORMAT(' ', 'VARIABLE NUMBER', 31X, 'SS      SSI      SM      MS      MSI
  MH')
  IF (KSUB.EQ.12)WRITE(6,22)
22  FORMAT(' ', 'VARIABLE NUMBER', 31X, 'SS      SSI      SF      SM      FS
  * FS1      FF      FM      MS      MSI      MF      MH')
  DO57 J=1,60
  JZ=3*J-7
  JX=8*J
  WRITE(6,6)J,(NAME(JJ),JJ=JZ,JX),(X(J,K),K=1,KSUB)
6  FORMAT(' ', I2, 2X, 8A4, 5X, 12F7.0)
57  WRITE(15) (X(J,K),K=1,KSUB)
  DO11 J=1,60
  DO11 K=1,KSUB
  X1=X(J,K)
11  N(J,K)=IFIX(X1)
  DO58 K=1,KSUB
  IZ=4*K-3
  IX=4*K
  WRITE(6,37)(N(J,K),J=1,60),(TITLE(I),I=IZ,IX)
37  FORMAT(' ', 60I1, 4A4)
58  WRITE(7,59)(N(J,K),J=1,60),(TITLE(I),I=IZ,IX)
  STOP

```

Appendix 5



TV 5 L-V-L 21

MAIN

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FAMILY INTERPERCEPTION DIMENSION EXTRACTION PROGRAM

THIS PROGRAM TAKES CORRELATIONS FROM DISC 16 AND, USING  
INPUT COORDINATES, EXTRACTS 7 DIMENSIONS OF FAMILY  
INTERPERCEPTION PROCESS FROM THE MATRIX.

INDEX OF VARIABLE NAMES:

CORSUM	CORRELATION ACCUMULATOR FOR MEANS
DATA(L,M)	INDIVIDUAL CORRELATION MATRIX ELEMENTS
FMAX	MAXIMUM CORRELATION IN EACH MEAN
FMIN	MINIMUM CORRELATION IN EACH MEAN
ICNT	DIMENSION COUNTER (<ICNT<8)
ICOUNT	NUMBER OF CORRELATIONS IN EACH MEAN
L	ROW COORDINATE OF CORRELATION MATRIX
M	COLUMN COORDINATE OF CORRELATION MATRIX
NUMVAR	NUMBER OF VARIABLES (Q-SORTED DECKS)
TITLE	DIMENSION NAME

GARY DIBB, DEPARTMENT OF PSYCHOLOGY, SIMON FRASER UNIVERSITY

REAL\*8 DATA(12,12)  
DIMENSION TITLE (20)  
NUMVAR=12  
ICNT=0

READ CORRELATION MATRIX FROM DISC 16 (ONE ROW PER PASS,  
LOWER TRIANGULAR PORTION). ENTRIES ARE IN UNFORMATTED BINARY.

```

DO 1 J=1,NUMVAR
1  READ(16) (DATA(J,K),K=1,J)
27  FORMAT (12F2.1)
DO 19 J=1,NUMVAR
19  WRITE(6,9)(DATA(J,K),K=1,J)
9   FORMAT (' ',12(F6.3,4X))

```

TERMINATE EXECUTION AFTER COMPUTATION OF ALL 7 INDICES.

AN IV 5 LEVEL 21 MAIN DATE = 74078 2.

```

C
15 IF(ICNT.EQ.7)GOTO97
    FMAX=-1
    FMIN=1
    ICOUNT=0
    CURSUM=0
    ZTRANS=0
17 READ(5,17)TITLE
    FORMAT(20A4)
    WRITE(6,15)TITLE
18 FORMAT(' //////////////// ',20A4)
C
C
C READ INPUT COORDINATES OF CORRELATION MATRIX TO DETERMINE
C INDEX CONSTITUENTS.
