THE SENSATION-SEEKER WHO IS ALSO ALIENATED:
TOWARDS A NEW HYPOTHESIS FOR GENESIS OF
OPIATE ADDICTION.

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The aim of the study was to assess two psychological parameters, sensation-seeking (SS) and alienation (AL), in a sample of thirty DSM-III diagnosed opiate dependence cases, and to compare them on these two parameters with two non-drug-abusing control groups, one from the patients’ own peer groups and the other from the general population. The opiate dependent subjects were found to score higher both on SS and AL than those in the control groups. Further, there was a gradient of the degree of correlation between these two psychological variables amongst the three groups studied. The opiate dependent group showed the highest positive correlation. The general population control group showed the lowest degree of correlation, and the self-matched control group was intermediate.

These findings are consonant with an “SS-AL combination” hypothesis for the genesis of opiate addiction. Briefly, the hypothesis states that a higher sensation-seeking need, coupled with an inability to meet this need through socially sanctioned channels, leads on to repeated experiences with drug-taking behavior, thus fostering dependence. The present study provides preliminary data supporting this hypothesis.

Key words: alienation, sensation seeking, opiate, dependence, hypothesis.

INTRODUCTION

Sensation-seeking (SS) is defined as "the need for varied, novel and complex sensations and experiences, and the willingness to take physical and social risks for the sake of such experiences" (Zuckerman, 1979, p 10). It is thought to be a biologically based personality dimension (Zuckerman, 1984). High sensation-seekers appraise physical and social risk as less, and anticipate arousal as more positive than low sensation-seekers.

Use and abuse of various psychoactive substances, including opiates, are associated with higher SS scores in general, and some of its subscale scores in particular (Gersick et al, 1981; Galizio & Stein, 1983; Khavary & Mabry, 1985; Kohn & Coulas, 1985; Zuckerman, 1987; Pedersen et al, 1989; Pedersen, 1991; Virkkunen et al, 1994).

Two conceptual difficulties, however, arise when one tries to understand the genesis of substance abuse in terms of higher SS alone. First, why should a sensation-seeker bother about drug use only and not other channels of stimulating risk taking behavior? "It is unclear how this motivational variable (SS) relates to the genesis of drug abuse. Why doesn’t this trait become sublimated into more socially sanctioned experiences, such as jogging or carnival rides instead of being expressed through drug abuse? Clearly, a dispositional variable is inadequate in itself as a sole explanation for drug addiction" (Craig, 1982, pg 243; emphasis added).

Secondly, it has been argued (Spotts & Shontz, 1983) and later demonstrated (Spotts & Shontz, 1986) that infrequent and experimental use of drugs is associated with higher SS but not heavy or chronic use. Higher sensation-seekers may casually experiment with drugs for "varied, novel and complex sensations and experiences", but why should they persist with drug use to the extent of becoming dependent on it, especially when after chronic use the drug is not likely to produce "varied and novel" sensations any more? The fact that repeated use of "hard" drugs like heroin confers physical dependence cannot be the sole explanation: why go in for 'repeated use’ in the first place? Something else, other than SS alone, must be there to explain the genesis of even opiate addiction.

Taking the lead from Craig’s (1982) focus on 'more socially sanctioned experiences’ and the lack of seeking such experiences by drug abusers, we wanted to study the alienation (AL) status of opiate dependent subjects. Alienation may be defined as the subjective experiencing state of detachment or estrangement of one’s own self from its surroundings (Seeman, 1959). The question we asked ourselves was: could it be that the potential addict is also socially alienated in addition to being a high sensation-seeker? If so, then the inability (or dislike) to seek sensations through socially sanctioned chan...
nels would make his high SS need to be expressed through some socially deviant behavior, of which drug addiction is one. The question that emerges from the above is: could there be a greater degree of positive association between SS and alienation in an opiate addict than in a comparable non-drug use group who has similar access to the drug? This is the theoretical question which the present study sought to answer.

