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SOLVENT INHALATION AMONG ADOLESCENTS
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ABSTRACT

This study was carried out in Manitoba between October 1968 and May 1969. The purpose of the study was to determine if glue sniffing juvenile delinquents experienced greater feelings of maladjustment than non-glue sniffing delinquents in the performance of child peer and student roles and self concept.

The data was obtained by administering a sentence completion schedule to an experimental group of known glue sniffing delinquents and a control group of non-glue sniffing delinquents who were matched for age and sex. The subjects selected were on probation at the Winnipeg Family Court and from Marymound School, Winnipeg, and the Manitoba Home for Boys, Portage La Prairie.

The results indicate that glue sniffers do experience greater feelings of maladjustment than non-glue sniffing delinquents. Seven factors were identified which accounted for 75 per cent of the variance between the two groups.

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CHAPTER I

INTRODUCTION

The glue sniffing adolescent is an emergent problem in the communities of North America and there is indication of a spread and increase of the glue sniffing practices. Glue sniffing is the popular name for the practice of inhaling solvents.

The first indication of glue sniffing practices in Winnipeg became known in 1964. The Poison Control Centre in Winnipeg had reported this trend and since then the practices have been on the increase. In Winnipeg the solvents of glue and nail polish remover have been predominantly used. In 1966 the Poison Control Centre reported that the children drink Coca-Cola mixed with nail polish remover; in 1967 the Family Court reported that 187 school aged children were charged with glue sniffing; and in the same year some Winnipeg schools reported the incidence of glue sniffing between two per cent and five per cent. During 1968 the problem has attracted the attention of several institutions in the community through the media of press and radio. The Winnipeg Tribune on October 12, 1968, published an interview of Mr. R. Gage, a reporter, with Mr. G. Scott, a morality officer, who stressed a progressive movement of glue sniffing in Winnipeg and predicted an increase in charges for glue sniffing to 250 by the end of 1968. During the month of November 1968, eleven articles have appeared in the same paper dealing with the same question. The medical, pharmaceutical, social work professions as well as ministers, parents, schools and the

police became concerned about the effect of glue sniffing on the individual and the community.

The problem of glue sniffing is a new phenomenon in our society and there are no definite answers as to its etiology. However, a number of the recent studies in the United States of America indicate ill effects on the person's development and social malfunction. Society's concern is obvious as it has difficulty through its institutions such as family and school to adequately socialize its members and thus seeks an appropriate solution.

The profession of social work, being an agent of the community's endeavors, strives to strengthen the individual's social functioning. Its concern is how a person performs his roles in the family, school, community at large, and to deal with difficulties which he encounters. The significance of glue sniffing for the profession might be twofold: firstly, to deal with the individuals involved in glue sniffing in order to restore their social functioning; secondly, to establish preventive services through education and social action.

The available literature on glue sniffing shows that the etiology of the problem is similar, on the one hand, for glue sniffing as well as for non-glue sniffing delinquents. But the differences noted between the two groups indicate a slightly greater degree of maladjustment in child, peer, student roles, as well as greater self-depreciation among the glue sniffing children (Barker and Adams, 1963). So far the self-concept among glue sniffers has not received specific attention. The studies to date have primarily dealt with the objective or observable maladjustment. However, it is felt that the basic factors underlying glue sniffing may be

found in the subjective aspects of behaviour. Thus, the purpose of this study is to identify the degree of felt maladjustment, if any, peculiar to glue sniffers in the performance of the child, student and peer roles as well as their self-concept. This is an exploratory study attempting to identify these subjective factors by comparing a group of glue sniffing delinquents with a group of non-glue sniffing delinquents.

CHAPTER II

BACKGROUND AND PREVIOUS STUDIES

This chapter presents an overview of the studies and writings concerned with the glue sniffing phenomenon in the United States and Canada. A specific focus is on the literature which illustrates a habitual glue sniffing adolescent who has failed in his roles as a child, student, peer and possesses a noted degree of self depreciation.