C
5 READ(5,2)L,M
2 FORMAT(2I2)
IF (L.LQ.9)GOTO 98
IF (DATA(L,M).GT.FMAX)FMAX=DATA(L,M)
IF (DATA(L,M).LT.FMIN)FMIN=DATA(L,M)
IF(DATA(L,M).EQ.1)GOTO96
IF(DATA(L,M).EQ.-1)GOTO95
ZTRANS=ZTRANS+DLOG((1+DATA(L,M))/(1-DATA(L,M)))*.5
90 CURSUM=CURSUM+DATA(L,M)
    ICOUNT=ICOUNT+1
    GOTO95
95 ZTRANS=ZTRANS+1.0
    GOTO90
96 ZTRANS=ZTRANS-1.0
    GOTO90
98 CONTINUE
C
C
C INCREMENT DIMENSION INDEX, CALCULATE MEANS FOR RAW AND
C Z-TRANSFORMED CORRELATIONS.
C
    ICNT=ICNT+1
    CDRAV=CURSUM/FLOAT(ICOUNT)
    ZTRMN=ZTRANS/FLOAT(ICOUNT)
    WRITE(6,6)FMIN,FMAX,CDRAV,ZTRMN
6 FORMAT(' RANGE ->',F7.3,' TO',F7.3/' RAW MEAN CORRELATION ->'
1,F7.3/' Z-TRANSFORMED MEAN CORRELATION ->',F7.3)
    GO TO 15
97 STOP
END

```

Appendix 6

VARIABLE	NUMB R OF CASTS	MEAN	STANDARD DEVIATION	STANDARD ERROR	T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
-----							
VAR001	SS-SSI						
ADDICT	5	0.1220	0.227	0.101	-3.92	2	0.004
CONTROL	5	0.5900	0.141	0.063			
-----							
VAR002	SS-SF						
ADDICT	5	0.1200	0.218	0.097	-1.13	2	0.290
CONTROL	5	0.2740	0.212	0.095			
-----							
VAR003	SF-SF T						
ADDICT	5	0.4800	0.246	0.110	0.50	8	0.633
CONTROL	5	0.4040	0.238	0.106			
-----							
VAR004	SS-SM						
ADDICT	5	0.3160	0.131	0.059	0.19	8	0.852
CONTROL	5	0.2740	0.469	0.210			
-----							
VAR005	SM-SSI						
ADDICT	5	0.2260	0.451	0.202	-0.67	8	0.523
CONTROL	5	0.4080	0.409	0.183			
-----							
VAR006	SM-SF						
ADDICT	5	0.3600	0.237	0.106	0.05	2	0.962
CONTROL	5	0.3520	0.272	0.122			
-----							
VAR007	SS-FS						
ADDICT	5	0.3840	0.120	0.054	-1.02	2	0.339
CONTROL	5	0.4820	0.179	0.080			

\* POOLED VARIANCE ESTIMATE \*

VARIABLE		NUMB R	MEAN	STANDARD	STANDARD	* POOLED VARIANCE ESTIMATE	
		OF CASES		DEVIATION	ERROR	T	DEGREES OF 2-TAIL
						VALUE	PROB.