MATERIAL AND METHODS

SAMPLE

The sample consisted of the experimental group, matched with controls.

Experimental group (E):

Thirty male subjects aged 18-35 years with at least ten years of formal schooling satisfying DSM-III (APA, 1980) criteria for opioid abuse and dependence, attending the Drug Deaddiction and Treatment Center of the Department of Psychiatry, constituted the E group. Patients with concomitant major physical or mental illness were not recruited. Patients with more than two years of opiate dependence were also excluded from the study due to three reasons. First, it was planned to understand the genesis of drug dependence and not maintaining factors. Hence, addicts with a relatively shorter duration of drug dependence were chosen. Second, in chronic drug dependence, the phenomenon of dependence itself, along with its various major complications (physical, social, occupational, financial, legal and criminal) may change or influence the psychological parameters, particularly alienation. Thus, chronic drug-dependence (defined by Spotts & Shorty (1983) as more than 2 years, in their formulation of a methodological paradigm for drug-dependence studies) was excluded from the present study. The third reason was to increase the homogeneity of the sample, not only in terms of the agent variable but also its duration.

Control groups

Two control groups were taken. Both were non-drug abusers (i.e. not satisfying DSM-III criteria for substance abuse or substance dependence), as reported by the subjects and their relatives, as well as corroboration by clinical examination.

First control group (Self-matched control, SMC):

This consisted of 30 subjects, taken from the same peer groups of the experimental subjects, and brought by the latter themselves. The control subjects fulfilled all the inclusion and exclusion criteria except the one for substance abuse and dependence. Group matching was done on the socio-demographic variables (age, sex, education, occupation, family type, marital status, residence, religion).

In addition, during intake it was made sure that every person in this group: [a] was acquainted with the drug in question (what the experimental group subject has been taking), [b] knew it was available in the locality, and [c] could have taken the drug if he wanted to, i.e., it was accessible to him. This group was termed the "Self-Matched Control" group (SMC).

Second control group (General population control, GPC):

This was a sub-sample of the general population, comprising subjects who were decidedly high sensation-seekers. The general population study has been published earlier (Basu et al, 1993). The GPC subjects were those who scored at least 1 SD above the mean score on the modified sensation-seeking scale (n=21). The idea behind taking this GPC was to compare the degree of alienation between the high sensation-seekers from the general population and the experimental group of opiate addicts.

INSTRUMENTS

1. Socio-demographic and drug use proforma of the department.

2. Modified sensation-seeking scale, form V (SSS).

   The original scale (Zuckerman et al, 1978; Zuckerman, 1979) is a 40 item forced choice inventory consisting of four subscales (with 10 items for each): thrill and adventure seeking (TAS), experience seeking (ES), boredom susceptibility (BS) and disinhibition (DS). Since some items are not relevant or applicable to the Indian population, and also since SS scores are influenced by race, nationality and prevailing socio-cultural norms, Indian adaptation of the scale was done. Details of the original scale as well as its Indian adaptation have been published (Basu et al, 1993).

3. Alienation (Al.) scale (Reddy, unpublished).

   This is a 14 item inventory developed on the basis of Secman's (1959) multidimensional framework of alienation. It is a Likert type scale that gives 5 point summated ratings on complete disagreement through complete agreement, so that higher the score
more is the degree of alienation (one item, i.e., no. 8, is reverse-keyed). The test-retest reliability coefficient was found out to be 0.82. Item validity on the basis of discriminating power of items was carried out, and concurrent validity coefficient with Leo Srole's (1956) scale for anomie was 0.43 (significant statistically; the relatively lower value is accounted for by the fact that Srole's scale for anomie is concerned with only one of the five dimensions of alienation envisaged in Melvin Seeman's multi-dimensional framework). The scale has been used earlier in other Indian studies (Gon et al., 1982) and found suitable for use in the Indian population.

