

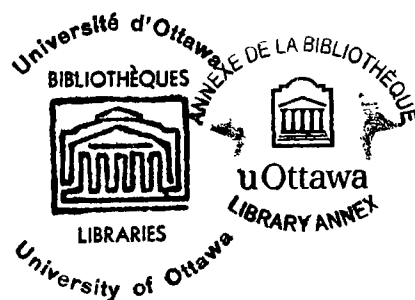
SELF-INJURY IN INTRAVENOUS AMPHETAMINE
USERS AND THEIR SIBLINGS.

by

Claude M.J. Brattn

A thesis submitted to the School of Graduate Studies of the University of
Ottawa in partial fulfillment of the requirements for the degree of Master
of Arts in Psychology.

Ottawa, Canada, 1975



UMI Number: EC56126

INFORMATION TO USERS

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleed-through, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

UMI[®]

UMI Microform EC56126
Copyright 2011 by ProQuest LLC
All rights reserved. This microform edition is protected against
unauthorized copying under Title 17, United States Code.

ProQuest LLC
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106-1346

ACKNOWLEDGMENTS

This thesis was prepared under the supervision of Associate Professor, Ronald Trites, Ph.D., of the Faculty of Psychology of the University of Ottawa.

The writer is indebted to G. Sarrazin, Ph.D., W. Barry, Ph.D., and R. Stretch, Ph.D. for their interest and valuable help, and to D. Crowe, M.Ps., for having read and improved the entire manuscript.

Financial support was given through Grant 1215589 of the Research On Drug Abuse section of the Non Medical Use of Drugs Department of National Health and Welfare, Canada.

CURRICULUM STUDIORUM

Claude M.J. Braun was born in Ottawa, Canada, on March 21, 1953. He received the Bachelor of Arts degree from the University of Ottawa, 1972.

TABLE OF CONTENTS

Chapter		Page
	Introduction.....	1
I.	REVIEW OF THE LITERATURE.....	4
	1. Self-injury in clinical populations.....	4
	2. Theories of self-injurious behavior.....	6
	3. Intravenous amphetamine (speed) and the self-stimulation theory.....	9
	4. Review of self-injury in speed users.....	11
	5. Wrist-scratchers and speed users: a comparison.....	12
	6. Measurement of self-injurious behavior.....	15
	7. Self-injury, the body, and the self.....	16
	8. Psychometric assessment of the body and the self.....	17
	9. Statement of the hypotheses.....	18
II.	METHOD.....	20
	1. The sample.....	22
	2. The tools.....	26
	3. The method.....	27
	4. Statistical analyses.....	28

	Page
III. DESCRIPTION OF SPEED USING GROUP: PRESENTATION AND DISCUSSION OF RESULTS.....	28
1. Correlations.....	29
2. Sex differences.....	33
3. Statistical analyses.....	33
IV. COMPARISON OF SPEED USERS AND THEIR SIBLINGS: PRESENTATION AND DISCUSSION OF RESULTS.....	37
1. Matching the two groups.....	37
2. Psychosocial comparison of the two groups.....	37
3. Personality adjustment.....	40
4. Comparison between groups for test scores.....	41
5. Comparison between groups for items of the SIB Scale.....	44
V. SUMMARY AND CONCLUSIONS.....	49
1. Summary.....	49
2. Limitations.....	50
3. Ways of improving the SIB Scale.....	51
4. Implications for further research.....	51
BIBLIOGRAPHY.....	53
APPENDIX	
1. General Information Blank.....	64
2. Self-Injurious Behavior (SIB) Scale.....	68
3. Scoring key for SIB Scale.....	74
4. Item Analysis of SIB Scale.....	80
5. Body-Cathexis Scale and Self-Cathexis Scale.....	86
6. Descriptive Data for the Complete Speed Using Group	88
7. Comparison Across Studies of Average Body-Cathexis and Self-Cathexis Scores.....	93

APPENDIX

Page

8. Abstract of Self-Injury in Intravenous Amphetamine
Users and their Siblings 95

LIST OF TABLES

TABLE	Page
1. Correlational Matrix of Body-Cathexis (BC), Self-Cathexis (SC), Self-Injurious Behavior (SIB), Abstention, and Total Consumption of Speed.....	30
2. Ranked Correlations Between the "Speed Factor" and "Individual Test Scales" (SIB, SC, BC & MMPI).....	32
3. Sex Differences Within the Speed Using Group for SIB, BC, SC, and MMPI.....	34
4. Age, Sex and IQ of the Speed Using and Sibling Groups, Presented by Order of Matching Priority.....	38
5. Educational, Vocational, and Social Status of the Speed and Sibling Groups.....	39
6. BC, SC, and SIB Scores for the Speed and Sibling Groups.....	43
7. Tests of Independence Between the Distributions of Speed Users and Siblings on Individual Items of the SIB Scale.....	48

LIST OF FIGURES

FIGURE	Page
1. History of Drug Usage of the Speed Using and Sibling Groups.....	21
2. Minnesota Multiphasic Personality Inventory Scale Scores Obtained by Male and Female Speed Users.....	35
3. Minnesota Multiphasic Personality Inventory Scale Scores for the Speed Using and Sibling Groups...	42

INTRODUCTION

Several researchers and theoreticians classify drug abuse as only one among many self-injurious and self-stimulatory behaviors. Some studies on amphetamine (speed) users support this view. It has been proposed that self-injurious behaviors such as wrist scratching and amphetamine injection are caused by a particular deficiency of personality called "anhedonia". According to this point of view, people who are susceptible to amphetamine dependence for example, have a threshold for pleasure (or stimulation) which is very high. To satisfy their excessive needs for stimulation, they would tend to indulge in all kinds of risk taking behaviors such as recklessness, accidents, alcoholism, promiscuity, drug dependence and fighting.

The present study aims to test this theoretical formulation by analyzing the relationship between the intravenous use of amphetamines and various self-injurious behaviors. It is hypothesized that speed users are self-injurious. Because this hypothesis has never been tested in research, and because self-injurious behavior has not been studied very systematically as of yet, the present study is exploratory and descriptive in design.

A sample of well documented heavy speed users was brought in for study. A control group of siblings of the

speed users was also included in the study so that the specific characteristics of speed users could be described with familial-cultural and, socio-economic background controlled, as much as possible. It is hoped that this study may help answer an important question: "Why does one particular individual in a family turn to drug injection and not the other?" Feelings concerning body and self were also assessed in order to determine whether hypothesized self-injuriousness is associated with poor body-cathexis and/or poor self-cathexis.

The aim of this study was to contribute further clinical understanding of the phenomenon of habitual amphetamine injection so that more effective therapy for speed users can be established.

The first chapter of this thesis presents a review of the literature including a review of clinical reports of self-injurious behavior in the first section, and a summary of the more prominent theories of self-injury in the second section. One of these theories applied to the problem of speed abuse comprises the third section. The fourth section reviews reports of self-injury in speed users and the fifth section consists of a comparison between speed users and wrist scratchers. The sixth section monitors the progress that has been made in the measurement of self-injurious behaviors. The next two sections review the literature on speed use as related to body and self-experience. The chapter ends with the statement of the hypotheses.

The second chapter describes the procedure by which the hypotheses stated in the first chapter are tested. It sets forth the details of this investigation including statistical analysis of the data.

The third chapter describes the complete speed using group with numerical data and discusses their significance.

The fourth chapter includes a comparison of a select group of speed users each of which is paired with a sibling who has never used speed. Results are discussed as they are presented.

The fifth and last chapter presents the summary and conclusions, with the perceived limitations of this study and suggestions for further research.

CHAPTER I

REVIEW OF THE LITERATURE

Self-injury in clinical populations. A large number of clinical observations have been published concerning various forms of self-injurious behavior and self-injurious people. Four major types of self-injurious behavior can be discerned in the general literature; accident proneness, suicidal behavior, self-mutilation, and drug and alcohol addiction. These four categories are briefly reviewed here in order to describe what is understood by the term "self-injurious behavior".

Studies on accident prone individuals are mostly surveys of people with recurrent car accidents. (Alexander, 1949; Bakwin and Bakwin, 1948; Conger and Gaskill, 1957; McGuire, 1970; Shaw and Sichel, 1972.) Others have studied children who are prone to head injury or other types of accidents. The families of these children have also been scrutinized. (Fabian and Bender, 1947; Frankl, 1965; Husband and Hinton, 1972; Langford and Gilder, 1953; Meyer, Roedel, Bluestone and Redmond, 1963.) Some researchers have studied people who chronically suffer from various medical misfortunes or accidents, (Hirschfield and Behan, 1963; Rawson, 1944).

Overt self-mutilation has been reported mainly by psychiatrists in clinical settings, and has been observed in

groups of hospital patients in the form of severe cutting of one's body, (Maris, 1971; McKerracher, Loughnane and Watson, 1968; Offer and Barglow, 1960), and in the form of mutilative self-striking and swallowing of sharp objects, (Phillips and Alkan, 1961). Individual case reports have been published on self-cutters (Burnham, 1969; Crabtree, 1967), on ocular auto-enucleation (Carson and Lewis, 1971), and on chronic interference with wound healing (Kafka, 1969).

Suicide research spans populations ranging from childhood self-poisoners (Sobel and Margolis, 1965) to premature death in old age (Kastenbaum, 1971). Others have studied the personalities, self concepts, and clinical symptoms of repeated suicide attemptors (Batchelor, 1954; Stenback, Achte and Rimon, 1965; Wilson, Braucht, Miskimmins and Berry, 1971). Meerloo (1968) has specialized in what he calls "subliminal" forms of suicide such as overeating, overwork, fast driving, drug addiction, and polysurgery. Some psychoanalytic researchers focussed on the relationship between repeated suicide attempts and various forms of self-injurious behaviors (Friedman, 1972; Watter, 1968). Crancer, Dennis and Quiring (1970), studied the driving records of suicide attemptors and reported extreme accident proneness.

Several researchers have studied the relationship between drug addiction or alcoholism and suicide (Commission

of Inquiry into Non-Medical Use of Drugs, 1973; Hove, 1953; Malcolm, 1971; Stenback and Blumenthal, 1964; Whitehead, 1972). Others have studied the relationship between drug or alcohol abuse and traffic accidents (Jamison and McGlothlin, 1973; Selzer and Payne, 1962; Smart, Schmidt and Bateman, 1969). Some authors have been directly interested in the self-injurious aspects of drug or alcohol addiction (Blachly, 1969; Kessel, 1966, Shneidman, 1961).

Theories of self-injurious behavior (SIB). Several theoreticians have considered the problem of drug dependence within the wider framework of self-injurious behavior. Tabachnick (1972) recently reviewed theories of SIB and classified them into three various schools.

Firstly, a prominent explanatory model of SIB is based on the "death-instinct" theory (Freud, 1950). This model explains SIB through inner "thanatos" motives "innate mechanisms", etc. Self-mutilation or self-injury are considered to be partial forms of suicide; Meerloo (1968) calls it "disguised suicide", and Menninger (1938) uses the term "focal suicide". According to the psychoanalytic model, SIB always implies a conscious or unconscious death wish. This would be the case for behaviors ranging from autistic head banging to mild drug dependence.

A second well known model is based on adaptation and learning theory, for example, Rado's theory of "pharmacothymia"

(1962) or Wikler's learning theory of drug dependence (1961). These authors maintain that SIB is caused by faltering adaptation, low self-esteem, poor coping mechanisms all of which are accompanied by a special set of social, physical and personal reinforcers.

Third, the 'mental illness' model includes theories which explain SIB through the use of terms such as "regression", "disintegration of the ego".

Other important models were omitted in Tabachnick's review. These can be classified into three additional distinct schools.

The "consciousness altering" model of SIB is represented by Shneidman (1964, p. 100) who says that when anxiety, worry and tension overload consciousness, a likely solution is to alter consciousness through "cessation" (suicide), "interruption" (sleep), or "deformation" (drugs, and other SIB). Cutter (1971) adds to Shneidman's synthesis by proposing that the desired deformation of consciousness can be obtained through overeating, reckless behavior, addiction, alcoholism, polysurgery, accident proneness and sexual promiscuity.

An opposing view is held by Maris (1971) who explains SIB as conscious activity determined by life-preserving motives, such as a desire to obtain attention, care and love, or obtaining an invalid's pension, or getting a period of respite from problems in the home.

The socioculturally oriented models gravitate around the "risk-taking" aspects of SIB (Carney, 1971; Halen, 1972). The latter describes the progression of risk-taking behavior:

"Pleasure seeking invites risk, risk flirts with danger. Self indulgence and the search for excitement eventually lead to 'antisocial' disregard for others. Disrespect for life, assaultive, seductive, drunken careless behavior are uncounterable because they leave people paralyzed. (p. 39)."

Blachly's "seduction" model (1969, p. 6190; 1970) fits into the same category as the risk taking models. According to Blachly, all seductions have in common the following elements. Firstly they involve a quick reward and a delayed penalty. Secondly, the victim actively participates in his victimisation. Thirdly, the victim is always negativistic in his considerations of the adverse consequences of the seduction. Examples of seduced behaviors according to Blachly are smoking, sex deviations, gambling, risk-taking, alcoholism, rioting and of course, drug dependance. It is documented that the typical addict is likely to drink, smoke, gamble and be involved in prostitution (Carey and Mandel, 1968; Halen, 1972; Hawks, Mitcheson and Osborne and Edwards, 1969; Rylander, 1968; Smith, 1972; Wilson, Braucht, Miskimins and Berry, 1971). This is support for Blachly's contention which is that persons who are susceptible to one form of seduction are also susceptible to the others.

The most important model for the purposes of this study is based on the "self-stimulation" or "anhedonia" theories of SIB (Rinsler and Shapiro, 1968; Gardner, 1968). This model explains SIB as self-stimulative behavior. Autistic self-destructiveness develops in under stimulated children (Bettelheim, 1967). Likewise, repetitive wrist cutting behavior in adolescents seems to be generally associated with self-stimulatory, i.e., hedonistic behavior such as sexual promiscuity and drug use, (Asch, 1971).