-----							
VAR008 FS-S9 L							
ADDICT		5	0.2260	0.127	0.057		
CONTROL		5	0.5160	0.167	0.075	-3.09	0.015
-----							
VAR009 FS-SF							
ADDICT		5	0.0900	0.204	0.091		
CONTROL		5	0.3260	0.204	0.091	-1.83	0.105
-----							
VAR010 FS-SM							
ADDICT		5	0.2560	0.149	0.066		
CONTROL		5	0.3360	0.313	0.140	-0.52	0.619
-----							
VAR011 FS-SS							
ADDICT		5	0.0860	0.213	0.095		
CONTROL		5	0.4420	0.166	0.074	-2.97	0.018
-----							
VAR012 FS-SSI							
ADDICT		5	0.7620	0.043	0.019		
CONTROL		5	0.6180	0.143	0.064	2.45	0.040
-----							
VAR013 FS-SF							
ADDICT		5	0.5060	0.161	0.072		
CONTROL		5	0.3520	0.264	0.113	1.11	0.298
-----							
VAR014 FS-SM							
ADDICT		5	0.2060	0.363	0.165		
CONTROL		5	0.4440	0.335	0.150	-1.07	0.316
-----							

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
* POOLED VARIANCE ESTIMATE *							
VAR015	FSI-FS						
ADDICT	5	0.2400	0.129	0.057	-4.27	8	0.003
CONTROL	5	0.6560	0.172	0.077			
-----							
VAR016	FP-SS						
ADDICT	5	0.2620	0.202	0.090	0.64	8	0.537
CONTROL	5	0.1400	0.372	0.166			
-----							
VAR017	FF-SST						
ADDICT	5	0.4060	0.239	0.107	0.66	8	0.525
CONTROL	5	0.2580	0.452	0.202			
-----							
VAR018	FF-SF						
ADDICT	5	0.4780	0.179	0.080	0.72	8	0.492
CONTROL	5	0.3800	0.222	0.099			
-----							
VAR019	FP-SM						
ADDICT	5	0.2800	0.157	0.070	0.91	8	0.391
CONTROL	5	0.1200	0.345	0.154			
-----							
VAR020	FP-FS						
ADDICT	5	0.2820	0.071	0.032	-0.28	8	0.735
CONTROL	5	0.3400	0.453	0.203			
-----							
VAR021	FP-PSI						
ADDICT	5	0.4380	0.227	0.102	0.51	8	0.625
CONTROL	5	0.3220	0.457	0.205			

VARIABLE	NUMB R OF CASES	MEAN	STANDARD DIVIATION	STANDARD ERROR	T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
* POOLED VARIANCE ESTIMATE *							
* * * * *							
VAR022	FM-SS	5	0.1720	0.127	0.057		
ADDICT		5	0.1720	0.127	0.057		
CONTROL		5	0.2530	0.196	0.088		
					-0.62	8	0.434
* * * * *							
VAR023	FM-SS 1	5	0.3940	0.169	0.076		
ADDICT		5	0.3940	0.169	0.076		
CONTROL		5	0.3740	0.130	0.056		
					0.21	8	0.639
* * * * *							
VAR024	FM-SF	5	0.2760	0.203	0.091		
ADDICT		5	0.2760	0.203	0.091		
CONTROL		5	0.2220	0.200	0.089		
					0.38	8	0.716
* * * * *							
VAR025	FM-SM	5	0.4720	0.290	0.130		
ADDICT		5	0.4720	0.290	0.130		
CONTROL		5	0.4360	0.288	0.129		
					0.20	8	0.349
* * * * *							
VAR026	FM-PS	5	0.3220	0.144	0.064		
ADDICT		5	0.3220	0.144	0.064		
CONTROL		5	0.4500	0.114	0.051		
					-1.56	8	0.159
* * * * *							
VAR027	FM-PS I	5	0.4380	0.184	0.082		
ADDICT		5	0.4380	0.184	0.082		
CONTROL		5	0.5260	0.127	0.057		
					-0.83	8	0.404
* * * * *							
VAR028	FM-PF	5	0.3920	0.145	0.067		
ADDICT		5	0.3920	0.145	0.067		
CONTROL		5	0.2500	0.330	0.148		
					0.85	3	0.406
* * * * *							

\* POOLING VARIANCE ESTIMATE \*

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 \* \* \* \* \*

VAR029 MS-SS 5 0.3620 9.063 0.028 \* \* \* \* \*  
 ADDICT \* \* \* \* \*  
 CONTROL 5 0.4720 0.293 0.131 \* \* \* \* \*

VAR030 MS-SSI 5 0.1380 0.265 0.119 \* \* \* \* \*  
 ADDICT \* \* \* \* \*  
 CONTROL 5 0.4630 0.359 0.160 \* \* \* \* \*

VAR031 MS-SF 5 0.1140 0.241 0.108 \* \* \* \* \*  
 ADDICT \* \* \* \* \*  
 CONTROL 5 0.3160 0.286 0.128 \* \* \* \* \*

VAR032 MS-SK 5 0.2240 0.105 0.047 \* \* \* \* \*  
 ADDICT \* \* \* \* \*  
 CONTROL 5 0.4000 0.324 0.145 \* \* \* \* \*

VAR033 MS-FS 5 0.4600 0.175 0.078 \* \* \* \* \*  
 ADDICT \* \* \* \* \*  
 CONTROL 5 0.4960 0.200 0.089 \* \* \* \* \*

VAR034 MS-FSI 5 0.1600 0.319 0.143 \* \* \* \* \*  
 ADDICT \* \* \* \* \*  
 CONTROL 5 0.5420 0.310 0.139 \* \* \* \* \*

VAR035 MS-PP 5 0.2100 0.135 0.033 \* \* \* \* \*  
 ADDICT \* \* \* \* \*  
 CONTROL 5 0.1230 0.407 0.132 \* \* \* \* \*

\* E \*  
 \* DEGREES OF \*  
 \* FREEDOM \*  
 \* PROB. \*



\* POOLED VARIANCE ESTIMATE \*

VARIABLE NUMBER OF CASES MEAN STANDARD DEVIATION STANDARD ERROR T VALUE DEGREES OF FREEDOM 2-TAIL PROB.