There is no tangible evidence why and when the practice of glue sniffing started on this continent. It appears, though, that it is particularly popular with the young and the assumption is that because of its inexpensive nature and availability glue sniffing seems to be an established trend for a segment of the young population, and the habit is but a small part of a larger phenomenon such as smoking, alcoholism, L.S.D. and other psychogenic substances. All these have one thing in common - they change the mood and feelings.

The first report on the inhalation of solvents appeared in the National Clearinghouse for Poison Control Centres Bulletin (U.S.A.) in 1960. The concern was with Plastic Model Cements whose fumes were intentionally inhaled by teenagers and which theoretically were capable of causing severe poisoning. In 1962 the same organization recognized the subject as a frequently met form of deviant behaviour among teenagers in the United States of America. However, there was no clear indication whether repeated inhalation of solvents could produce chronic toxicity.

In 1964 the subject became a national concern and several states had already enacted laws making it illegal to inhale volatile fumes. The punishment was a fine.

The first indication of glue-sniffing practices in Winnipeg became known in 1964 at which time it was reported that teenagers were using a particular brand of nail polish remover and were inhaling its fumes "for kicks". Two years later the Poison Control Centre was informed that school aged children were drinking a mixture of Coca-Cola and nail polish remover. In 1967 the Family Court reported that 187 school aged children had appeared before the Court charged with glue sniffing. Gellman (1968) reported that the practice of glue sniffing in Winnipeg was more widespread than the information suggests. The Greater Winnipeg schools estimate that the student involvement in glue sniffing is from two per cent to five per cent (Unwin, 1968). Gellman pointed out that although "glue sniffing" is the popular name for the practice, it is the solvent that is inhaled and that a variety of other volatile substances are also involved. The use of such solvents recently has reached epidemic proportions in the United States of America as well as in Canada. The Federal Government is taking steps to curb the sale of model airplane glue and other substances containing volatile solvents. Presently in Manitoba any child under the age of eighteen who is involved in glue sniffing may be charged under the Juvenile Delinquency Act.

The commercially available products which are used by the adolescents include: glues or cements - these are the most popular source of solvents of which toluene and acetone are the principal ones; fingernail polish remover which has acetone, alcohol and aliphatic acetates; lighter fluid,

cleaning fluid and gasoline containing naphtha, benzene and sometimes carbon tetrachloride; lacquer thinners, containing toluene and aliphatic acetates; ether. In addition to the above list any volatile solvent having the property of lipid solubility can produce intoxication. The beginner (sniffer) has usually a range of substances available to him and is inclined to experiment with any number in order to find his own preference. The usual method of use is to place a substance in a plastic bag and then insert the face into the opening for inhalation. Other methods are also used such as placing in a rag or handkerchief and holding it against the mouth sniffing or sucking.

All these solvents can initially produce a stimulating effect. The inhalation of any of them creates a lightheadedness and euphoric effect; hallucinations may also occur and they could be frightening. Glue is the most popular substance sought. Depending on the concentration of the solvent used, slurred speech, dizziness, confusion and a sense of reckless omnipotence which could produce antisocial or self-destructive behaviour can occur within minutes of inhalation. The state of intoxication lasts forty-five to sixty minutes and is followed by drowsiness lasting up to one hour. During the state of intoxication abnormalities of an electroencephalogram are present and may continue for several weeks after inhalation. The laboratory investigations usually find abnormalities of renal functioning and marked anorexia (Gellman, 1968). Some reports show also hepatic and bone marrow malfunctioning but there is no definite evidence of permanent brain damage (Gellman, 1968; Massengale et al., 1962). The deaths attributed to solvent inhalation are due to suffocation and a small number have been found associated with pulmonary edema or hemorrhage in

the alveolae (Gellman, 1968).