Speed and the self-stimulation theory of self-injuriousness. The six previous models have considered the problem of drug dependance within the wider framework of SIB. However, lack of sufficient research data still precludes satisfactory explanations of intravenous amphetamine dependance.

Asch (1971) reports that adolescent girls who compulsively scratch their wrists have a special predilection for speed to an even greater extent than for other drugs. This author explains both speed use and SIB as symptoms and consequences of "anhedonia" which is a decreased ability to feel (cathect) one's body and one's self positively. Furthermore, he believes the problem to be a result of parental deprivation or inadequacy which strangle the ego in it's formative stages. The resulting lag in ego development becomes critical at moments when social pressure builds up sufficiently to aggravate deficiencies in aggression management. The primary deficiency in

anhedonic adolescents is the basic ego function of aggression control. The primitive ego summons the primitive defense mechanisms, namely denial and repression. The over use of these mechanisms results in an experience of depersonalization (or derealization) when under extreme stress. This state of over inhibition generalizes to other stress situations and becomes chronic: it can then be called anhedonia, or, incapacity to feel pleasure or fulfillment. Counteraction of these feelings of emptiness and boredom consist of the whole gamut of self-stimulatory activities such as general promiscuity, drug abuse, and delinquency. When the aggressive impulses resurge, depersonalization becomes sufficiently great to require drastic gestures such as wrist slashing to overcome the existential panic. Asch, also suggests that warm blood gushing from a wound seems to serve the double purpose of revivifying a faltering body boundary concept as well as strengthening a weakened sense of aliveness. Likewise, he believes that speed more than any other drug, can increase sensation and can quickly awaken a faltering body image. It can help overcome apathy, boredom, and even feelings of emptiness because it fills the user with an experience of immense power and sharpened perception. The adrenalin like composition of speed makes it most efficient in overcoming over-inhibition by it's obvious arousing properties. Asch goes as far as to recommend therapeutic doses of amphetamines for chronic wrist slashers.

Asch seems to be the first author who has presented an organized set of observations and postulations which might begin to explain why some people prefer speed to any other drug. Asch has reported evidence that wrist scratchers have a predilection for speed and that they benefit from the therapeutic administration of speed. The following is an attempt to review the literature which indicates that speed users have a predilection for self-injurious behavior.

A review of self-injury in speed users. Smith and Fisher (1970) found that 66% of 310 amphetamine users were treated for lacerations and cuts indirectly related to speed use. In their final report, the Canadian Commission of Inquiry into the Non-Medical Use of Drugs (1973) observed speed users repeatedly doing themselves physical damage by "excessive scratching and digging of the skin". They were also reported to occasionally over-exert themselves beyond physical tolerance. Smart, Schmidt and Bateman (1969) report high accident frequency in amphetamine 'addicts'. Kramer, Fishman and Littlefield (1967) report high incidence of tooth grinding in their sample of speed users. Ellinwood (1967) reports that 48% of his sample of speed users bit their nails (Menninger and other classify nail biting as a rudimentary and very mild form of SIB). Nearly every clinical study of chronic speed users reports high incidence of cigarette smoking and alcohol consumption.

Self-mutilative behavior has resulted from high dose amphetamine injections in animals (Chance, 1958; FitzGerald, 1969; Rundrup and Munkvad 1970). In another study with a new sample, Smith (1972) reported that LSD users as well as speed users unanimously admitted that speed dependant people were "self-destructive".

In an article concerning SIB, Lester (1972) affirmed that there exists a need for research concerning the association between self-mutilative behavior and other forms of SIB such as drug abuse and alcoholism. Shneidman (1967) has also requested more research in the "psychology of self-destruction".

Researchers are just beginning to realize that people often manifest SIB in a large number of ways (Crancer, Dennis and Quiring, 1970; Cutter, 1971; Lester, 1972). After a complete review of the literature, a striking resemblance was found between reported characteristics of groups of wrist slashers and speed users. The life histories, personalities, and life styles of these two groups were so similar as to justify Asch's hypothesis that speed use and wrist slashing are dynamically equivalent behaviors. The following is a condensed comparative profile of these two groups.

Recurrent wrist scratchers and speed users: a comparative profile. The speed using population and the wrist

cutting population both have life histories which are marked, in approximately half the cases, by parental bereavement and broken homes (Grunebaum and Klerman, 1967; Hawks, Mitcheson, Ogborne and Edwards, 1969; Rosenthal, Rinzler, Wallsh and Klausner, 1972). They come from middle class backgrounds (Askevold, 1970; Batchelor, 1954; Kessel, 1965).

They are typically young (Carey and Mandel, 1968) and have slightly above average intelligence (Kessel and McCullough, 1966; Phillips and Muzaffer, 1961; Prescor, 1944). The most frequent personality types in both groups are the character disorders and schizophrenias (Hekiman and Gershon, 1968; Offer and Barglow, 1960). They are manipulative and aggressive-dependant, often hostile and destructive (Cockett and Marks, 1969; Menninger, 1942). Self-esteem is low and guilt is high (Blachly, 1970; Carson and Lewis, 1971; Friedman, 1972). Body concepts are poor, with occasional body-image distortions for both groups (Fisher, 1973; McKerracher, 1968). They are typically unmarried at least until their late twenties, interpersonally unstable, jobless and propertyless (Davis and Munoz, 1968; Graff and Mallin, 1967). They are multiple drug users (Hove, 1953; Smith, 1972; Watter, 1968). They tend to be sexually maladjusted; often promiscuous and they have an excessive need for physical closeness and contact (Herman and Nagler, 1954; Kafka, 1969).

In several ways, the situation surrounding the 'morbid act' (needle insertion versus wrist scratching) rarely occurs before puberty or after late adolescence (Asch, 1971; Levine, Lloyd and Longdon, 1972). The 'act' is preceded by great tension and is followed by immediate relief (Cox and Smart, 1972; Pao, 1969). The 'act' produces feelings of increased power (Burnham, 1969; Chein, Gerard, Lee and Rosenfeld, 1964). The 'act' is determined by a need for self-stimulation (Ellinwood, 1967; Rinzler and Shapiro, 1968).

Notwithstanding all their similarities, speed users are not wrist slashers; there are important differences: the former are mostly males and the latter are nearly exclusively females, (Beamish and Kiloh, 1960; Maris, 1971). Incidence of parental addiction and alcoholism is high in speed users, but this is not the case for the wrist slashers (Bell and Trethowan, 1961; Sobel and Margolis, 1965). The incidence of crime and convictions is higher for speed users than wrist slashers (Rylander, 1968). Incidence of suicidal rumination and contemplation obviously occurs in all wrist slashers, but only in approximately half of the speed using population (Commission of Inquiry into Non-Medical Use of Drugs, 1973; Grabtree, 1967; Nelson and Grunebaum, 1971). The continued use of amphetamines leads to a toxic psychosis which frequently becomes chronic; this has not been observed in wrist slashers (Delay, Pichot, Lemperière and Sadoun, 1954; Connell, 1958; Ellinwood, 1967).

The measurement of self-injurious behavior. Whitehead, Johnson and Ferrence (1973) measured the incidence of SIB in the city population of London, Ontario. Unfortunately they did not specify in precise behavioral terms what they understood by SIB; but fortunately their study was prospective in design. The majority of studies concerning SIB are retrospective, are in isolated clinical settings and are concerned only with a limited number of self-injurious behaviors. Mishara and Kastenbaum (1973) published an inventory scale of SIB. However, this scale was used to tally incidence of observable SIB in geriatric patients and can only be used for such a population. Tabachnick (1970) proposed a scale measuring lethality of suicidal gestures, in terms which are behavioral. Unfortunately this scale does not cover the complete range of SIB. Some authors have contributed comprehensive descriptions and theories of SIB (Cutter, 1971; Hafen, 1972; Meerloo, 1968; Menninger, 1938; Shneidman, 1967). None of these authors have proposed a method for the objective assessment of SIB in it's multiple forms. At this point the investigator decided to construct a scale of SIB. The construction of such a scale was prompted by the previously reviewed parallel between speed users and wrist slashers, and by recent research reports of numerous forms of SIB in speed users. The idea was to measure SIB in speed users.

Relationships between self-injury, the body, and the self. Here we return to Asch's contention that self-injuriousness (self-stimulation) is a form of counteraction for a poorly cathected sense of body and self. The literature tentatively supports this hypothesis in the following manner: several authors report low self-esteem in drug users which is sometimes increased by the use of drugs (Bell and Trethowan, 1961; Clement, Solursh and Van Ast, 1970; Cockett and Marks, 1969; Kaplan, 1972; Kaplan and Meyerowitz, 1970; Rado, 1962; Teasdale and Hinkson, 1971). Ellinwood (1967) reports body schema distortions in amphetamine psychosis and postulates that speed users fail to form adequate body-images and self-concepts. He reports that a very high proportion of speed users have psychopathic and schizophrenic traits (the proportion being much higher than for other narcotic addicts such as heroin addicts, for example). He concludes that the schizoid psychopathic type is attracted to amphetamines because he lacks a self-image and body experience and consequently needs stimulants to arouse his inefficient emotional-experiential neural centers. Fisher (1973) proposes that some people resort to drugs to invigorate a faltering sensation of the body. Davis and Munoz (1968) state that speed users are much more "body stimulating" oriented than LSD users. This suggests that speed users seek 'physical' effects from speed again possibly because of 'physical' anhedonia.

The literature suggests that speed users have poor body-images and impoverished self-concepts, but is inconclusive about whether such deficiencies exist prior to or because of amphetamine abuse. Obviously, the relationship of the individual to his body is of vital importance in physically self-injurious behavior; the insult is surely not directed to a completely 'detached' body. It is directed to the body which is directed by, or which experiences through, the self.

Psychometric assessment of the body and the self.

In order to assess the subject's self-injuriousness comprehensively, it appeared worthwhile to assess the duality of body-cathexis and self-cathexis as well. Secord and Jourard (1953) have developed objective tests for the appraisal of the affect related to the physique (Body-Cathexis or B.C. Scale) and to the self (Self-Cathexis or S.C. Scale). It should be noted however that these scales do not measure the developmental quality of body-image or self-concept, but the individual's satisfaction with his body and with his self.

White and Gaier (1965) are the only authors that could be found who administered the B.C. and S.C. scales to a group of drug users, namely alcoholics. They found that with increasing duration of sobriety in 750 AA members, the body would tend to be more positively cathected. This was interpreted to be the result of "increased health and improved

appearance". On the other hand, the self tended to become more negatively cathected. This was interpreted as "increased effort and self-criticality". Such an impressive study merits replication in other forms of drug abuse; especially those that are proven to affect physical health, such as amphetamine abuse. Gross (1971) recently conducted a study which was similar to that of White and Gaier, but used the Tennessee Self-Concept Scale instead of Secord and Jourard's scales. He also found that the physical self-concept improved much more than the psychological self-concept after a treatment program for alcoholics. The physical self-concept improved beyond the .01 level of significance, whereas the improvement in the psychological self-concept attained only the .05 level of significance.

The present study does not comprise a test-retest paradigm, but an attempt is made to determine whether different lengths of abstention from speed are related to corresponding levels of Body-Cathexis and Self-Cathexis.

Statement of the hypotheses:

The analyses within the third chapter are designed to provide evidence serving to verify research hypotheses. On the basis of the reviewed theory, it is expected

1. that self-injuriousness will be positively related to the extent of use of speed.
2. that individuals who have accomplished longer periods of

abstention from speed will tend to have higher Body-Cathexis and Self-Cathexis scores.

3. that the male and female speed users will not respond differently on the selected test measures (BC,SC,SIB,MMPI).

The analyses within the fourth chapter are designed to provide evidence which will test a new set of research hypotheses. On the basis of the reviewed theory, it is expected

1. that speed users will not report significantly more self-injurious behavior than their siblings.
2. that Body-Cathexis and Self-Cathexis scores obtained by speed users will be lower than those obtained by their siblings.

Exploratory results describing the differences between speed users and siblings across psychosocial variables (education, occupation, marital status, personal income, living arrangement) are also presented in statistical form.

CHAPTER II

METHOD

The Sample

Subjects were 56 speed users and 21 siblings of these speed users. The speed users were contacted through street agencies, drug clinics and drop-in centers in the Ottawa region. Siblings were contacted through the speed users in the following manner. Each speed user who was included in the study was asked if he or she had a sibling in the Ottawa area. The 21 siblings were matched by pairs with the 21 corresponding speed users for age, sex, and I.Q. Because many speed users were originally from outside the province only 21 siblings were found to be available as well as acceptable for this study.

The criterion for acceptance into the speed using group in terms of drug use, was that the person had injected amphetamine at least 25 times. Individuals who had injected other drugs (such as heroin, cocaine, or morphine) more frequently or in greater quantity than speed, were rejected. The average duration of abstinence from speed was 10.61 months.

None of the 21 siblings had ever injected any drug, although it was exceedingly difficult to find siblings who had not used hashish, marijuana, or LSD. The history of drug use of the two groups is illustrated in figure 1.