VAR036 MS-FM

ADDICT	5	0.1720	0.217	0.097	*	-1.18	8	0.271	*
CONTROL	5	0.3620	0.287	0.128	*				*

VAR037 MSI-SS

ADDICT	5	0.0640	0.215	0.096	*	-2.80	8	0.023	*
CONTROL	5	0.4500	0.221	0.099	*				*

VAR038 MSI-SSI

ADDICT	5	0.6760	0.036	0.016	*	0.66	8	0.527	*
CONTROL	5	0.6320	0.144	0.065	*				*

VAR039 MSI-SF

ADDICT	5	0.4200	0.173	0.077	*	-0.05	8	0.962	*
CONTROL	5	0.4260	0.215	0.096	*				*

VAR040 MSI-SM

ADDICT	5	0.2100	0.320	0.143	*	-1.17	3	0.277	*
CONTROL	5	0.4340	0.236	0.128	*				*

VAR041 MSI-FS

ADDICT	5	0.2620	0.096	0.043	*	-4.54	8	0.002	*
CONTROL	5	0.5900	0.130	0.058	*				*

VAR042 MSI-FSI

ADDICT	5	0.7100	0.029	0.013	*	-1.01	3	0.344	*
CONTROL	5	0.7380	0.055	0.025	*				*

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
* POOLED VARIANCE ESTIMATE *							
VAR043	MSI-FE						
ADDICT	5	0.3760	0.285	0.127	0.34	8	0.746
CONTROL	5	0.2980	0.434	0.194			
VAR044	MSI-FM						
ADDICT	5	0.3800	0.165	0.074	-0.71	8	0.497
CONTROL	5	0.4520	0.155	0.069			
VAR045	MSI-MS						
ADDICT	5	0.1800	0.331	0.143	-1.74	8	0.121
CONTROL	5	0.5730	0.391	0.175			
VAR046	MF-SS						
ADDICT	5	0.1760	0.176	0.079	-0.22	8	0.831
CONTROL	5	0.2030	0.273	0.122			
VAR047	MF-SSI						
ADDICT	5	0.5400	0.126	0.056	1.91	8	0.092
CONTROL	5	0.3020	0.243	0.111			
VAR048	MF-SF						
ADDICT	5	0.4640	0.108	0.048	1.10	8	0.304
CONTROL	5	0.3720	0.153	0.069			
VAR049	MS-SM						
ADDICT	5	0.2520	0.270	0.121	-0.29	8	0.777
CONTROL	5	0.3100	0.351	0.157			

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
* POOLED VARIANCE ESTIMATE *							
VAR050	MF-FS						
ADDICT	5	0.2530	0.059	0.026	-0.34	2	0.743
CONTROL	5	0.3000	0.270	0.121			
VAR051	MF-FSI						
ADDICT	5	0.5420	0.137	0.061	1.21	3	0.260
CONTROL	5	0.3400	0.331	0.148			
VAR052	MF-FP						
ADDICT	5	0.5340	0.162	0.072	0.71	3	0.496
CONTROL	5	0.4520	0.199	0.089			
VAR053	MF-FM						
ADDICT	5	0.3800	0.115	0.051	0.37	8	0.719
CONTROL	5	0.3140	0.379	0.169			
VAR054	MF-MS						
ADDICT	5	0.3100	0.143	0.066	-0.10	8	0.923
CONTROL	5	0.3260	0.328	0.147			
VAR055	MF-MSI						
ADDICT	5	0.5840	0.116	0.052	1.35	8	0.214
CONTROL	5	0.4040	0.274	0.123			
VAR056	MM-SS						
ADDICT	5	0.1240	0.083	0.037	-1.85	3	0.101