There is little doubt that solvents create psychological dependence. The adolescent is usually increasing the portion of glue in order to get the same intoxicating effect. He also searches for substitutes such as nail polish remover, lighter fluid, lacquer thinners, when the substance becomes unavailable; he also shows recidivism and a compulsion to inhale solvents which occurs in most chronic sniffers. There is yet no adequate demonstration of physical dependence on solvents (Gellman, 1968). The real problem arises with the "chronic sniffer" who becomes fully dependent on the substance and has difficulty giving up his habit. "This psychic dependence is often accompanied by a deterioration in school work and changes in personality."¹

The glue sniffing child is an emergent problem in the community. In considering the etiological factors related to glue sniffing it must be noted that glue sniffing, like alcoholism and drug addiction, is not a disease entity in itself but is symptomatic of an underlying emotional disturbance, a basic personality disorder. It is not the addiction or use per se which is important but the forces behind the adolescent which compel him into this practice (Jacobziner and Raybin, 1963).

Children, through their positive experiences of family living, are helped in their strivings for growth and identity. However, if the family shows a deficit in carriers of family roles such as in the father's absence, the configuration essential for normal living is lacking and

¹V. Gellman, "Glue Sniffing Among Winnipeg School Children," in The Canadian Medical Association Journal, (Feb. 24, 1968), p. 2.

problems result. This was particularly noticeable when the background of glue sniffing children was examined. A study of twenty-eight boys and a control group selected randomly from boys committed to Look-Out Mountain School in Colorado during 1961 to determine what, if any, characteristics appear in the lives of glue sniffers which do not appear in the lives of other delinquents found that family background was similar in most cases. However there was a higher degree of family disintegration among the glue sniffing group (Barker and Adams, 1963). Another study of twenty-seven children referred to the Adolescent Clinic, University of Colorado Medical Centre for glue sniffing found that only seven boys came from families where both parents were present in the home (Massengale et al., 1963). The "common denominator" in the background of glue sniffing youngsters was found to be "father deprivation". This phenomenon can exist even though the father is physically present in the home but emotionally detached from the family and virtually missing from their sons' lives insofar as any effective relationship is concerned. (Done, 1967)

Fulfillment of adequate need satisfactions requires the support of both parents in the child's immediate environment. The injurious effects the father's absence from the home can have on children, and particularly boys, was evident in a number of studies. Glue sniffing children possess immature superegos and incomplete male identification (Gioscia, 1967). The glue sniffing children came from large, highly disorganized families, siblings had records of delinquency, and all children had difficulty in expressing aggressive or sexual drives because of the absence of a dominant male figure in the home with whom they could identify (Massengale et. al., 1963).

Children today are finding it increasingly difficult to regard the parental generation as valid models for adulthood. In a study of thirty-six glue sniffing, grade seven boys attending the same school in Denver, Colorado, who were compared with two groups of boys that roughly matched the glue sniffing boys as far as age (average 13 years) and progress in school was concerned, it was found that the glue sniffers came from broken homes and larger families which resulted in limited control by overworked mothers who often had parent role complications because of their own deviances, i.e., excessive drinking and sexual promiscuity (Meloff, 1967). Glue sniffing was brought on by a sense of insecurity resulting from a lack of belongingness, rejection by parents and frustration within their total environment (Meloff, 1967).

A child's sense of failure is frequently related to his inability to solve his parents' problems and feelings of inadequacy are oftentimes expressed in delinquent behaviour. Finding the home environment intolerable, the child as a rule cannot adjust to the school situation. The cause of his deviance can be attributed to the school structure itself (Meloff, 1967). The school is not equipped to meet the needs of the emotionally and culturally deprived youngster. The child from multi-problem home situations is at a disadvantage from the very beginning of his school years. He enters the school with different values and attitudes and is exposed to middle class values. He rejects them and bides his time until he can ultimately leave the system - such a situation is probably the case for most glue sniffers. Poor school experience was indicated in the majority of studies examined. Most of the glue sniffers had slightly below and average IQ; they were not behavioural problems but

were withdrawn and uninterested in school. They were poor students and often truanted (Massengale et al., 1963).

Erikson (1963) has described adolescence as identity versus role diffusion. In this phase of development the integration taking place in the form of the ego identity is the sum total of the childhood identifications and all the experiences of each successive stage. These are the ego values accrued in childhood which culminate in a sense of ego identity. Being not able to achieve ego identity, an adolescent confronts identity diffusion, which is a constant search for self.