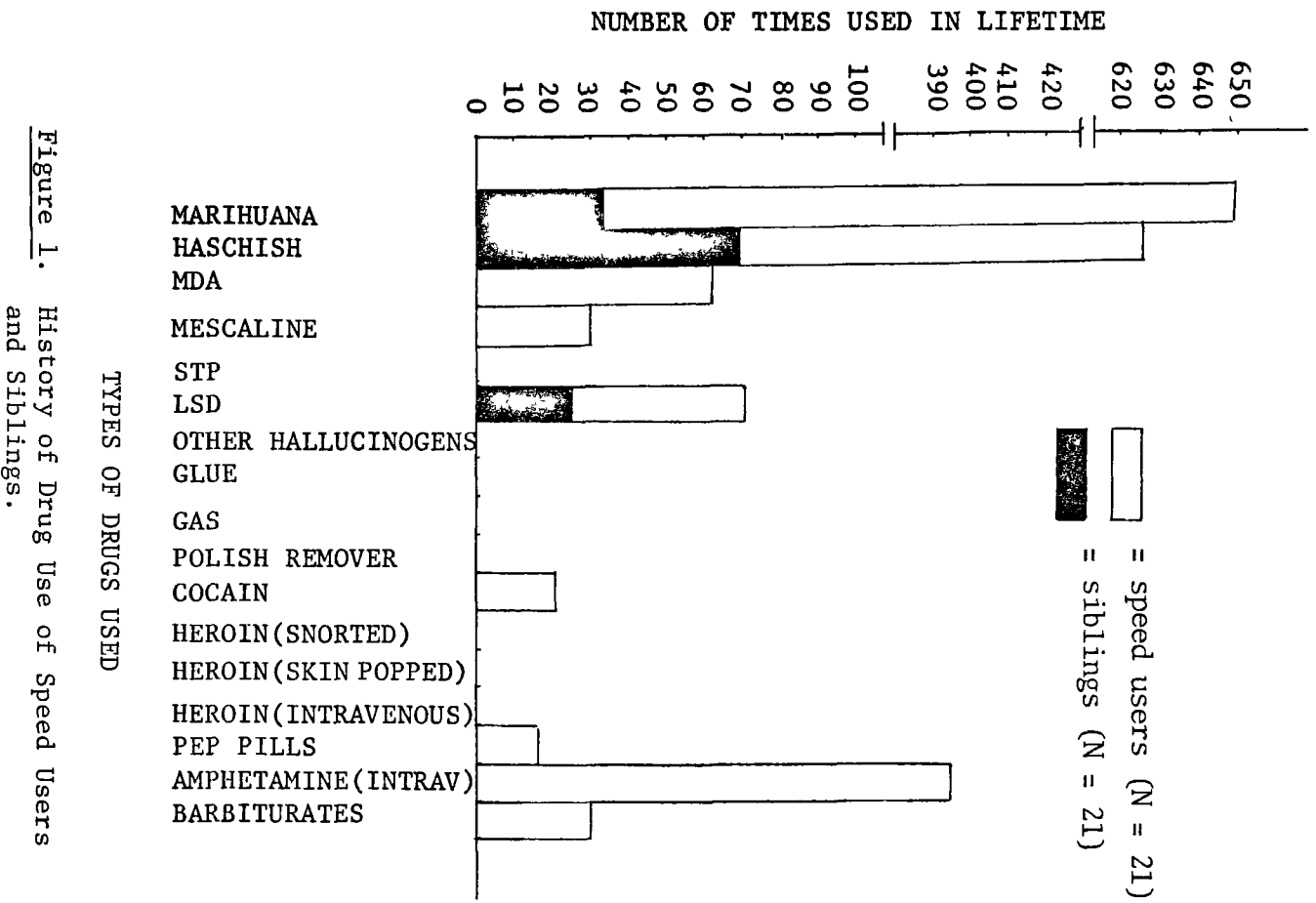


Figure 1. History of Drug Use of Speed Users and Siblings.

Tools of the Experiment:

Subjects were requested to fill out a total of four different questionnaires.

1. The General Information Blank (GIB) was used in order to gather information covering psychosocial background. Items on this scale were concerned with age, sex, education, occupation, income, drug history. This scale is represented integrally in Appendix I.

2. The Self-Injurious Behavior (SIB) Scale consists of questions which measure "self-injuriousness" exclusively in behavioral terms. The investigator prepared the items in conformity with the following quasi-operational definition of self-injurious behavior:

"A self-injurious behavior is any voluntary or non-voluntary behavior which has a high probability of damaging body tissue with repeated incidence, and which could be adequately prevented by self-protective measures."

Content of the items is based on published clinical observations of SIB. The references in question were presented in the review of the literature, particularly in the section entitled: Self-injury in clinical populations. Due to the fact that the SIB scale was developed for the purpose of this study, and because speed users and their siblings were a very difficult population to collect and observe, the investigator was unable to determine full validity and reliability of the SIB scale. This will be left to future research.

An Item Analysis has been performed however which illustrates that in this group of speed users, individual self-injurious behaviors on the SIB scale do not correlate very highly with the total SIB Scale score, see Appendix 4. Self-injuriousness as measured by this scale is not therefore a uniform trait but a highly variable one across the individuals of the speed using population. An analysis of the complete correlational matrix of each of the 71 items comprising the SIB scale revealed that the items are either moderately related or they are not related at all. Many of the items comprising this scale do not distribute themselves normally across the present sample of subjects. A more detailed analysis of the variance of these items (such as factor analysis, for example) will require a much larger sample, possibly in future research.

The method of scoring the SIB Scale consists of a standard scoring key in order to increase inter-scorer objectivity. The SIB scoring key can be found in Appendix 3.

3. The Body-Cathexis Scale (BC Scale) and
4. the Self-Cathexis Scale (SC Scale) are two separate questionnaires which measure the subject's satisfaction with his body and with his self. See Appendix 5.

Split-half reliability of these scales has been well established by Secord and Jourard. The BC and SC scales obtained reliability coefficients of .81 and .90 respectively,

as corrected by the Spearman-Brown formula. Johnson (1956) established test-retest stability for both the BC and SC scales by readministering them to a group of 52 male students after a period of two weeks. He obtained correlation coefficients of .72 for the BC scale and .74 for the SC scale.

A wide array of validity studies have also added scientific status to the scales:

Schwab and Harmeling (1968) measured close negative covariation between the BC scale and measures of anxiety (Taylor Manifest Anxiety Scale), dependance and insecurity (Maslow Insecurity Test), and maladjustment. Similar findings have been obtained by Johnson (1956), Secord and Jourard (1953), and Weinberg (1960). The latter two studies also observed significant negative correlations between the SC scale and the Maslow Insecurity Test.

Group-separation criterion related validity has been established by Schwab and Harmeling (1968). The BC scores of psychiatric-in-patients were significantly lower ($p < .01$) than those of a mentally 'healthy' control group. In Jaskar and Reed's study (1963) the BC scale significantly discriminated between a group of non-psychiatric hospitalized subjects and a non-hospitalized control group. The BC scale managed to do this where the Rorschach Boundary score, a Drawing Completion Test, the MMPI, the Homonym Body Image Test, and the Shipley Institute of Living Scale, had all failed.

Intratest construct validity has been elaborated by Gunderson and Johnson (1965) by means of a factor analysis of the items in the BC and SC scales. Eight factors emerged which support Secord and Jourard's initial classification of items into the two distinct scales. The 45 BC items clustered neatly into three orthogonal factors, namely a) physical strength; b) body build; c) and profile characteristics. The 55 SC items clustered into five orthogonal factors a) will power; b) intelligence; c) work attitude; d) emotional control; and e) social abilities.

At the very onset of the construction of the SC and BC scales, Secord and Jourard theorized that body-cathexis and self-cathexis are highly interdependent personality dimensions. Their 1953 study supported this view when a correlation coefficient of .62 was obtained between the BC and SC scales. White and Wash (1965) obtained similar correlation coefficients as well as Gunderson and Johnson (1965), Weinberg (1960), and Johnson (1956).

Divergent validity has been shown to be poor as far as social desirability is concerned. Pantleo (1966) and Nooman (1966) both report high correlations between the cathexis scales and the Social Desirability Scale.

To conclude the description of the tools of this investigation, it should be said that the four questionnaires together take a total of 20-30 minutes to fill out. With speed users it was necessary to check over the subject's answers one

by one after they had filled out the questionnaires because of their numerous omissions and misunderstandings.

The Method of the Investigation

All subjects were seen individually in the investigator's office or in their own homes. Through a research grant from R.O.D.A.*, it was possible to pay each subject \$5.00 as an additional incentive to obtain his or her participation in the study. Each subject was requested to fill out the GIB, the SIB scale, and the BC and SC scales. 63% of the study group and of the control group were involved at the same time in another drug study for which they were paid \$20.00. These latter subjects were selected for the other study and were each given an EEG test, a battery of neuropsychological tests, and several psychosocial questionnaires.* Of these data, I.Q. and MMPI scores were kindly made available to the present study for purposes of further description of the study and control group. Unfortunately these data are available only for 33 of the 56 speed users and 17 of the 21 siblings.

* Research on Drug Abuse Department of NMUD, National Health and Welfare, Canada.

* Study funded by National Health and Welfare of Canada, and conducted by Dr. R. Trites, Neuropsychological Laboratory, R.O.H.

Statistical Analyses. The following chapter presents some results of the investigation. Since many data will be presented in statistical form, a description of the major statistical operations will serve as an introduction to chapter III.

1. A correlational matrix of five selected variables (BC and SC scores, SIB scores, Speed Use, and Abstention from Speed) is presented to illustrate their co-distribution.
2. A correlational analysis is presented of all test scores (including MMPI) as they relate to the "speed factor" (i.e., consumption and abstention from speed).
3. A brief analysis of sex differences across test scores is calculated to determine whether test results are applicable to speed users regardless of sex. The Kendall's Tau C method is used for variables with more than 4 categories, and the corrected Chi Square method is used for variables with 4 categories or less.

NOTE: The level of confidence is fixed at .05.

CHAPTER III

DESCRIPTION OF SPEED USING GROUP: PRESENTATION AND DISCUSSION OF RESULTS

This chapter analyzes in detail the relationships between the use of speed and three selected tests, namely, the BC scale, the SC scale, and the SIB scale. All analyses in this chapter are based on results obtained by the complete group of 56 speed users.*

On the BC scale, the 56 speed users, obtained an average score which indicates that they were quite satisfied with their bodies. On the basis of results obtained in other studies, they appeared more satisfied with their bodies than groups of junior and senior university students, college students, seminarians and nurses, psychiatric and non-psychiatric patients and male alcoholics; see appendix 7. A group of normal adult student women was the only group which reported more satisfaction with their bodies than the speed users (women speed users only). A very similar pattern was observed for the SC scale; speed users appeared to be relatively very satisfied with their "selves", according to the SC scale.

* In order to reduce the bulk of this chapter, psychosocial data, drug history, BC, SC and SIB test scores, obtained by the complete group of 56 speed users, are presented in appendix 6. The same results obtained by the 21 siblings and 21 paired speed-users are presented and discussed in the following chapter.

On the SIB scale, the maximum possible score is 103. The 56 speed users obtained an average of 37.62. Considering that a maximum of 2 points is accumulated for each type of SIB reported on the SIB scale, it appears that speed users report a wide diversity of SIBs.

Correlations between BC, SC, SIB, use of speed, and abstention from speed. A significant relationship was observed between the quantity of speed consumed and the extent of reported self-injurious behaviors ($r = +.41$, $S = .001$). In other words, those who had used more speed were more self-injurious. See Table 1.

Assuming that abstention from speed and reduction of self-injurious behaviors should be fundamental goals in therapy, it is interesting to note that in this group of 56 speed users, Body-Cathexis was more negatively related to self-injurious behavior and was more positively related to abstaining behavior than Self-Cathexis. This leads to the suggestion that therapy with habitual speed users might profitably put as much emphasis on bodily remotivation and physical health as a tool for obtaining abstention and for reducing self-injury as ego-building or self-esteem oriented therapies which are currently reported to be quite inefficient (Brook and Whitehead, 1973).

It will be recalled that it was Body-Cathexis which significantly improved after successful abstention from alcohol.

Table 1

Correlational Matrix of Body-Cathexis (BC) Self-Cathexis (SC), Self-Injurious Behavior (SIB), Abstention, and Total Consumption of Speed

Pearson r	Self Cathexis Scale	Self Injurious Behavior	Abstention	Total Consumption of Speed
Body Cathexis Scale	r= +.54 (S=.001)	r= -.32 (S=.009)	r= +.37 (S=.002)	r= +.08 (S=.269)
Self Cathexis Scale		r= -.24 (S=.036)	r= +.30 (S=.012)	r= +.02 (S=.449)
Self Injurious Behavior			r= -.27 (S=.021)	r= +.41 (S=.001)
Abstention				r= -.05 (S=.358)

NOTE: Correlations are based on speed using group only (N = 56).

The correlational method is Pearson Product-Moment, the tests of significance are derived from the use of the Students t with N - 2 degrees of freedom.

in White and Gaier's (1965) study; Self-Cathexis actually weakened as abstention was prolonged. Gross (1971) found that body-cathexis scores increased beyond a .01 level of significance in alcoholics after treatment and that self-cathexis scores increased only at a .05 level of significance. Results from the present study concur with the latter findings.

Correlations between test scores and consumption or abstention from speed. Of all test scores including MMPI scales, the SIB scale is the one which correlated most highly with the total amount of speed injected in lifetime. See Table 2. This correlation gives evidence that speed use may in fact be a function of self-injuriousness or vice versa, or they may both be related to a third factor.

The BC and SC scales on the other hand were not related to the amount of speed injected in a life-time. This might indicate that the recurrent self-injurious act of injecting a toxic substance is not necessarily an act which is enhanced by a pervading disinterest, disaffectation, or "de-cathexis" of one's body or self.

However, the BC and SC scales were significantly related to the length of successful abstention from speed, while the SIB scale was not.