CONTROL	5	0.3100	0.219	0.093			

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
* POOLED VARIANCE ESTIMATE							
* * * * *							
VAR057	MM-SSI						
ADDICT	5	0.2160	0.260	0.125	-1.25	8	0.248
CONTROL	5	0.3900	0.139	0.062			
* * * * *							
VAR058	MM-SF						
ADDICT	5	0.2120	0.179	0.080	-1.09	8	0.305
CONTROL	5	0.3680	0.263	0.118			
* * * * *							
VAR059	MM-SM						
ADDICT	5	0.3920	0.223	0.100	-0.37	8	0.721
CONTROL	5	0.4480	0.254	0.113			
* * * * *							
VAR060	MM-FS						
ADDICT	5	0.2300	0.173	0.077	-2.01	8	0.080
CONTROL	5	0.4120	0.106	0.047			
* * * * *							
VAR061	MM-FSI						
ADDICT	5	0.2860	0.246	0.110	-1.45	8	0.184
CONTROL	5	0.4560	0.087	0.039			
* * * * *							
VAR062	MM-FP						
ADDICT	5	0.2780	0.116	0.052	-0.10	8	0.921
CONTROL	5	0.2920	0.281	0.126			
* * * * *							
VAR063	MM-FM						
ADDICT	5	0.4730	0.235	0.105	0.10	8	0.926
CONTROL	5	0.4540	0.293	0.131			
* * * * *							

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
* POOLED VARIANCE ESTIMATE *							
VAR064 RM-MS							
ADDICT	5	0.2020	0.230	0.103	-1.99	3	0.031
CONTROL	5	0.4540	0.164	0.073			
VAR065 RM-MSI							
ADDICT	5	0.3430	0.225	0.100	-1.75	8	0.119
CONTROL	5	0.5320	0.070	0.032			
VAR066 RM-NF							
ADDICT	5	0.3330	0.193	0.083	0.21	8	0.837
CONTROL	5	0.3120	0.190	0.085			

Appendix 7

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR	T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
* POOLED VARIANCE ESTIMATE *							
-----							
HYPOTHESIS 2	5	0.2130	0.210	0.094			
ADDICT					-3.06	3	0.016
CONTROL	5	0.6170	0.208	0.093			
-----							
HYPOTHESIS 3A	5	0.2180	0.127	0.057			
ADDICT					-0.41	3	0.693
CONTROL	5	0.2740	0.273	0.124			
-----							
HYPOTHESIS 3B	5	0.3020	0.032	0.037			
ADDICT					-0.80	3	0.447
CONTROL	5	0.3950	0.246	0.110			
-----							
HYPOTHESIS 3C	5	0.2560	0.169	0.076			
ADDICT					-1.06	3	0.320
CONTROL	5	0.3900	0.227	0.101			
-----							
HYPOTHESIS 3 - COMPOSITE	5	0.2587	0.098	0.044			
ADDICT					-1.15	3	0.284
CONTROL	5	0.3530	0.155	0.069			
-----							
HYPOTHESIS 4	5	0.3730	0.033	0.037			
ADDICT					-0.99	3	0.350
CONTROL	5	0.4770	0.219	0.098			

Appendix 8