Much support is needed during adolescence to alleviate unavoidable pressures on the youngster. The behaviour of the adolescent is unpredictable because of his confusion and anxiety. He is told to grow up but not how to grow up. He is unsure of his own goals. Parents urge the adolescent to assume more responsibility, to be less dependent, but when they show independence, they are told they are too young to know what is best. The adolescent is thus in a dilemma as independence is encouraged by society itself that also stresses the need for higher education and further dependence on his family. However, the adolescent in conflict at home and at school and living in a lower class high delinquency area is in a very vulnerable position to learn deviant attitudes from neighbourhood peers who are in similar circumstances.

The most important and influential unit is the family, and in the majority of studies it was obvious that the families of glue sniffing youngsters failed to transmit to the children the norms and attitudes of the society. Lack of good role identity creates isolation and the child has difficulty relating appropriately with his peers. He is a misfit and

in a state of confusion, he receives little affection, he is failing in school and thus he is forced to find some frame of reference to which he can belong, to maintain stability. He is therefore very strongly dependent on the peers he finds in his immediate neighbourhood for affection and recognition. He conforms to the group and if glue sniffing is part of their pattern he will accept it (Hanson, 1967). These misfits simply aggregate together and "form a bunch of neighborhood rejects growing older together."²

Glue sniffing children are as a rule economically deprived youngsters. However, this does not negate the fact that there are many economically advantaged youngsters who are glue sniffing but their motives are quite different. The middle class youngster may be glue sniffing experimentally or for kicks or as a form of adolescent dissent (Mueller, 1967).

Probably the most outstanding problem that faces delinquent children is maintaining self-esteem, and the threats to self-esteem are met in various ways (Merrill, 1947). If the adolescent fails at school, if his work is too hard, he may quit trying and spend his time idling and day-dreaming. He reacts in this manner to preserve his self-esteem. Delinquent behaviour represents self-protective behaviour in intolerable situations and glue sniffing is one way of evading the stresses encountered by the child who has no status in the home, in the school or in the community.

It is misleading and impossible to generalize about glue sniffing

²L. C. Thomas, "Guidelines for Handling Certain Juvenile Delinquents," (Denver Conference Notes 1967), p. 8.

children, but it has been found that they have one thing in common- they are "acting in" rather than "acting out". To "act in" means to behave in some harmful way to the person rather than to commit offences against others - "act out" (Thomas, 1967). A study of glue sniffing children referred to Denver Juvenile Court revealed that these children turned their anger, frustrations and feelings inward or aimed them in no specific direction and truanted or roamed the streets. On the basis of the study the children appeared to be severely damaged by their home environment and some were mentally disturbed (Thomas, 1967). All children in one study showed some degree of chronic depression and all related to personal authorities in a passive aggressive manner (Massengale et al., 1963). Self-destructive impulses were evident in that the children were aware that glue sniffing could result in ill physical effects and even death but persisted in their habit (Massengale et al., 1963). Another study of nineteen glue sniffing children admitted to the psychiatric service of a General Hospital to learn the neuro-psychiatric and social factors involved in the background of "sniffers" revealed that all of the patients came from a background of severe emotional deprivation and manifested serious psychopathologic conditions. They came from large, disorganized, low income families and showed seventy-five per cent psychotic, sixteen per cent character disorders and nine per cent adjustment reaction abnormalities. The habit of glue sniffing was practiced exclusively in adolescent or pre-adolescent groups. The meetings were held in secret places and sniffing was followed by fighting, wall beating and homosexual activities. Sniffing was done in order to replace feelings of helplessness and depression with an euphoric state. All patients felt that sniffing is

harmful but disregarded that fact craving for a "high" mental state. Some patients sniffed because it gave them a relief from depression, some considered it to be of anesthetic value which allowed them to beat the walls with their fists, and to others it gave tolerance to pain and allowed them to face corporal punishment (Brozonsky and Winkler, 1965).