Some discussion is necessary to provide tentative explanation as to this reversal. Firstly the total amount of speed injected in lifetime is a long term process in the present

Table 2

Ranked Correlations Between the "Speed,
Factor" and "Individual Test Scales",
Namely SIB, SC, BC, and MMPI

Total Amount of Speed Ingested in Lifetime	Rxy	Duration of Abstention from Speed	Rxy
1. SIB Scale	+ .41**	Pd Scale MMPI	- .39**
2. K Scale MMPI	- .34*	Body-Cathexis	+ .37**
3. PN Scale MMPI	+ .34*	Pt Scale MMPI	- .32*
4. D Scale MMPI	+ .32*	Self-Cathexis	+ .30*
5. Hy Scale MMPI	+ .26	Ma Scale MMPI	- .31
6. F Scale MMPI	+ .21	D Scale MMPI	- .28
7. L Scale MMPI	- .21	SIB Scale	- .27
8. Hs Scale MMPI	+ .21	Hy Scale MMPI	- .23
9. Sc Scale MMPI	+ .19	F Scale MMPI	- .19
10. Ma Scale MMPI	+ .19	Hs Scale MMPI	- .13
11. Pa Scale MMPI	+ .18	K Scale MMPI	- .12
12. Pt Scale MMPI	+ .18	Si Scale MMPI	+ .11
13. Si Scale MMPI	+ .15	L Scale MMPI	+ .11
14. Body-Cathexis	+ .08	Sc Scale MMPI	- .06
15. Pd Scale MMPI	+ .02	PN Scale MMPI	- .05
16. Self-Cathexis	+ .02	Pa Scale MMPI	+ .01

NOTE: - Coefficients are based on 56 speed users.

**p < .01

*p < .05

- Coefficients involving the MMPI are based on a restricted sample of 33 speed users.

group of speed users (average 4 years). On the other hand, abstinence from speed is a relatively short term and recent process (average 10 months). This nuance makes it conceivable that abstention from speed, during its initial phase, is a moment of great emotional investment into the preservation of the body and the self. This would explain increases of BC and SC scores in people who abstained longer from speed.

As the overall amount of speed consumed in lifetime increases, it becomes a chronic self-harming pattern which may be maintained by self-injurious pre-dispositions. Thus we observe very high SIB scores in those who consumed the most speed.

Sex differences In this sample of 56 speed users, no significant differences were found between men and women on BC, SC, SIB and MMPI tests. See Table 3 and Figure 2.

It is concluded from this analysis that global test results obtained in this study are applicable to speed users regardless of sex.

On the MMPI test, male speed users obtained significantly higher scores on the K, Hy, Pd and Pf scales. Women obtained significantly higher scores on the Pa and Si scales.

Statistical analyses. The following chapter completes the presentation of results. Since data will be presented in statistical form, a description of the main statistical operations will serve as an introduction.

Table 3

Sex Differences Within the Speed Using
Group for SIB, BC, SC and MMPI

Tests	\bar{X} Women n=21	\bar{X} Men n=2
SIB scale	37.71	37.54
BC scale	3.57	3.76
SC scale	3.61	3.62

NOTE: - All variables were tested for significance of independence of the means using the Student t method (2 tail).

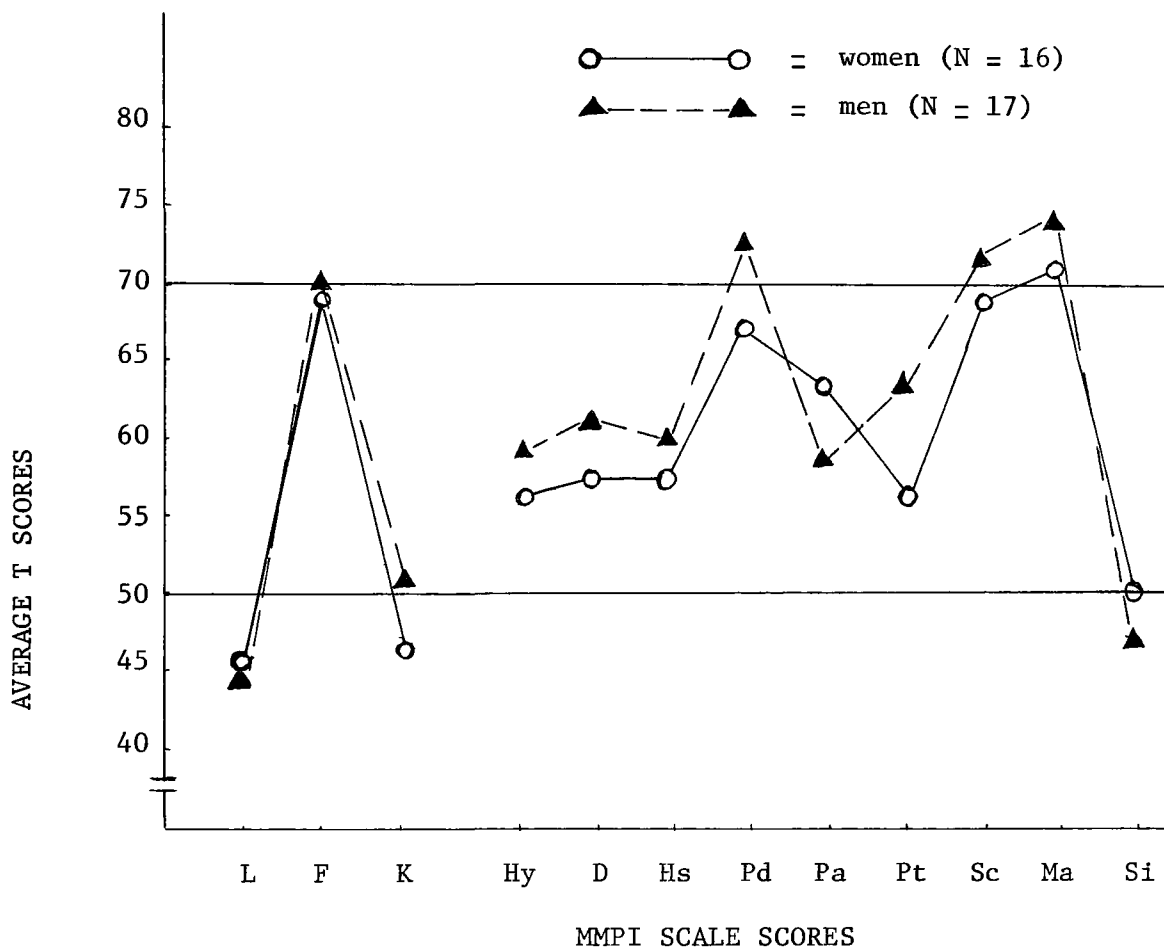


Figure 2. MMPI Scale Scores Obtained by Male and Female Speed Users.

MMPI profiles were obtained through the courtesy of Dr. R. Trites, Neuropsychological Laboratory, Royal Ottawa Hospital.

1. Simple descriptive comparisons are made between siblings and speed users with means, proportions, and percentages.
2. The speed using group and the sibling group are compared using the Student - t test method to determine if there is a significant difference between these two groups on any of three total test scores (BC, SC, SIB).
3. The speed using group and the sibling control group, are compared using the Kendall's Tau C, and Chi Square methods to determine the differences between the two group's distributions on individual test items of the SIB scale.

CHAPTER IV

COMPARISON OF SPEED USERS AND THEIR SIBLINGS: PRESENTATION AND DISCUSSION OF RESULTS

The results presented in this chapter are based exclusively on paired comparison groups of 21 speed users and 21 siblings.

Matching the two groups. In the present study, an attempt was made to gather a group of siblings which were matched with their speed using brothers and sisters in terms of age. Despite efforts to match for age, the speed using group was on the average a year older than the sibling group, although this was not statistically significant. See table 4. Attempts to match for ratio of the sexes were completely successful. It was found that there was no need to match IQs since they were quite similar across the initial groups.

Psychosocial comparisons of the two groups. Table 5 presents the educational, occupational, marital, and residential status of the speed users and siblings.

Despite the fact that they were one year older than their siblings, the speed users were nearly a whole year behind in terms of education. Occupation also differed though there may have been an age factor involved: one out of three speed users were unemployed. None of the siblings were unemployed.

Table 4
Age, Sex and IQ of the Speed Using
and Sibling Groups, Presented in
Order of Matching Priority

Variables	Statistic	Speed Users (n = 21)	Siblings (n = 21)
Age	\bar{X}	19.62	18.52
	Mode	17.00	17.00
	S.D.	3.17	4.25
Sex	%	48.00	48.00
	%	52.00	52.00
Female			
Male			
Variables	Statistic	Speed Users (n = 17)	Siblings (n = 16)
IQ	\bar{X}	105.11	106.42
	Mode	108.00	96.00
	S.D.	9.54	8.71

NOTE: - No differences are significant at the .05 level of confidence.

Table 5

Educational, Vocational, and Social
Status of Speed and Sibling Groups

Variable		% Speed Users (n = 21)	% Siblings (n = 21)
Education	Primary	19.00	19.00
	Secondary	76.00	67.00
	Univ.-College	5.00	14.00
Occupation**	Employed	43.00	33.00
	Unemployed	33.00	0.00
	Student	24.00	67.00
Marital Status	Single	95.00	76.00
	Sep-Divorced	5.00	14.00
	Married	0.00	10.00
Personal Income**	\$20,000.	0.00	0.00
	\$15 - 20,000.	5.00	0.00
	\$10 - 15,000.	5.00	5.00
	\$ 6 - 10,000.	24.00	14.00
	\$ 3 - 6,000.	24.00	14.00
	\$ 0 - 3,000.	43.00	67.00
Living Arrangement**	Parents' Home	43.00	57.00
	Personal Resi- dence	33.00	43.00
	Street Clinic	14.00	0.00
	Other	10.00	0.00

NOTE: - The computational techniques used are Kendall's Tau Type C for continuous data and corrected Chi Square for dichotomous or trichotomous data (2 tail).

*** p <.001
** p <.01
* p <.05

Marital status might also have been influenced by the age factor. It is surprising nevertheless to observe that in this sample, the siblings tended to be separated or divorced more often than the speed users. This can be explained to a certain extent through the fact that proportionally fewer of the speed users got married in the first place, even though they were older than the siblings.

Most of the speed user's incomes were in the poverty range, even more so for the siblings. Again the age factor makes these results unclear in addition to the fact that siblings tended to be students.

Living arrangements were different between the two groups. One of every four speed users lived in a street clinic or legal custody. None of the siblings lived in these conditions. These differences can not be explained by the age factor.

The differences in occupations, living arrangements, and in education between the two groups suggest that the speed users comparatively to their siblings are less socially productive, operate in more transient living conditions, and are less educated. The relationship of these variables to speed abuse is a question to be answered in further research.

Personality adjustment. Personality adjustment in speed users is known to be very poor (Brock, Kaplan & Whitehead, 1974; Ellinwood, 1967; Fishman, 1968, Hawks, Mitcheson & Ogborne & Edwards, 1969; Levine, Lloyd & Longdon, 1972; Smith and Fisher, 1970).

The present group of speed users appeared severely disturbed on the MMPI test. See figure 3.

They reported abnormally high levels of social and family alienation, and bizarre emotions, beliefs and behaviors (Sc scale beyond T score 70). Reports of social maladjustment and absence of pleasant experience were indicated by abnormally elevated scores on the Pd scale. They also reported excessive expansiveness, egotism and irritability as indicated by pathological elevation of the Ma scale.

The comparison group of siblings as a whole obtained a profile which resembled that of the speed users, but which remained in the normal range. Some siblings reported schizoid symptoms to a pathological extent. Four out of the sixteen siblings who completed the MMPI, obtained T scores on the Sc scale beyond the cut-off point of 70.

Speed users reported nearly twice as many "pseudo-neurological" complaints (raw score of the PN scale on the MMPI = 4.62).

Because these MMPI results are based on small groups, their interpretation should be cautious and extremely tentative.

Comparison of speed users and siblings across the BC, SC, and SIB tests. Overall, the speed users reported having engaged in significantly more self-injurious behaviors than their siblings, according to the items of the SIB scale. BC and SC scores were nearly identical for the speed using and sibling groups. See table 6.

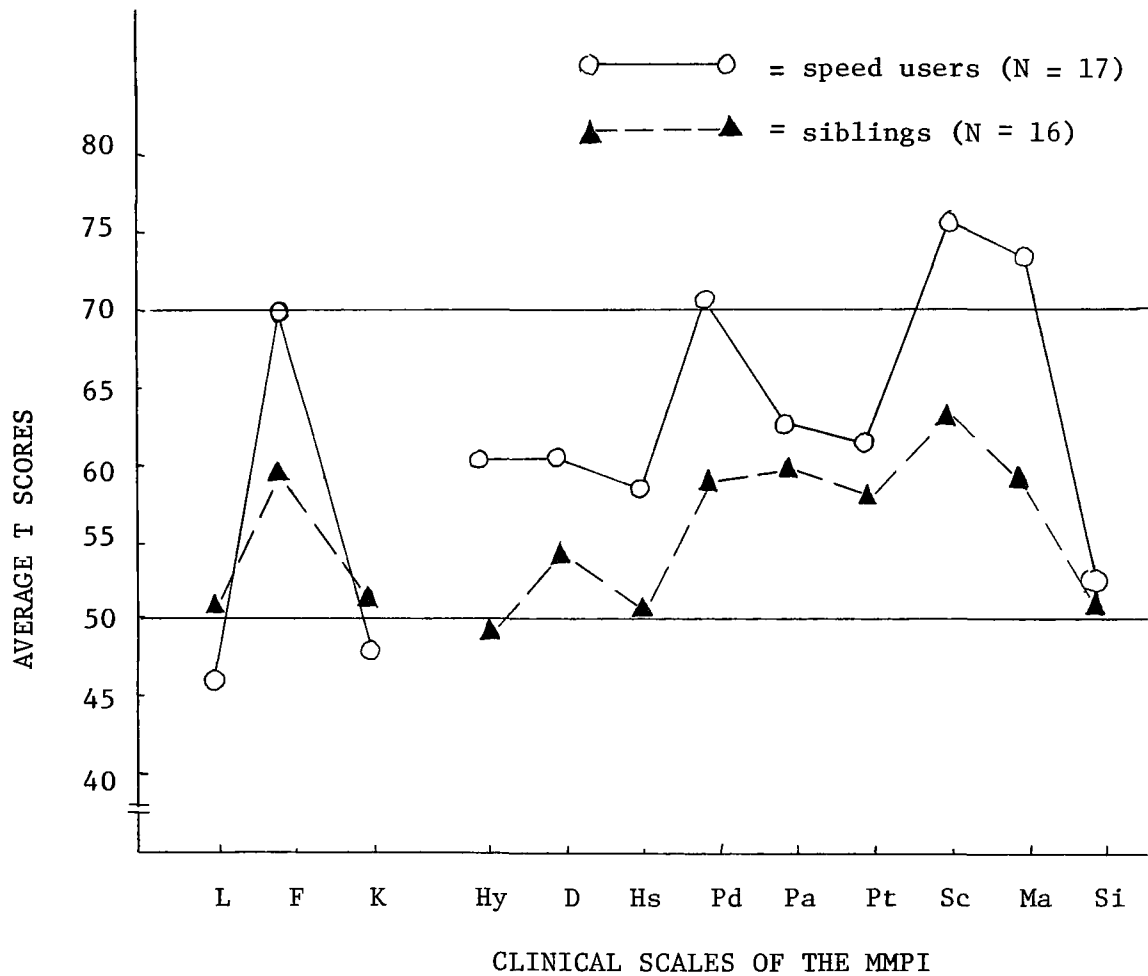


Figure 3. Minnesota Multiphasic Personality Inventory Scale Scores for Speed Using and Sibling Groups.