## CONTROL

## ADDICT

Item	SS-SSI	FS-FSI	MS-MSI	SS-SSI	FS-FSI	MS-MSI
1	-1.00	-0.40	0.20	-1.60	-1.60	-2.00
2	0.60	0.60	1.00	1.80	1.40	1.60
3	-0.20	0.40	-0.20	1.75	1.50	0.75
4	0.40	-0.40	-0.80	0.0	0.20	-0.60
5	0.20	-0.60	-0.20	0.20	-0.80	-0.80
6	-1.40	0.40	-0.60	-2.80	-3.20	-2.40
7	-2.00	-1.40	-0.40	-1.00	0.0	0.60
8	1.20	-0.20	0.40	0.60	0.60	1.60
9	0.40	0.40	0.40	-0.20	-0.20	0.60
10	1.40	0.20	0.0	2.00	2.00	1.75
11	0.20	-0.60	0.0	0.20	0.60	0.20
12	0.20	0.20	0.40	1.40	-0.80	1.00
13	-1.40	-0.40	0.40	0.40	1.00	1.60
14	0.0	-0.80	-1.00	-2.00	0.0	-0.80
15	0.20	-0.20	-0.60	2.60	1.80	0.60
16	0.60	-0.40	0.20	0.0	0.0	1.00
17	-0.20	0.0	-0.40	0.0	-0.20	0.20
18	0.20	1.00	0.0	1.80	0.60	1.80
19	0.60	0.0	-0.40	-1.20	-3.20	-2.80
20	-0.40	0.0	-0.20	-3.00	-3.00	-2.25
21	0.40	0.20	0.60	-0.75	-0.25	0.25
22	0.0	0.0	0.0	-0.40	-0.60	0.40
23	-0.40	1.00	-0.60	-0.25	1.00	1.25
24	0.0	-0.20	-0.40	0.0	-1.20	0.40
25	0.80	0.40	1.20	2.20	1.20	1.40
26	0.60	0.20	-0.80	0.40	0.80	1.00
27	0.0	-0.20	-0.20	1.80	0.60	1.40
28	0.0	0.20	-0.60	-1.20	-0.50	-1.40
29	0.60	-0.20	0.40	0.20	-0.60	-0.80
30	0.60	-0.80	-0.80	-2.80	-2.00	-2.40
31	0.40	-1.20	0.0	0.75	2.00	1.75
32	0.40	0.20	0.40	1.80	0.80	0.80
33	0.0	-1.00	-0.40	-1.80	-0.60	-1.80
34	0.20	0.40	0.40	-1.20	0.0	0.0
35	0.20	0.60	0.60	1.20	1.00	0.80
36	-0.40	0.20	0.20	-1.20	-0.40	1.20
37	-1.00	-1.00	-0.80	-1.00	-1.40	-2.00
38	1.60	0.80	1.60	2.60	1.40	1.60
39	1.00	0.20	0.30	0.40	0.20	0.60
40	0.60	-0.80	0.80	1.50	2.00	1.75
41	-0.20	-0.20	-0.60	-1.00	-0.40	-1.20
42	-0.60	0.0	0.40	0.0	-0.40	-0.40
43	0.20	0.80	0.40	2.00	2.40	1.80
44	0.20	-0.20	-0.60	-2.40	-1.60	-1.60
45	0.20	0.80	0.0	0.75	0.25	0.75
46	0.40	0.80	-0.40	-0.75	-1.50	-0.75
47	-1.40	-0.20	-0.20	-1.60	-0.20	-1.80
48	-1.40	0.40	0.0	-0.40	-0.60	-0.40
49	0.0	0.20	-0.20	-0.20	-0.60	0.20
50	0.20	0.20	1.00	1.60	0.0	0.40
51	-1.00	-0.80	-0.40	0.75	2.75	-0.50
52	0.20	0.20	-1.40	0.20	0.0	-1.60
53	-0.60	0.40	0.40	0.80	2.00	1.00
54	0.20	0.20	0.20	0.75	0.0	0.50
55	-0.60	1.00	0.0	-1.00	0.40	0.0
56	0.20	0.20	0.40	-0.20	0.0	-0.60
57	0.20	0.60	0.80	0.25	0.25	-0.75
58	0.0	0.0	0.0	0.75	1.50	0.75
59	-0.80	-0.40	0.40	0.20	-0.40	-0.60
60	-0.60	-1.20	-0.80	-2.80	-2.40	-2.80