Behaviour is related to the local ways of doing things. A study aimed at identifying the unique characteristics of the juvenile populations in which glue sniffing tends to be endemic examined fifty juvenile drinkers and forty-seven "sniffers" known to the Youth Division of the Chicago Police Department. The findings disclosed that sniffing and drinking are mutually exclusive modes of becoming intoxicated; the glue sniffers are younger than the drinkers and get involved with the police about one and a half years earlier. In this study more boys were involved in glue sniffing than girls (40 to 7) and both sniffing and drinking were group phenomena. Both groups were noted to come to the attention of the police because of "conduct" rather than "property" offences (Sterling, 1964).

In summary, all of the studies examined have indicated that social, emotional and physical deprivation appear to be the base of the glue sniffing problem. The problem is essentially that of being members of a sub-cultural group of have-nots, in comparison to the "haves" - society as a whole (Wilson, 1967). "Personality predispositions, situational factors, tolerance, source of supply, may all play a part in the development of habituation to solvents. The actual importance of each of these factors is, however, far from clearly understood."³ The studies examined

³D. C. Krug, "Inhalation of Commercial Solvents: A Form of Deviance

have looked at the forces behind the phenomenon of glue sniffing children and why these children have removed themselves from the conventions of society. However, they have not dealt with the degree of felt maladjustment, if any, peculiar to glue sniffers in the performance of the child, student and peer roles as well as their self-concept. This exploratory study has attempted to identify these subjective factors by comparing a group of glue sniffing delinquents with a group of non-glue sniffing delinquents.

Among Adolescents", in Drug Addiction in Youth (New York: Pergomon Press, 1964), p. 44.

CHAPTER III

METHOD AND RESULTS

I. SUBJECTS

The subjects used in this study were 44 male and female juveniles who had come to the attention of the Winnipeg Family Court. Their ages ranged from 12 to 18 years, with a mean age of 14.5 years. All subjects had volunteered their services.

The subjects were divided into two groups. Twenty-two subjects were substance abusers who had been identified as such by correctional social workers. This sample was obtained from three correctional settings: the Manitoba Home for Boys in Portage La Prairie, Marymount School for Girls in Winnipeg, and the Probation service of the Winnipeg Family Court. The other half of the subjects formed the control group. These subjects have also come to the attention of the court authorities for various misdemeanours, but had no history of substance abuse. The two groups were matched for sex and age.

II. Tests

All subjects were given a Sentence Completion Test (Appendix B) and a Questionnaire concerning the practice of glue sniffing (Appendix D)

Sentence Completion Test

This test is based on the Sentence Completion Test (Abt and Bellack, 1950), and was modified to contain as test items ninety-three open-ended

sentences designed to measure felt maladjustment along the four dimensions of self-concept, child role, student role, and peer role. These test items were initially ordered within nineteen sub-dimensions, but administered in random order. The ninety-three test items ordered within the appropriate dimensions and sub-dimensions are as follows:

Measure of Self Concept

1. Fear - Designed to measure the intensity and frequency of fear, not what subject is afraid of.
2. Self-worth - How worthwhile subject feels himself to be.
3. Body Image - How subject accepts his physical appearance.
4. Problem Solving - How he characteristically responds to stress and his opinion of himself as being able to master problems.
5. Depression and Hope - What is subject's prevailing mood?
6. Autonomy - How related to other subject feels himself to be, yet separate in identity.
7. World View - Is life liveable?

Child Role

8. Feelings Towards Mother, Father, Siblings - Are they positive or negative?
9. Belongingness - Does subject feel part of a family and how valued a member does he see himself as being?
10. Family Relationships - How the child feels about the relationship between his parents and interaction within the family.
11. Sexual Identification - How clearly subject sees himself as male or female.

Student Role

12. Attitude Towards School - Positive or negative?
13. Satisfaction Felt About Academic Performance - Does he feel he performs adequately?
14. Attitude Towards Authority - Does he accept it?
15. School Behaviour - Acceptance of behaviour essential to student role.

Peer Role

16. Value of the Peer Group to Child - How important is the peer group to the child as a frame of reference?
17. Acceptance by the Group - Does the subject feel accepted by the group?
18. Leader-Follower - Does the child see himself as a leader?
19. Sexual Relations - Does the child see sex as a healthy expression of mutual respect?