MMPI profiles were obtained through the courtesy of Dr. R. Trites, Neuropsychological Laboratory, Royal Ottawa Hospital.

Table 6
BC, SC and SIB Scores for
the Speed and Sibling Groups

Variables	Groups	N	Means	S.D.
Body-Cathexis	Speed users	21	3.74	0.59
	Siblings	21	3.52	0.89
Self-Cathexis	Speed users	21	3.61	0.42
	Siblings	21	3.56	0.62
Self-Injurious * Behavior Scale	Speed users	21	35.86	2.31
	Siblings	21	28.33	3.12

NOTE: - Differences were calculated using the Student -
t technique (1 tail).

* $p < .05$

If the results of the present study are valid, they contradict, to a degree, the literature on body-image and self-concept in speed users. The clinical literature indicates that body-image and self-concept are somewhat impoverished in speed users. Although the present study does not demonstrate that body-image and self-concept in speed users are normal or "healthy", it does indicate that speed users do not perceive their bodies or selves as defective or unsatisfactory.

Major differences between speed users and siblings on individual items of the SIB scale. This section describes, in detail, only those differences which were significant (See table 7).

On the average, speed users reported having been hospitalized 11.52 times and having undergone surgery 1.57 times. Siblings reported 4.33 hospitalizations and 1.00 surgical operation each. Speed users said they were ill 15.19 times a year; siblings said they were ill 1.93 times per year. Of 21 speed users, 17 smoked cigarettes; 14 of 21 siblings did so. Only 2 of 21 speed users consumed natural foods as compared to 9 of 21 siblings. Of 21 speed users, 11 have suffered from hepatitis; 1 of 21 siblings has suffered from hepatitis.

Consideration of hepatitis as a distinct SIB should be tempered by the well known fact that it often derives from the non-sterile use of hypodermic needles (Smith & Fisher, 1970). Of 21 speed users, 6 have been responsible for at least one car accident; 1 of 21 siblings caused a

car accident. One speed user has been responsible for 5 car accidents, another has been responsible for 6. The same number of speed users and siblings used prescribed medication, that is, 15 of 21. However, siblings ingested prescribed medication more frequently (12.76 times per month) than speed users (4.13 times per month). Speed users consumed an average of 6.71 aspirin per month; siblings consumed 1.86 aspirin per month. None of the siblings reported having consumed more than 10 aspirin per month, whereas 7 of 21 speed users did so. One speed user consumes 50 aspirin per month. Of 21 speed users, 18 were still using illegal drugs at the time of the study; only 10 of 21 siblings did the same. Speed users drank an average of 52.14 ounces of pure alcohol per week; this is the rough equivalent of 3.7 bottles of beer per day. Siblings consumed an average of 12.14 ounces of pure alcohol per week, less than the equivalent of a beer per day. Speed users report having been "drunk to the point of vomiting" 12.43 times each; siblings were much less prone to such excesses (average: 3.09 times). Of 21 speed users, 9 reported that they had willfully and overtly harmed themselves physically; 2 of 21 siblings did so. Of 21 speed users, 10 reported attempted suicide; 1 of 21 siblings did so. Speed users were more susceptible to fighting: 14 of 21 speed users reported physical fighting in the last three years; 9 of 21 siblings reported such behavior. On the average, speed users were involved in 9.62

fights in the last three years; siblings were involved in 1.52 fights in the past three years. Several speed users reported extreme belligerence i.e., up to 150 fights in the last three years. None of the siblings reported more than 10 fights during the same interval. Of 21 speed users, 14 reported having done or said something that made people attack them; 7 of 21 siblings reported such behavior. Of 21 speed users, 14 reported having over-medicated themselves (overdosed) compared to 4 of 21 siblings. Of 21 speed users, 14 listened to music at loud volume level rather than low volume level; 7 of 21 siblings preferred the loud volume. Of 21 speed users, 14 have suffered sprained muscles or ligaments in their life-times; 10 of 21 siblings reported such misfortunes.

Of the 70 items in the SIB scale, 23 differentiated the speed users from the siblings with statistical significance. Although only 22% of the items in the scale have oral content, 33% of the above mentioned significant differences had oral content.

Overall, 89% of the items of the SIB scale followed the trend of speed users reporting more self-injuriousness than their siblings.

Siblings tended to report psychosomatic complaints (such as enuresis, eczema, hypertension stomach ulcers) to a greater extent than speed users. It is possibly this tendency

which explains why siblings also reported greater use of prescribed medication.

Full statistical comparison of the speed users and siblings on the items of the SIB scale is presented in table 7.

Table 7

Tests of Independence Between the Distributions
of Speed Users and Siblings on Each
Individual Item of the SIB Scale

Items of SIB Scale by Order of Position in the SIB Scale

1*	15	29**	43***	57
2*	16	30	44***	58
3*	17	31	45***	59
4**	18	32	46***	60
5	19	33	47***	61*
6	20	34	48*	62**
7	21	35	49	63
8	22	36	50*	64
9	23	37	51	65**
10	24	38	52	66
11*	25	39	53	67***
12	26	40	54	68
13	27	41	55	69
14	28	42**	56	70*
				71

NOTE: - All significant differences are in expected direction (i.e., speed users are more self-injurious than their sibling controls). The computational techniques used are Kendall's Tau C for continuous variables with 4 or less categories (1 tail).

* $p < .05$
 ** $p < .01$
 *** $p < .001$

CHAPTER V

SUMMARY OF RESULTS AND CONCLUSIONS

Results obtained in this study provide evidence which supports the theoretical statement that speed abuse is determined by self-injurious dispositions and that speed users have pervasively self-injurious personalities:

A significant positive relationship was observed between extent of reported self-injuriousness, as measured by the SIB scale, and total quantity of speed injected in lifetime. Moreover, speed users obtained significantly greater SIB scale scores than their siblings.

The theoretical statement which proposes that self-injurious behavior, including heavy drug abuse, is caused by de-cathexis of the body and self, is mainly contradicted by the evidence gathered in this study. The evidence indicates rather that body and self-cathexis are factors which come into play only when an individual becomes highly motivated to get rid of his self-injuriousness:

A significant positive relationship was observed between the Body-Cathexis scale and length of abstention from speed, and also between the Self-Cathexis scale and length of abstention from speed. However, Body-Cathexis and Self-Cathexis scores were not related to the extent of use of speed in lifetime. Furthermore, the group of speed users obtained Body-Cathexis and Self-Cathexis scores which

were not significantly different from those obtained by their siblings.

Additional exploratory results demonstrate that test results (BC, SC, SIB) presented in this study are independent of sex. A statistical presentation of background information describing the speed users and their siblings provides the reader with a picture of the psychosocial characteristics of the two samples; these characteristics conform to previous reports that speed users are socially unproductive and operate in transient living conditions. Results indicate that speed users distinguish themselves significantly in these respects from their siblings.

Limitations. Under ideal conditions of control, speed users would have used exclusively speed, and siblings would have been totally drug-naive: this of course was impossible to achieve, and would have been an unrealistic selection criterion considering, for example, that pure cases of intravenous drug abuse are never reported to be seen on the streets.

MMPI data and IQ scores should preferably have been gathered by the investigator for each subject, not just a proportion of them. However, many speed users and siblings were unwilling to contribute such large amounts of time to this study, without further payment.

Ways of improving the SIB scale in future research.

1. Items which do not closely conform to the previously mentioned operational definition of SIB should be removed from the scale and should be replaced by more rigorous ones.
2. Normative data should be gathered to determine how each item is responded to by the "normal" population.
3. A factor analysis and an improved item analysis should be performed based on a large group of normal subjects, this would establish construct validity.
4. Congruent and divergent validity should be established by administering other tests as well as the SIB Scale; for example, the MMPI, the Body-Cathexis Scale, Zuckerman's Self-Stimulation Scale (Zuckerman, Kolin, Price & Zoob, 1964).

Implications for further research. Research in the area of self-injuriousness has increased geometrically in recent years, yet none of this research has assessed self-injurious behavior using a standard self-report behavioral scale. Some areas where the SIB Scale could (or should) be used are the following:

1. The SIB Scale could be used to determine to what extent self-injury is a pervading trait in psychotic self-mutilators.
2. It would be interesting to find out if accident-prone individuals (people who have had several car accidents, for example) have self-injurious personalities, according to the

Implications for further research. Research in the area of self-injuriousness has increased geometrically in recent years, yet none of this research has assessed self-injurious behavior using a standard self-report behavioral scale. Some areas where the SIB Scale could (or should) be used are the following:

1. The SIB Scale could be used to determine to what extent self-injury is a pervading trait in psychotic self-mutilators.
2. It would be interesting to find out if accident-prone individuals (people who have had several car accidents, for example) have self-injurious personalities, according to the SIB Scale.
3. The SIB Scale would be an excellent means of assessing the general incidence of all kinds of SIBs in the general population.
4. Within the general population, what is the type of personality of those who are most self-injurious according to the SIB Scale?
5. Within the psychiatric population, what is the type of maladjustment of those who are most self-injurious according to the SIB Scale?
6. How do recurrent suicide attemptors fare on the SIB Scale?

BIBLIOGRAPHY

- Alexander, F., The accident prone individual. Public Health Reports, 1949, 357-362.
- Asch, S.S., Wrist scratching as a symptom of anhedonia: predepressive state. Psychanalytic Quarterly, 1971, 40, 603-614.
- Askevold, F., The occurrence of paranoid incidents and abstinence delirium in abuses of amphetamine. Acta Psychiatrica et Neurologica Scandinavia. 1959, 34, 45-159.
- Bakwin, R.M. and Bakwin, H., Accident proneness. Journal of Pediatrics, 1948, 32, 749.
- Batchelor, I.R.C., Repeated Suicidal Attempts. British Journal of Medical Psychology, 1954, 27, 158.
- Beamish, P. and Kilsh, L.G., Psychoses due to amphetamine consumptions. Journal of Mental Science, 1960, 106, 337-343.
- Bell, D.S. and Trethowan, W.H., Amphetamine addiction. Journal of Nervous and Mental Diseases, 1961, 133, 489.
- Bettelheim, B., The Empty Fortress. New York, The Free Press, 1967.
- Blachly, P.H., Drug abuse. Springfield, Illinois: C.C. Thomas, 1970.
- Blachly, P.H., Seduction as a conceptual model in the drug dependencies. Committee on Problems of Drug Dependence, National Academy of Sciences National Research Council, Washington, D.C.: 1969.
- Brook, R., Kaplun, J. and Whitehead, P.C., Personality characteristics of adolescent amphetamine users as measured by the MMPI. British Journal of Addictions, 1974, 1, 69.
- Brook, R. G. and Whitehead, P.C., A therapeutic community for the treatment of adolescent amphetamine abusers. Corrective and Social Psychiatry and Journal of Applied Behavior Therapy, July 1973, 414, 10-19.

- Burnham, R.G., Symposium on impulsive self-mutilation. British Journal of Medical Psychology, 1969, 42, 223.
- Carey, T. and Mendel, J., A San-Fransisco Bay area speed scene. Journal of Health and Social Behavior, 1968, 9(2), 164-174.
- Carney, R.E., Risk-taking attitudes and the prediction of behaviour, in Risk Taking Behavior: Concepts, Methods and Applications to Smoking and Drug Abuse, Chapter XIII, R.E. Carney (Ed.), Springfield, Ill.: C.C. Thomas, 1971.
- Carson, D.I. and Lewis, J.M., Ocular auto-enucleation while under the influence of drugs: a case report. Adolescence, 1971, 6-23, 397-403.
- Chance, M.R.A., The evaluation of drug toxicity, Churchill, London: Wall and Spinks, 1958.
- Clement, W.R., Selursh, L.P. and Van Ast, V., Abuse of amphetamine and amphetamine-like drugs. Psychological Reports, 1970, 26, 343-354.
- Commission of inquiry into the non-medical use of drugs, Final Report, Chairman; Gerald LePain, 1973.
- Conger, J.J. and Gaskill, H.S., Personal and interpersonal factors in motor vehicle accidents. American Journal of Psychiatry, 1957, 113, 1069-74.
- Connell, P.H., Amphetamine Psychosis. Maudsley monographs #51, London, Oxford University Press, 1958.
- Cox, C. and Smart, R.G., Social and psychological aspects of speed use. International Journal of the Addictions, 1972, 7(2), 201-217.
- Cox, C. and Smart, R.G., Social and psychological aspects of speed use: a study of speed users in Toronto, International Journal of the Addictions, 1972, 7, 201-217.
- Crabtree, L., A therapeutic encounter with a self-mutilating patient. Psychiatry, 1967, 30, 91-100.