RESULTS

Table 1

Sociodemographic characteristics

|               | Experimental group (E) | Self-matched control group (SMC) |
|---------------|------------------------|----------------------------------|
| Age 18-25 yr  | 16 (53.3)              | 16 (53.3)                        |
| Age 26-30 yr  | 9 (30.0)               | 10 (33.3)                        |
| Age 31-35 yr  | 5 (16.7)               | 4 (13.3)                         |
| Education Matric | 15 (50)             | 14 (46.7)                        |
| Education Above matric | 15 (50)       | 16 (53.3)                        |
| Occupation Govt. job | 7 (23.3)           | 9 (30.0)                         |
| Occupation Private job | 13 (43.3)       | 14 (46.7)                        |
| Occupation Unemployed/student | 10 (33.3)  | 7 (23.3)                         |
| Residence Urban | 27 (90)             | 27 (90)                          |
| Residence Rural  | 3 (10)               | 3 (10)                           |
| Marital status Married | 15 (50)         | 19 (63.3)                        |
| Marital status Unmarried | 15 (50)        | 11 (36.7)                        |
| Family type Nuclear | 16 (53.3)        | 15 (50.0)                        |
| Family type Joint | 7 (23.3)            | 10 (33.3)                        |
| Family type Others | 7 (23.3)           | 5 (16.7)                         |
| Religion Hindu | 24 (80.0)            | 22 (73.3)                        |
| Religion Sikh  | 5 (16.7)             | 8 (26.7)                         |
| Religion Others | 1 (3.3)              | 0 (0.0)                          |
| All differences not significant by Chi square method.
Of the thirty experimental subjects, 17 were primarily heroin dependent, ten were primarily using buprenorphine injections (IM/IV), two were taking pethidine injections (IM) and one was taking codeine tablets orally. Of those using heroin, nine were on a stable dose of up to 1/2 gm per day of the street sample and the rest were on a higher dose (range, 1/4th to 2 gm/day). Nineteen patients had also abused other substances in the past (tobacco, alcohol, cannabis, sedative-hypnotic), and sixteen were taking tobacco, alcohol and/or cannabis at the time of intake for the study. However, none could be diagnosed as cases of alcohol or cannabis abuse/dependence according to DSM III at the time of the study. The mean duration of opiate use was 14.9 months (SD 4.4, range 3 months to 2 years).

Comparison of the test scores between the groups E, SMC and GPC by applying ANOVA is given in Table 2, which shows that the ES, total SS and alienation significantly discriminate the three groups. The BS values do not significantly differ between any two groups, whereas TAS and DIS are partly successful in this discrimination. The DIS values in the E group, however, are significantly higher than either that of the SMC or the GPC group. Thus, overall, the scores of total sensation seeking, experience seeking, disinhibition and alienation are seen to be significantly higher in the opiate dependent group than in either of the control groups.

Table 3 shows the intergroup comparison of the correlation coefficients between the test scores (SSS and its subscales with alienation). This shows a generally decreasing gradient of correlation between SS and alienation (from strongly positive to mildly negative) from the E group, through SMC, to the GPC group. The SMC group is seen to occupy an intermediate position between the opiate dependent group and the general population control group.

**DISCUSSION**

This study showed significantly higher total sensation-seeking and some of its component subscale scores in the opiate addicts than in either of the control groups. It is in keeping with most published research in this area (Platt & Labate, 1976; Kohn & Costas, 1983; Khavari & Mahry, 1985; Pedersen et al., 1989; Pedersen, 1991) but not all (Spoils & Shotton, 1986). The latter study, however, compared opiate addicts with abusers of other substances and also recruited long-term heavy opiate users (mean duration of opiate dependence about 8 years). Our subjects' mean duration of dependence was slightly more than a year. As explained earlier, these "fresh" addicts were taken to yield a more decisive answer to the question of genesis rather than maintenance of drug dependence.

The study also found a significantly higher degree of alienation in the experimental group than in either of the control groups. Detailed analysis of alienation and psychoactive substance use has been published elsewhere (Basu et al., 1992). It is of interest to note here that the use of socio-legally prohibited substances like opiates was associated with the highest degree of alienation, while no such association was apparent in the case of occasional use of socio-culturally more acceptable substances like tobacco and alcohol. Thus "the status of social sanction of a particular substance does seem to be related to the alienation status of the user" (Basu et al., 1992).