This schedule had been pretested under the same conditions as described in the following section on procedure.

Glue Sniffing Questionnaire

The glue sniffing questionnaire consisted of ten questions designed to elicit information about the practice of glue sniffing. The specific questions concern where and why children engage in the practice of solvent inhalation, the kinds of substances used, the estimated number of children involved in the practice, and the frequency of it, means of introduction to the practice, whether alcoholic beverages are also used, and the knowledge about the harmful effects of solvent inhalation.

III. Procedure

The testing of fourteen boys was done at the Manitoba Home for Boys in Portage La Prairie, of sixteen boys and two girls at the Winnipeg Family Court, and of twelve girls at the Marymount School for Girls in Winnipeg. All subjects at any of the three settings were tested in one group. Identification of the test protocols as to substance abusers or control subject was made with a pre-arranged code. The subjects were first given the Sentence Completion Test. The instructions (Appendix C) which were given to the subjects in written form, were also read out to them in order to ensure that the subjects did not omit any part of the instruction.

The questionnaire was given following the Sentence Completion Test, observing identical administration procedures.

Furthermore, a Data Sheet (Appendix E) was completed for each subject. The material was obtained from each subject's file.

IV. Results

The responses of subjects were rated on a 5-point scale, a high score indicating a high degree of felt maladjustment. For example, the more negative the subject's attitude toward school, the higher his score was judged to be. Irrelevant responses were given the score of zero. Scores were assigned by nine judges, the mean value of their rating constituting the score for any given test item. While scoring a subject's protocol the judges were not aware if they dealt with a substance abuser or a control subject.

Table I shows the mean scores of 22 substance abusers and 22 control

subjects in the four dimensions of the Sentence Completion Schedule. The raw data were converted into Standard scores and consequently the means shown are reported as T-scores. The data were treated in a Subject by Treatment by Group Design and processed in an Analysis of Variance with two factors for repeated measures. (Wiener, 1962) The resulting F of 8.92 (1,42 df) was statistically significant ($p < .01$).

In a further analysis of the data, using a series of t-tests comparison was made between the scores of substance abusers and control subjects on the four dimensions of the Sentence Completion Schedule. The results of these t-tests are also summarized in Table I.

TABLE I
MEAN SCORES OF SUBSTANCE ABUSERS AND CONTROL SUBJECTS
IN FOUR DIMENSIONS OF THE SENTENCE COMPLETION TEST

	Abusers	Controls	t	p
Self-Concept	52.97	47.03	2.01	N.S.
Child Role	53.47	46.53	2.39	.05
Peer Role	54.71	45.29	3.46	.01
Student Role	51.58	48.42	1.03	N.S.

The two groups differed significantly in two dimensions, namely child role and peer role. On the other two dimensions, student role and self-image, statistical significance was not reached. However, an examination of trends revealed that substance abusers had higher scores on all four dimensions relative to the control subjects. Thus the direction of the differences between the groups can be seen as uniform.

Using the nineteen sub-dimensions making up the four dimensions of the Sentence Completion Schedule, a Factor Analysis with Varimax Rotation was performed. The criterion employed for the retention of factors was a value of >1.00 . In this way seven factors, accounting for 73.79 per cent of the total variance were retained. The nineteen sub-dimensions were inspected for their factor loadings as shown in Table II.

TABLE II
FACTOR LOADING OF SEVEN FACTORS ON THE NINETEEN SUB-DIMENSIONS OF THE SENTENCE COMPLETION SCHEDULE *

	1	2	3	4	5	6	7
1. Fear	.883						
2. Self-Worth	.623			-.374			
3. Body Image			.360		.691		
4. Problem Solving				-.509			.503
5. Depression & Hope				-.576		-.346	
6. Autonomy			.664	-.498			
7. World View	.352	-.439	.364	-.358			
8. Feeling Toward Parents, Siblings	.539		.573				
9. Family Belonging			.796				
10. Family Relation- ship		-.366	.783				
11. Sex Identity				-.352	.462		
12. Att. To School		-.809					
13. Self-Satisfaction					.777		
14. Att. To Authority		-.775				.327	
15. Behavior In School		-.740				-.351	
16. Value Of Peer Gp.				-.788			
17. Accept. By Peers						-.873	
18. Leadership					.733		
19. Sexual Identity							.844

* For clarity only factor loadings $>.30$ have been shown.