- Crancer, A.M.A., Dennis, L. and Quiring, J.Y., Driving records of persons hospitalized for suicidal gestures. Behavioral Research in Highway Safety, 1970, 1-1, 26-32.
- Crancer, A. and Quiring, D.L., Driving records of persons hospitalized for suicidal gesture. Behavioral Research in Highway Safety, 1970, 1-1, 22-42.
- Crochett, R. and Marks, V., Amphetamine taking among young offenders. British Journal of Psychiatry, 1969, 115, 1203-1204.
- Cutter, F., Suicide: the wish, the act and the outcome. Life Threatening Behavior, 1971, 1-2, 125-137.
- Davis, F. and Munoz, L., Heads and freaks: patterns and meanings of drug use among hippies. Journal of Health and Social Behavior, 1968, 8-9, 156.
- Delay, J. and Pichot, P. and Lemperière, T. and Sadoun, R., Psychoses amphetaminiques et pseudopsychoses amphetaminiques. Annales Medico-Psychologiques, 1954, 112, 51-57.
- Dunbar, H.F., Psychosomatic Diagnosis. New York: Paul B. Hoeber Inc., 1943.
- Ellinwood, E.A., Amphetamine psychosis. Journal of Nervous and Mental Disease, 1967, 144, 273.
- Ellinwood, E.A., Amphetamine Psychosis. Current Concepts of Amphetamine Abuse: New York, 1972.
- Ellinwood, E.H. and Cohen, S., Amphetamine abuse. Science, 1971, 171, 420-421.
- Fabian, A.A. and Bender, L., Head injury in children: predisposing factors. American Journal of Orthopsychiatry. 1947, 17, 68.
- Farley, F.H. and Farley, S.V., Stimulusseekness motivation and delinquent behavior among institutionalized delinquent girls. Journal of Consulting and Clinical Psychology, 1972, 39, 94-97.

- Fisher, S., Body-consciousness: you are what you feel. New Jersey, Prentice-Hall, 1973.
- Fischmann, V.S., Stimulant users in the California Rehabilitation Centre. International Journal of the Addictions, 1968, 3-1, 113-130.
- Fitz-Gerald, F.L., Effects of amphetamine upon behavior of young chimps reared under different conditions. Proceedings of the fifth International Congress of Neuropsychopharmacology, (Ed.): by H. Brill, J.O. Cole and P. Deniker, 1969.
- Frankl, L., Susceptibility to accidents: a developmental study. British Journal of Medical Psychology, 1965, 38, 289-297.
- Freud, S., Beyond the pleasure principle. J. Strachey, New York, Liveright Publication, 1950.
- Freud, S., The psychopathology of everyday life. Standard edition, Vol. VI, London: The Hogarth Press, 1901, 179-80.
- Friedman, M., Attempted suicide and self-mutilation in adolescence: some observations from a psychoanalytic research project. International Journal of Psychoanalysis, 1972, 53-2, 179-183.
- Gardner, R., Psychotomimetic effects of central stimulants, in Abuse of Central Stimulants, (Ed.) Folke Sjoqvist and Malcolm Tottie, New York, Raven Press, 1968, 113.
- Graff, R. and Mallin, R., The syndrome of the wrist cutter. American Journal of Psychiatry, 1967, 124, 36-42.
- Gross, W.F., Self-concepts of alcoholics before and after treatment. Journal of Clinical Psychology, 1971, 27-4, 539-541.
- Grunebaum, H. and Klerman, G., Wrist slashing, American Journal of Psychiatry, 1967, 124, 527-534.
- Gunderson, E.K. and Johnson, L.C., Past experience, self-evaluation and present adjustment. Journal of Social Psychology, 1965, 66, 311-321.

- Hafen, B.Q., (Ed.) Self destructive behavior. Burgess Publication Co., 1972, p. 39.
- Hawks, D., Mitcheson, M. Ogborne, A. and Edwards, G., Abuse of methylamphetamine. British Medical Journal, 1969, 2, 715-721.
- Hekiman, L.J. and Gershen, S., Characteristics of drug abusers admitted to a psychiatric hospital. Journal of the American Medical Association, 1968, 205, 125-130.
- Herman, M. and Nagler, S.A., Psychosis due to amphetamines. Journal of Nervous and Mental Disease, 1954, 120, 268.
- Hirschfeld, A.H. and Behan, R.C., The accident process. Journal of the American Medical Association, 1963, 186, 300-306.
- Hove, V., Future of intended suicides. Journal of the American Medical Association, 1953, 152, 1649.
- Husband, P. and Hinton, P.E., Families of children with repeated accidents. Archives of Disease in Childhood, 1972, 47-253, 396-400.
- Jamison, K. and McGlothlin, W.H., Drug usage, personality, attitudinal and behavioral correlates of driving behavior. Journal of Psychology, 1973, 83-1, 123-130.
- Jaskar, R.O. and Reed, M.R., Assessment of body-image organisation of hospitalized and non-hospitalized subjects. Journal of Projective Techniques, 1963, 27, 185-190.
- Johnson, L.C., Body-cathexis as a factor in somatic complaints. Journal of Consulting Psychology, 1956, 20, 145-149.
- Kafka, J.S., The body as transitional object: a psychoanalytic study of a self mutilating patient. British Journal of Medical Psychology, 1969, 42, 207.
- Kalent, O.J., The amphetamines: toxicity and addiction. Toronto, University of Toronto Press, 1966.

- Kaplan, H.B. and Meyerowitz, J.A., Social and Psychological correlates of drug abuse. Social Science and Medicine, 1970, 4, 203-225.
- Kastenbaum, R. and Mishara, B., Premature death and self-injurious behavior in old age. Geriatrics, 1971, 26, 70.
- Kessel, N., The respectability of self-poisoning and the fashion of survival. Journal of Psychosomatic Research, 1966, 10, 29-36.
- Kessel, N., Self-poisoning. British Medical Journal, 1965, 1265, 1336.
- Kessel, N. and McCulloch, J.W., Repeated acts of self-poisoning and self-injury. Proceedings of the Royal Society of Medicine, 1966, 59, 89.
- Kramer, J.C. and Fishman, V.S. and Littlefield, D.G., Amphetamine Abuse, Journal of the American Medical Association, 1967, 201, 305.
- Langford, W.S., Gilder, R. and Wilking, J.N. and Genn, M.M. and Sherill, H.H., Pilot study of childhood accidents: preliminary report, Pediatrics, 1953, 11, 405.
- Lester, David, Self mutilating behavior. Psychological Bulletin, 1972, 78-2, 119-128.
- Levine, S.V. and Lloyd, D.D. and Langdon, W.A., The speed user: social and psychological factors in amphetamine abuse Canadian Psychiatric Association Journal, 1972, 17, 229-241.
- Malcolm, A.J., The pursuit of intoxication. Toronto, Addiction Resource Foundation (Publication), 1971.
- Maris, R.W., Deviance as therapy: the paradox of the self-destructive female. Journal of Health and Social Behavior, 1971, 12-2, 113-124.
- McGuire, F.L., A typology of accident proneness. Behavioral Research in Highway Safety, 1970, 1-1, 26-32.

- McKerracher, D.W., Loughnane, T. and Watson, R.A., Self-mutilation in female psychopaths. British Journal of Psychiatry, 1968, 114, 829-832.
- Meerloo, J.A.M., Hidden suicide, in Suicidal Behaviors (Ed.): H.L.P. Resnik, Boston, Brown and Co., 1968, 89.
- Menninger, K., Love Against Hate. New York, Harcourt, Brace and World Inc., 1942.
- Menninger, K., Man Against Himself. New York, Harcourt and Brace, 1938.
- Mishara, B.L. and Kastenbaum, R., Self injurious behavior and environmental change in the institutionalized elderly. Aging and Human Development, 1973, 4-2, 133-145.
- Meyer, R.J., Roedel, H.A., Bluestone, J. and Redmand, S., Accidental injury to pre-school children. Journal of Paediatrics, 1963, 63, 93.
- Nelson, S.H. and Grunebaum, H., A follow-up study of wrist slashers. American Journal of Psychiatry, 1971, 127, 1345.
- Noonan, J.R., Personality determinants in attitudes toward disability. Unpublished doctoral thesis, University of Florida, 1966.
- Offer, D. and Barglow, P., Adolescent and young adult self-mutilation in a general psychiatric hospital. Archives of General Psychiatry, 1960, 3, 194-204.
- Pantleo, P.M., An investigation of body image in adolescents. Unpublished master's thesis. New Mexico Highlands University, 1966.
- Pao, P.N., The syndrome of delicate self-cutting. British Journal of Medical Psychology, 1969, 42, 195.
- Phillips, R. and Alkan, M., Recurrent self-mutilation. Psychiatric Quarterly, 1961, 420-426.
- Phillips, R.H. and Muzaffer, A., Some aspects of self-mutilation in the general population of a large psychiatric hospital. Psychiatric Quarterly, 1961, 35, 421-423.

- Prescor, M.J., A comparative statistical study of male and female drug addicts. American Journal of Psychiatry, 1944, 100, 771-774.
- Rado, Sandor, Narcotic Bondage in, The Psychoanalysis of Behavior, New York, Grune and Stratton, 1962, 21-29.
- Randrup, A. and Munkwad, I., in Amphetamines and related compounds. Proceedings of the Mario Negri Institute for pharmacological research Milan, Italy. Ed: E. Casta and S. Garattini, New York, Raven Press, 1970, 695-714.
- Rawson, A.T., Accident proneness. Psychosomatic Medicine, 1944, 6, 88.
- Rinzler, C and Shapiro, D., Wrist-cutting and suicide. Journal of the Mount Sinai Hospital, New York, 1968, 25, 485.
- Rosenthal, R.J. and Rinzler, C, and Wallsh, R., and Klausner, E., Wrist-cutting syndrome the meaning of a gesture. American Journal of Psychiatry, 1972, 128-11, 1363.
- Rylander, Gosta, Clinical and medico-criminological aspects of addiction to central stimulating drugs, Abuse of Central Stimulants, Ed.: Folke Sjogvist and Malcolm Tottie, New York, Raven Press, 1968, 251.
- Scott, P.D. and Willcox, D.R.G., Delinquency and the amphetamines. British Journal of Psychiatry, 1965, 111, 865.
- Schwab, J.J. and Harmeling, J.D., Body image and medical illness. Psychosomatic Medicine, 1968, 30, 51-61.
- Secord, P.F. and Jourard, S.M., The appraisal of body-cathexis; body cathexis and the self. Journal of Consulting Psychology, 1953, 17, 343-347.
- Selzer, M.L. and Payne, C.E., Automobile accidents, suicide and unconscious motivation. American Journal of Psychiatry, 1962, 119, 237.

- Shaw, L. and Sichel, N.S., Accident-proneness research in the occurrence, causation and prevention of road accidents. Oxford, England, Pergamon, 1972, 1-476.
- Shneidman, E.S., Essays in Self-Destruction, New York, Science House, 1967.
- Shneidman, E.S., The Cry for Help. New York, McGraw-Hill, 1961.
- Shneidman, E.S., Suicide, sleep and death. Journal of Consulting Psychology, 1964, 28, 95-106.
- Siomopoulos, V., Repeated self-cutting: an impulse neurosis, American Journal of Psychotherapy, 1974, 28, 85-91.
- Smart R.G. and Fejer, D., The extent of illicit drug use in Canada: A review of current epidemiology. In Critical Issues in Canadian Society, Boydell C.L., Grindstaff C.F. and Whitehead P.C., eds. Toronto, Holt Rhinehart and Winston of Canada Ltd., 1971, 508-520.
- Smart, R.G., Schmidt, W. and Bateman, K., Psychoactive drugs and traffic accidents. Journal of Safety Research, 1969, 1-2, 67-73.
- Smith, R.G., Speed and Violence: compulsive methamphetamine abuse and criminality in the Haight Ashburg district, Drug Abuse, Proceedings of the International Conference, Ed., Chris J.D. Zarafonitis, 1972.
- Smith, D.E. and Fisher, C.M., An analysis of 310 cases of acute high-dose methamphetamine toxicity in Haight-Ashburg, Clinical Toxicology, 1970, 3, 117-124.
- Sobel, R. and Margolis, J.A., Repetitive poisoning in children: a psychosocial study, Pediatrics, 1965, 35, 64.
- Stenback, A., Achte, K.A. and Rimon, R.A., Physical disease, hypochondria, and alcohol addiction in suicides committed by mental hospital patients. British Journal of Psychiatry, 1965, 111, 933.
- Stenback, A and Blumenthal, M., Relationship of alcoholism, hypochondria and attempted suicide. Acta Psychiatrica Scandinavica, 1964, 40, 133-140.

- Tabashnick, N.D., A theoretical approach to accident research. Bulletin of Suicidology, 1970, 6, 18-23.
- Tabachnick, Norman, Theories of self-destruction. American Journal do Psychoanalysis, 1972, 32-1, 53-61.
- Tabachnick, N., Two types of suicidal behavior in Self Destructive Behavior, edited by B.Q. Hafen, Burgess Publica-tion, 1972, 54.
- Tabachnick, N.P. and Farberow, N.L., The assessment of self-destructive potentiality, in Farberow, N. and Shneidman, E.S., The cry for help, New York: Mc-Graw-Hill, 1961.
- Teasdale, J.D. and Hinkson, J., Stimulant Drugs perceived effect on the interpersonal behavior of dependant patients. International Journal of the Addictions, 1971, 6-3, 407-417.
- Walter, H., Depersonalisation and self-destruction. American Journal of Psychiatry, 1968, 125, 399-401.
- Weinberg, J.R., A further investigation of body-cathexis and the self. Journal of Consulting Psychology, 1960, 24, 277.
- White, W.F. and Gaier, E.L., Assessment of body image and self-concept among alcoholics with different levels of sobriety. Journal Clinical Psychology, 1965, 21, 374.
- White, W.F. and Wach, J.A., Prediction of successful college academic performance from measures of body-cathexis, self-cathexis and anxiety. Perceptual Motor Skills, 1965, 20, 431-432.
- Whitehead, P.C. and Johnson, F.G. and Ferrence, R., Measuring the incidence of self-injury: some methodological and design considerations. American Journal of Ortho-psychiatry, 1973, 43-1, 142-148.
- Whitehead, P., Notes on the association between alcoholism and suicide. International Journal of the Addictions, 1972, 7-3, 525-532.