Of further interest is the finding that the "high SS" general population control subjects had the lowest mean score on alienation. In fact, their mean alienation score was even less than the general population norm for alienation (mean 22.92, SD 3.47, significant statistically: Basu et al., unpublished). A possible interpretation of these findings could be: those in the general population who are high sensation-seekers but not drug abusers are socially more integrated (social integration being the conceptual opposite of alienation). Thus, they can probably fulfill their sensation seeking needs through "more socially sanctioned" channels rather than taking recourse to drug abuse.

A more detailed analysis of the inter-relationship between SS and AL in the three study groups (Table 3) confirms and extends this suggestion. In the GPC "high-SS", the correlation between SS (and subscale scores) and AL were all mildly negative (range -0.08 to -.28), signifying that, in the general population, a high sensation seeker (and non-drug dependent person) would be likely to be somewhat less alienated, and vice versa.

In the self-matched control group, the correlation coefficients were significantly positive between TAS and AL, ES and AL and ISS and AL. No significant correlation was found between BS and AL and DIS and AL. This signifies that, in the SMC group, a high sensation seeker is also likely to be more alienated.

In the experimental group also, there was significantly high positive correlations between TAS and AL, BS and AL, DIS and AL, and ISS and AL.
No significance was found between ES and AL. Overall, three subscales of the SSS (TAS, BS and DIS) as well as TSS showed high positive correlation with AL in the experimental group. Not only that, the degree of correlation between TSS and AL was definitely greater in the E group than that seen in the SMC group (0.58 vs 0.36).

Thus, there is a generally increasing gradient of correlation between alienation and sensation seeking seen from the high SS general population control group, through the self-matched control group, to the opiate dependent experimental group. This gradient of increasing correlation between these two sets of variables from one group to another is most apparent in the total sensation seeking versus alienation correlation, but the subscales also maintain this trend generally (except ES with AL which shows a significant positive correlation only in the SMC group).

The analysis shows that there is a higher correlation between sensation seeking and alienation in the addicts than in the control groups. If we venture to translate this statistical issue into a conceptual one, then we might say that the addicts, in addition to being high sensation seekers with a "need for novel, varied and complex sensations and experiences", and with the willingness to take physical and social risks for the sake of such experiences" (Zuckerman, 1979), also feel highly alienated, i.e., estranged from the society's usual values, norms, expectations and attitudes (Sceman, 1959). Not only that, the higher the sensation seeking characteristic in an addict, the higher is his feeling of alienation.

Thus, in spite of being in an active need for stimulation, sensations and experiences, he finds himself in a strange position where he cannot channelize this need into usually socially approved and socially sanctioned channels of risky enjoyment because he feels alienated from these. His inability to express his sensation seeking needs (because of his alienation), when coupled with the availability of the drug, might lead to substance abuse and eventually dependence, especially if the substance in question is one with a high dependence liability (e.g. opiates in this study). We are using the word "might" because we are well aware that this study is not in a position to give an assertive answer to the issue of genesis of drug dependence.

However, the study does assertively claim to uphold this hypothesis of "sensation-seeking-alienation combination model" of drug dependence and it does provide hereby preliminary cross sectional data which are consistent with this hypothesis. Although Penning and Barnes (1982) had noticed this association between SS and either social deviance or alienation in marijuana abusers, this conceptual model, to our knowledge, has not been envisaged before.

The methodological limitations of this study include a relatively small sample, lack of "street addicts" in the natural environment in the sample, and lack of a vernacular version of the instruments. In view of these caveats, the interpretation should be done with care.

On the basis of evidence at hand, this area appears promising for future research using a larger prospective cohort design. The authors are aware of the problems in carrying out longitudinal studies but these only can verify or reject the hypothesis framed by this case-control study design.

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