By inferring aspects common to sub-dimensions with high loadings the content and nature of the factors were identified. The following are the names given to these factors: meaninglessness, powerlessness, identity conflict, unrealistic expectations of the future, attitude of dependency toward life, passivity, and lack of mastery.

Significant findings from the data sheet were:

a) Marital status of parents:

	Sniffers	Control
Married	9	11
Separated	6	4
Widowed	3	1
Divorced	0	0
Common-law	2	5
Single	1	0
Not known	1	1

b) Education:

	Sniffers	Control
Range	grade 5-9	grade 6-9
Mode	grade 6	grade 7
Mean	grade 6.9	grade 7.6
Mean grade of those attending school	grade 6.7	grade 7.6

c) Residence:

	Sniffers	Control
Suburbs	2	4
North end	10	4
Inner city	5	5
Out of town	5	6
Not known	0	3

A significant finding from the glue sniffing questionnaire was in the responses to the question "Do most kids sniff alone or with others?"

Alone	-	4%
With others	-	72%
Both	-	14%
Don't know	-	4%
No response	-	6%

CHAPTER IV

DISCUSSION OF RESULTS

This study has shown a significant statistical difference between the two groups of glue sniffing delinquents and non-glue sniffing delinquents in the four dimensions of the child, peer, student roles and the self concept. The findings show that the glue sniffing delinquents have greater feelings of maladjustment than the non-glue sniffing delinquents. The study has reached a level of statistical significance in the dimension of the child and peer roles, with strong tendencies in the same direction in the student role and self concept. The results support the other findings that there is a greater degree of felt maladjustment in the glue sniffing group as compared with the non-glue sniffing group of delinquents.

In the dimension of the child role a significant difference was found between the two groups, glue sniffing and non-glue sniffing delinquents, in relation to the subjective feelings of belonging to the family, degree of harmony in the family relationship and sexual identification with the like-sexed parent.

The findings have shown that glue sniffers have a less satisfying experience in a family. There is evidence of an emotional and physical instability. The study has illustrated that the glue sniffers are experiencing difficulty in the performance of their roles as children in view of the detrimental family life. They find less satisfaction in these roles and have difficulty in the relationship with their parents.

The glue sniffers came from the families of a higher degree of disorganization than did the non-glue sniffers. The objective findings of the study point out to the negative subjective feelings of the glue sniffers toward their families. From the identifying Data of Subjects the following information was obtained: Considering the "married" and "common-law" categories as indices of relative stability, there were eleven glue sniffers in this category as opposed to sixteen non-glue sniffers; considering the "separated", "widowed" and "single" categories as indices of relative instability there were ten glue sniffers and only five non-glue sniffers in this category.

The findings secured from the study generally supported the studies in the literature on glue-sniffing in that there is a higher degree of family disintegration present among the glue sniffers (Barker and Adams, 1963). They came from families dominated by a single parent and experienced difficulty in forming a positive relationship within it. The findings strengthen the concept of "father deprivation" as pointed out by the literature (Done, 1967). There appears to be absence of the father figure in the glue sniffers' homes and this is a common denominator in their background. They lacked parental support for the adequate emotional satisfactions of their needs and had not grasped the structure of their environment and had not assumed any active roles in it. Thus the study further supports the literature in that the glue sniffers possess immature superegos and incomplete male identification (Gioscia, 1967). They experience difficulty in differentiating between right and wrong or as separate individuals because they have not internalized the norms and attitudes of the society through their parents. The glue

sniffers experience insecurity, lack of belongingness, rejection and frustration as the literature has stressed.

In the dimension of the peer role the difference between groups was obtained by comparing the glue sniffers with non-glue sniffing delinquents in respect to the subjective feelings they have in relation to the value of the group as a frame of reference, how they feel about acceptance by the group, how they feel about the leader-follower roles and what is their sexual relations and identity.