- Wilson, L.T., Braucht, G.N., Miskimins, R.W. and Berry, K.L.,
The severe suicide attempter and self-concept.
Journal of Clinical Psychology, 1971, 27-3, 307-309.
- Wikler, A., On the nature of addiction and habituation. British
Journal of the Addictions, 1961, 57, 73-79.
- Zuckerman, M., Kolin, E., Price, L. and Zoob, I., Development
of a sensation-seeking scale. Journal of Consulting
Psychology, 1964, 28, 477-482.
- Zuckerman, M. and Link, K., Construct validity for the sensation
seeking scale. Journal of Consulting and Clinical
Psychology, 1968, 32, 420.

APPENDIX 1

APPENDIX 1

GENERAL INFORMATION BLANK

AGE:

SEX:

EDUCATION:

OCCUPATION:

MARITAL STATUS:

NUMBER OF BROTHERS AND SISTERS:

PERSONAL INCOME PER YEAR
(check appropriate answer):

_____	\$	20,000.00	-	or higher
_____		15,000.00	-	20,000.00
_____		10,000.00	-	15,000.00
_____		6,000.00	-	10,000.00
_____		3,000.00	-	6,000.00
_____		0	-	3,000.00

INCOME OF PARENTS PER YEAR
(if parents are

_____	\$	20,000.00	-	or higher
_____		15,000.00	-	20,000.00
_____		10,000.00	-	15,000.00
_____		6,000.00	-	10,000.00
_____		3,000.00	-	6,000.00
_____		0	-	3,000.00

APPENDIX 2

APPENDIX 2

SELF-INJURIOUS BEHAVIOR (SIB) SCALE

In this questionnaire you are asked to answer questions concerning your physical health. Even though some items might seem personal to you, please be candid. Answer quickly - we want only your first impressions, and do not leave any questions unanswered. The information divulged will be absolutely confidential. In order that we may analyze your results, always answer yes or no, or give a precise number.

IMPORTANT: Except when inevitable, answer nothing else but precise numbers.

1. Give your best estimate of the number of times in your life you went to the hospital for treatment _____.
2. Give your best estimate of the number of times in your life you went to the hospital for surgery _____.
3. Estimate the number of times a year you are ill _____.
4. How many cigarettes do you smoke in a day ? _____.
5. Do you wear a hat in winter ? yes or no (circle your choice).
6. Do you use rubbers or an umbrella when it rains ? yes or no (circle your choice).
7. How many hours of sleep do you usually get per night ? _____.
8. Do you do physical exercises ? yes or no (circle your choice).
9. Do you practice sports ?, if yes list them _____
_____.
10. Do you take vitamins sometimes ? yes or no (circle your choice).
11. Do you eat natural foods sometimes ? yes or no (circle choice).
12. On the average, how many cups do you drink per day of coffee ____.
13. On the average, how many cups do you drink per day of tea ____.
14. On the average, how many cups do you drink per day of soft drinks _____.

* Indicate whether you have had the following ailments:

- | | | | |
|-------------------------------|-------|---------------------------|-------|
| 15. asthma | _____ | 23. bronchitis | _____ |
| 16. hypertension | _____ | 24. infections | _____ |
| 17. eczema
(skin rash) | _____ | 25. sore throat | _____ |
| 18. colitis | _____ | 26. skin ulcers | _____ |
| 19. enuresis
(bed wetting) | _____ | 27. venereal disease | _____ |
| 20. pneumonia | _____ | 28. tetanus
(lock jaw) | _____ |
| 21. stomach ulcers | _____ | 29. hepatitis | _____ |
| 22. convulsions | _____ | 30. abscesses | _____ |

31. How many times a year do you catch a cold ? _____.
32. Do you wash your hands before meals ? yes or no (circle your choice).
33. How many times a month do you take a bath or a shower ? _____.
34. How many times a month do you brush your teeth ? _____.
35. Do you use dental floss, yes or no (circle your choice).
36. Have you ever required stitches ?, if yes, how many altogether ?
_____.
37. When you were a child did you often fall off things ? yes or no
(circle your choice).
38. When you were a child did you ever swallow something that had to
be pumped out of you ? yes or no (circle your choice).
39. Do you often burn, bruise or cut yourself ? yes or no (circle choice).
40. How fast do you drive a car on a highway ? _____.
41. Given a choice, would you pay extra for safety belts ? yes or no
(circle your choice).
42. Have you ever been responsible for a car accident ?, if yes how
often ? _____.
43. How many times a month do you take non-prescribed (legal) medication ?
_____. What type of medication is it ? _____.
44. On the average, how many aspirin do you use in a month ? _____.
45. How many times a month do you use illegal drugs ? _____.
What kinds of illegal drugs do you use ? _____.
46. How many ounces of alcoholic beverages do you drink in a week ?
(suppose a bottle of beer is the equivalent of 2 oz. of spirit or
1 glass of wine) _____.
47. Approximately how often have you been so drunk you vomitted ? _____.
48. Have you ever willfully and overtly harmed yourself physically ?
yes or no (circle your choice).
49. Have you ever "pretended" to take your own life ? if yes, how often ?
_____.
50. Have you ever seriously and deliberately attempted to take your own
life ? if yes, how many times _____.

51. Have you ever bitten your nails ? yes or no (circle your choice).
52. Do you chew at your lips, tongue or cheek ? yes or no (circle choice).
53. Do you sometimes find yourself grinding your teeth ? yes or no (circle your choice).
54. Have you ever made soabs on your body because you scratched yourself too much ? yes or no (circle your choice).
55. Have you ever pulled out some of your hair, inadvertently (without realising it) ? _____, deliberately ? _____, compulsively (compellingly) ? _____.
56. Have you ever burned your skin with a cigarette ? yes or no (circle choice).
57. As a child, did you sometimes rock yourself by banging your head against something ? yes or no (circle your choice).
58. How frequently do you exert yourself to the point of exhaustion ? never _____, rarely _____, often _____, very frequently _____.
59. When you get bored, do you sometimes do risky or dangerous things to stir up some excitement ? yes or no (circle your choice), Describe those that you can think of _____.
60. When you were a child, how frequently did you get into physical fights never _____, rarely _____, often _____, very frequently _____.
61. How many times in the last three years have you been involved in a physical fight ? _____.
62. Have you ever done something or said something that made a person attack you ? yes or no (circle your choice).
63. Do you have friends who sometimes do you physical harm ? yes or no (circle your choice).
64. Have you ever refused to take prescribed medication ? (circle choice).
65. Have you ever taken highor doses of medicine than prescribed ? yes or no (circle your choice).
66. How frequently do you bump into, or trip over objects ? never _____, rarely _____, often _____, very frequently _____.
67. At which volume level do you like to listen to music ? low _____, medium _____, high _____, maximum _____.
68. How do you go into a lake or a swimming pool ? slowly _____, jump in _____.

APPENDIX 3

SCORING KEY
for the
Self-Injurious Behavior (SIB)

1. Number of times in hospital / in lifetime:

0-5 times = 0
5-10 times = 1
more than 10 times = 2

2. Number of surgical operations:

0 times = 0
1-3 times = 1
more than 3 times = 2

3. Number of times ill / per year:

0 times = 0
1-3 times = 1
more than 3 times = 2

4. Smoking incidence / per day:

0 cigarettes = 0
0-20 cigarettes = 1
more than 20 cigarettes = 2

5. Wears hat:

no = 1
yes = 0

6. Uses rubbers or umbrella:

no = 1
yes = 0

7. Average sleep obtained / per day:

more than 7 hours = 0
5 - 6 hours = 1
0 - 4 hours = 2

8. Does physical exercises:

no = 1
yes = 0

9. Practices sports:

none = 1
1 or more = 0

10. Vitamins:

no = 1
yes = 0

11. Eats natural food:

no = 1
yes = 0

12. Coffee consumption / per day: 0 - 2 cups = 0
 13. Tea consumption / per day: 3 - 5 cups = 1
 14. Soft drink consumption / per day: more than 5 cups = 2
15. Asthma
 16. Hypertension
 17. Eczema
 18. Colitis
 19. Enuresis
 20. Pneumonia
 21. Stomach ulcers
 22. Convulsions
 23. Bronchitis each ailment = 1
 24. Infections
 25. Sore throat
 26. Skin ulcers
 27. Venereal disease
 28. Tetanus
 29. Hepatitis
 30. Abscesses
31. Incidence of colds / per year:
 0-2 = 0
 3-5 = 1
 more than 5 = 2
32. Handwashing:
 no = 1
 yes = 0
33. Incidence of baths or showers / per months:
 0-5 = 2
 5-15 = 1
 more than 15 = 0
34. Incidence of toothbrushing / per months:
 0-15 = 1
 more than 15 = 0
35. Use of dental floss:
 no = 1
 yes = 0
36. Number of stitches / in lifetime:
 0 = 0
 0-10 = 1
 more than 10 = 2
37. Falling off things / in childhood:
 no = 0
 yes = 1
38. Swallowing dangerous substances / in childhood:
 no = 0
 yes = 1

39. Occurrence of bruises, burns, cuts:
no = 0
yes = 1
40. Driving speed on highway:
0-60 = 0
60-75 = 1
more than 75 = 2
41. Proposes safety belts:
no = 0
yes = 1
42. Auto accident history
each accident = 1
43. Use of non-prescribed medication/ per month:
0 times = 0
1-15 times = 1
more than 15 = 2
44. Aspirin consumption / per month:
0 aspirin = 0
1-5 aspirin = 1
more than 5 = 2
45. Illegal drug use / per month:
0 times = 0
0-15 times = 1
more than 15 = 2
46. Alcohol consumption / per week:
0-10 ounces = 0
10-20 ounces = 1
more than 20 = 2
47. Vomitting due to alcohol intoxication / in lifetime:
0 times = 0
1-5 times = 1
more than 5 = 2
48. Physically self-injurious behaviour:
yes = 2
no = 0
49. Pretended suicide:
yes = 2
no = 0
50. Attempted suicide:
yes = 2
no = 0
51. Nail biting:
yes = 1
no = 0

66. Incidence of pedestrian collisions:
- | | |
|-----------------|-----|
| never | = 0 |
| rarely | = 0 |
| often | = 1 |
| very frequently | = 2 |
67. Preferred volume level of music:
- | | |
|---------|-----|
| low | = 0 |
| medium | = 0 |
| high | = 0 |
| maximum | = 1 |
68. Style of entry into cold water:
- | | |
|----------|-----|
| slowly | = 0 |
| jumps in | = 1 |
69. Number of knock-outs / in lifetime:
- | | |
|-------------|-----|
| 0 times | = 0 |
| 1 time | = 1 |
| more than 1 | = 2 |
70. Number of sprains / in lifetime:
- | | |
|-------------|-----|
| 0 sprains | = 0 |
| 1-3 sprains | = 1 |
| more than 3 | = 2 |
71. Number of fractures / in lifetime:
- | | |
|-------------|-----|
| 0 fractures | = 0 |
| 1 fracture | = 1 |
| more than 1 | = 2 |

APPENDIX 4

ITEM ANALYSIS OF SIB SCALE *

Variables	Correlation
1. Hair plucking	+.63
2. Number of times knocked-out	+.53
3. Grinding teeth	+.51
4. Incidence of convulsions †	+.50
5. Suicide attempt(s)	+.49
6. Willful self-injury	+.48
7. Incidence of vomitting due to alcohol †	+.48
8. Number of times in hospital †	+.43
9. Incidence of skin ulcers †	+.43
10. Skin burning	+.42
11. Swallowing poison	+.42
12. Rate of cigarette smoking	+.42
13. Risk taking	+.41
14. Over-exertion	+.40
15. Quantity of coffee consumed	+.39
16. Incidence of stomach ulcers	+.36
17. Refusing medication	+.36
18. Pretending suicide	+.35
19. Incidence of hepatitis †	+.34
20. Driving speed	+.34

21.	Incidence of bumping or tripping	+ .33
22.	Quantity of soft drinks consumed	+ .32
23.	Rate of aspirin consumption	+ .32
24.	Provoking injury from peers	+ .31
25.	Incidence of bronchitis	+ .31
26.	Childhood fighting	+ .30
27.	Recent fighting	+ .30
28.	Hypertension	+ .30
29.	Instigating physical attack	+ .28
30.	Number of stitches	+ .27
31.	Rate of alcohol consumption	+ .26
32.	Incidence of abscesses	+ .26
33.	Number of surgical operations	+ .26
34.	Average amount of sleep obtained	- .25
35.	Incidence of tetanus	+ .25
36.	Head banging	+ .25
37.	Uses rubbers or an umbrella	- .23
38.	Overdose of medication	+ .20
39.	Volume level when listening to music	+ .20
40.	Scabs from overscratching	+ .20
41.	Frequency of toothbrushing	+ .18
42.	Biting nails	+ .17
43.	Chewing lips, tongue, cheeks	+ .16
44.	Number of fractures	+ .16

45.	Use of illegal drugs	+.16
46.	Incidence of colds	+.16
47.	Frequency of handwashing	.16
48.	Incidence of eczema	-.16
49.	Number of sports practiced	-.16
50.	Venereal disease	+.15
51.	Number of car accidents	+.15
52.	Amount of non-prescribed medication consumed	+.14
53.	Practices exercises	-.14
54.	Has suffered from colitis	+.12
55.	Incidence of infections	+.12
56.	Incidence of sore throat	+.11
57.	Has had pneumonia	+.11
58.	Tends to jump into cold water	+.11
59.	Eats natural food	-.10
60.	Frequency of physical illness	+.09
61.	Frequency of baths or showers	+.09
62.	Quantity of tea consumed	+.08
63.	Incidence of enuresis	+.06
64.	Number of sprains	+.05
65.	Incidence of asthma	.04
66.	Takes vitamins	+.03
67.	Wears a hat	-.03

68. Tends to bruise, burn or cut self	- .03
69. Has history of falls	+ .03
70. Uses safety belts	+ .02
71. Uses dental floss	- .02

Note. — Each item correlates in the expected direction with the total SIB score, except a few items which are minimally related ($r = \text{less than } .04$).

— This item analysis is based on the group of 56 speed users.

† Coefficients believed to be contingent upon speed use.

* Correlation coefficients of each item with the total SIB Index score.

APPENDIX 5

In this questionnaire are listed a number of things characteristic of yourself or related to you. You are asked to indicate which things you are satisfied with exactly as they are, which things you worry about and would like to change if it were possible, and which things you have no feeling about one way or the other.

Consider each item listed below and encircle the number which best represents your feelings according to the following scale :

1. Have strong feelings and wish change could somehow be made.
2. Don't like, but can put up with.
3. Have no particular feelings one way or the other
4. Am satisfied
5. Consider myself fortunate

		<u>ITEMS</u>	(BC Scale)		
HAIR	1 2 3 4 5	WIDTH OF SHOULDERS	1 2 3 4 5		
FACIAL COMPLEXION	1 2 3 4 5	ARMS	1 2 3 4 5		
APPETITE	1 2 3 4 5	CHEST	1 2 3 4 5		
HANDS	1 2 3 4 5	EYES	1 2 3 4 5		
DISTRIBUTION OF		DIGESTION	1 2 3 4 5		
HAIR OVER BODY	1 2 3 4 5	HIPS	1 2 3 4 5		
NOSE	1 2 3 4 5	SKIN TEXTURE	1 2 3 4 5		
FINGERS	1 2 3 4 5	LIPS	1 2 3 4 5		
ELIMINATION	1 2 3 4 5	LEGS	1 2 3 4 5		
WRISTS	1 2 3 4 5	TEETH	1 2 3 4 5		
ENERGY LEVEL	1 2 3 4 5	FOREHEAD	1 2 3 4 5		
BACK	1 2 3 4 5	FEET	1 2 3 4 5		
EARS	1 2 3 4 5	SLEEP	1 2 3 4 5		
CHIN	1 2 3 4 5	VOICE	1 2 3 4 5		
EXERCISE	1 2 3 4 5	HEALTH	1 2 3 4 5		
ANKLES	1 2 3 4 5	SEX ACTIVITIES	1 2 3 4 5		
NECK	1 2 3 4 5	KNEES	1 2 3 4 5		
SHAPE OF HEAD	1 2 3 4 5	POSTURE	1 2 3 4 5		
BODY BUILD	1 2 3 4 5	FACE	1 2 3 4 5		
PROFILE	1 2 3 4 5	WEIGHT	1 2 3 4 5		
HEIGHT	1 2 3 4 5	SEX (male or female)	1 2 3 4 5		
AGE	1 2 3 4 5	BACK VIEW OF HEAD	1 2 3 4 5		
		TRUNK	1 2 3 4 5		

(continued on next page ...)

ITEMS (BC Scale)

FIRST NAME	1 2 3 4 5	SENSITIVITY TO OPINIONS	1 2 3 4 5
MORALS	1 2 3 4 5	OF OTHERS	
ABILITY TO EXPRESS SELF	1 2 3 4 5	ABILITY TO LEAD	1 2 3 4 5
TASTE IN CLOTHES	1 2 3 4 5	LAST NAME	1 2 3 4 5
SENSE OF DUTY	1 2 3 4 5	IMPULSES	1 2 3 4 5
SOPHISTICATION	1 2 3 4 5	MANNERS	1 2 3 4 5
SELF-UNDERSTANDING	1 2 3 4 5	HANDWRITING	1 2 3 4 5
LIFE GOALS	1 2 3 4 5	INTELLIGENCE LEVEL	1 2 3 4 5
ARTISTIC TALENTS	1 2 3 4 5	ATHLETIC SKILLS	1 2 3 4 5
TOLERANCE	1 2 3 4 5	HAPPINESS	1 2 3 4 5
MOODS	1 2 3 4 5	CREATIVITY	1 2 3 4 5
GENERAL KNOWLEDGE	1 2 3 4 5	LOVE LIFE	1 2 3 4 5
POPULARITY	1 2 3 4 5	STRENGTH OF CONVICTION	1 2 3 4 5
IMAGINATION	1 2 3 4 5	CONSCIENCE	1 2 3 4 5
SELF-CONFIDENCE	1 2 3 4 5	SKILL WITH HANDS	1 2 3 4 5

APPENDIX 6

Descriptive Data for the Complete Speed
Using Group

Age, Sex, and IQ of the
Complete Speed Using Group
(N = 56)

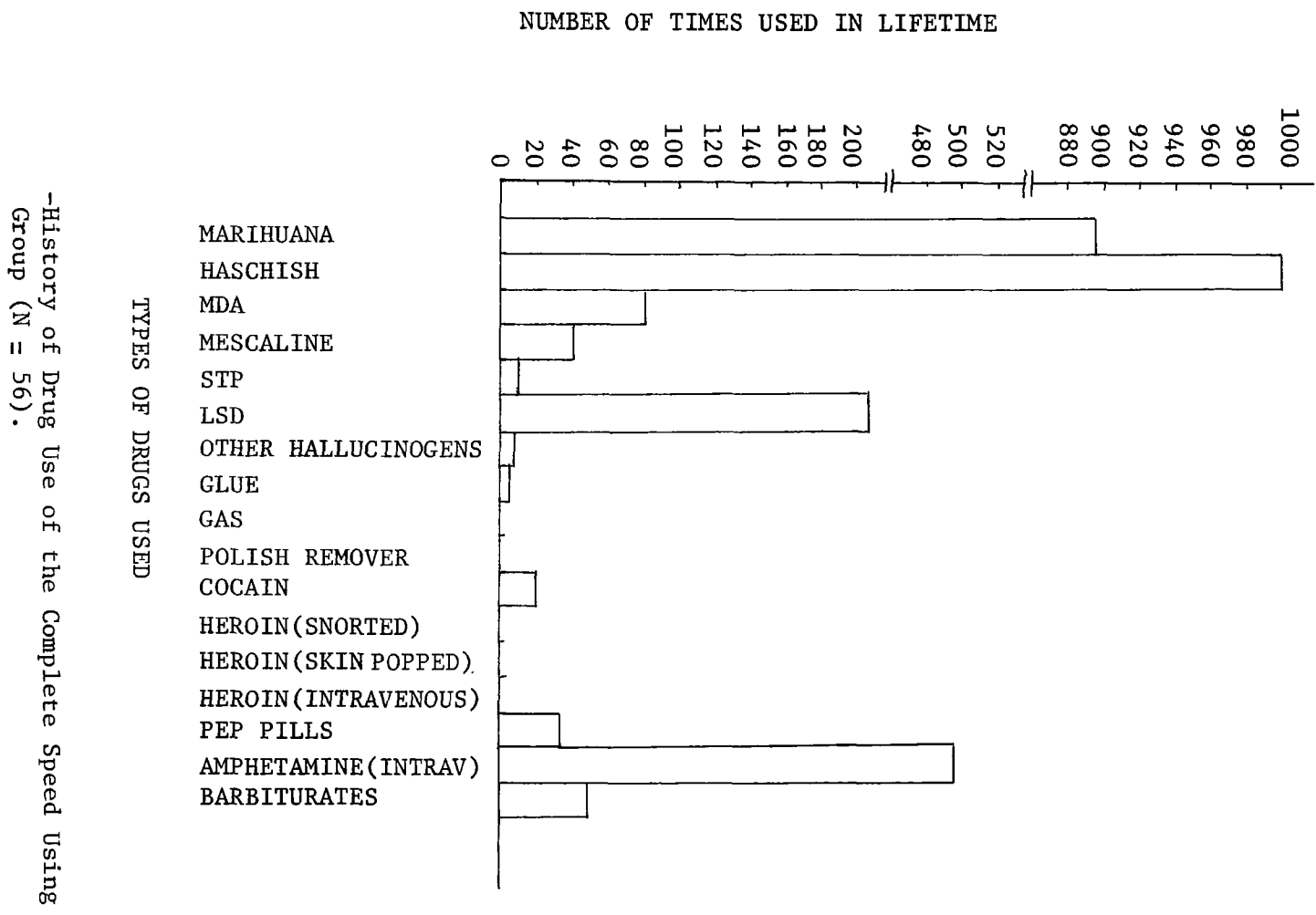
Variables	Statistic	Score
Age	Mean	20.87
	Mode	17.00
	Standard Deviation	5.28
Sex	Percentage	37.50
	Percentage	62.50
IQ	Mean	105.88
	Mode	108.00
	Standard Deviation	10.61

Educational Occupational and Social
Status of the Complete Speed Using
Group (N = 56)

Variable	% Speed Users (N = 56)
Education	
Primary	17.90
Secondary	80.30
Univ-College	1.80
Occupation	
Employed	34.00
Unemployed	45.00
Student	21.00
Marital Status	
Single	90.00
Sep-Divorced	7.00
Married	3.00
Personal Income	
\$20,000.	0.00
\$15,- 20,000..	4.00
10 - 15,000.	4.00
6 - 10,000.	25.00
3 - 6,000.	23.00
0 - 3,000.	45.00
Living Arrangement	
Parents Home	23.00
Personal Residence	39.00
Street Clinic	32.00
Other	6.00

Body-Cathexis, Self-Cathexis and
Self-Injurious Behavior Scale
Scores of the Complete Speed
Using Group (N = 56)

Variables	Means	S.D.
Body-Cathexis	3.69	0.56
Self-Cathexis	3.61	0.46
Self-Injurious Behavior Scale	37.62	11.33



-History of Drug Use of the Complete Speed Using Group (N = 56).

APPENDIX 7

Average Scores Obtained on the Body-Cathexis Scale
and Self-Cathexis Scale by Various Groups
in Different Studies

Type of Subject Group	SC Males	SC Females	BC Males	BC Females
Junior Psychology Students - 42 males and 32-females ^a	3.73	3.57	3.72	3.55
Psychology Students - 45 males and 43 females ^b	3.43	3.35	3.43	3.46
340 College Students in various disciplines ^c	-	-	3.71	3.39
52 Seminararians and 95 Nurses ^d	3.39	3.38	3.44	3.27
156 Normal Adults 171 General Hospital Patients ^e	-	-	-	3.72
124 Psychiatric and Non-Psychiatric Patients ^f	-	-	-	3.41
104 Male Alcoholics ^g	3.25	-	3.23	-
56 Speed Users ^h	3.61	3.61	3.77	3.57
22 Siblings of Speed Users ⁱ	3.64	3.47	3.74	3.35

^a White, W.F. and Wash, J.R. (1965)

^b Secord, P.F. and Jousard, S.M. (1953)

^c Clifford, E. (1971)

^d Johnson, L.C. (1956)

^e Jaskar, R.O. and Reed, M.R. (1963)

^f Schwab, J.J. and Harmeling, J.D. (1968)

^g White, W.F. and Gaier, E.L. (1965)

APPENDIX 8

ABSTRACT OF

SELF-INJURY IN HABITUAL INTRAVENOUS AMPHETAMINE
USERS AND THEIR SIBLINGS

Several researchers and theoreticians classify drug abuse as only one among many self-injurious and self-stimulatory behaviors. Some studies on speed users tend to support this view. It has been proposed that self-injurious behaviors such as wrist slashing and amphetamine injection are caused by a particular deficiency in these people's personalities called anhedonia. According to this point of view, people who are susceptible to amphetamine dependence, for example, have a threshold for pleasure (or stimulation) which is very high. To satisfy their excessive needs for stimulation, they would tend to indulge in all kinds of risk taking behaviors such as recklessness, accidents, alcoholism, promiscuity, drug dependence and fighting.

To test this theoretical hypothesis a study group of 56 speed users was sought; 21 matched siblings who had never injected drugs served as a control group. Tests and questionnaires were used to evaluate the following dimensions: self-injuriousness, self-esteem, body-esteem. To evaluate the first of these dimensions it was judged necessary to construct a questionnaire of self-injurious behaviors.

The other two dimensions were assessed using Secord and Jourard's Self-Cathexis and Body-Cathexis scales.

Results indicate that in many ways speed users are significantly more self-injurious than their siblings ($p < .013$, 1 tail). The more speed had been injected in a lifetime, the more the subject tended to report self-injurious behavior ($p < .001$, 1 tail). Contrarily to expectations however, Body-Cathexis and Self-Cathexis scores were nearly identical for both groups. Furthermore, speed users obtained Body-Cathexis and Self-Cathexis scores which were more similar to those obtained by normal students and working adults than those of psychiatric patients or alcoholics. Body-Cathexis and Self-Cathexis were significantly higher in those who had abstained from speed the longest, but were not significantly related to the total amount of speed injected in a lifetime.

Implications of this study are that clinical professionals should be aware of speed dependence as self-injurious behavior and should attempt to foresee, diagnose, and eventually treat related forms of such behavior. The questionnaire of Self-Injurious Behavior used in this study should be improved and exploited in further research.