The findings of this study support the literature in that the glue sniffers, having had no adequate socialization by the parents, feel the lack of a good role identity and experience difficulty with their peers. They feel no value in participating in a peer group, having a strong sense of mistrust toward themselves and others. This maladjustment in peer relationships has been strongly illustrated by the findings; the sniffers rejected at home, in the school and by their peers seek out solutions to their feelings in any group that will accept them, and if glue sniffing is a pattern of behaviour of the group they will accept it. They do not form a gang, but an aggregate of isolates, and perpetuate their life style in particular localities. As indicated by the literature, the glue sniffers are in a sense peer oriented but the group for them is the experience of sharing their isolation and rejection (Sterling, 1964). The findings of this study have shown that the glue sniffers feel less satisfaction in their peer relationship but seek to eliminate their tensions in a group; thus glue sniffing is a group phenomenon.

In a majority of cases the glue sniffers are economically deprived

children which adds to their frustrations. The findings of this study have pointed to the fact that a disproportionately high number of sniffers (10) as opposed to non-sniffers (4) reside in low socio-economic areas of the city. Considering the ethnicity of both parents, there is a tendency of a higher proportion of Indian and Metis ethnic origin among sniffers (20) as opposed to non-sniffers (16). Thus the sniffers, being disadvantaged economically and culturally in addition to psychologically maladjusted, feel rejected and unwanted; they follow their group faithfully and this is the only way to meet their psychological needs (Thomas, 1967). The glue sniffers come in majority from the "matricentric" (mother dominated) homes and feel difficulty in establishing their identity; they face instead identity diffusion and a continual search for self. These feelings of confusion and anxiety which dominate sniffers manifest themselves periodically in some other form of delinquent behaviour - thefts, shoplifting, etc. The subjective feelings of the sniffers strengthens the literature in that the glue sniffers are a bunch of neighborhood rejects growing older together (Thomas, 1967).

In the dimension of the student role there was no clear difference between the two groups but the tendency toward it has been present. The direction of the difference is consistent with the difference found in other roles. The two groups were measured as to their attitude toward school, felt satisfaction regarding performance at school, attitude toward authority and the acceptance of behaviour essential for the student role.

This study has supported the literature on glue sniffing in that the glue sniffers feel more alienated to the school. The findings have

shown that the glue sniffers lagged behind the non-glue sniffers by approximately one grade, regardless of the measurement used: range, mode, mean or mean of those attending school. But the subjective differences are not as clear and significant. The glue sniffers are not involved in learning, have no interest in the future, are passive, and their participation in the school curriculum is minimal. Coming from intolerable home situations, impoverished socio-economic groups, they feel estranged in the school system. It was found that the glue sniffers feel they have no definite purpose or goal in life and experience difficulty in comprehending their environment. The school system, being middle class oriented, aggravates their emotional and cultural problems and adds to their dilemma. The findings of this study supported the literature in that the glue sniffers have not accepted the values and attitudes of the school. In the school system they lose more control over the happenings to them as well as the sense of self determination. Thus they reject the school and form an emotional block between themselves and the school authority. The school perpetuates their dependency and passivity. They feel that the school structure is not geared to their needs and they become uninvolved, not participating, poor students with truancy records. Thus the findings support the literature in that the glue sniffers enter the school not feeling motivated to succeed and achieve and thus they put in time until released from the system (Meloff, 1967).

The glue sniffers and the non-glue sniffing delinquents have been measured as to their intensity and frequency of fear, self worth, body image, problem solving ability, depression and hope, autonomy, and world view.

The findings of the study show that the tendency in the direction of difference corresponds to the literature on glue sniffing in that the glue sniffers make every attempt to maintain the threats to self-esteem in various ways (Merril, 1947). When confronted with the poor home situation, school difficulties, the sniffer withdraws into his world of idling and day-dreaming in order to preserve his self concept. The sniffer uses regression as the one form to maintain a self-protective behaviour in intolerable situations. It is a way of eliminating stress superimposed upon him by the home, school and community.

The data concerning the types of offences was not considered to be reliable enough as a basis of comparing the two groups. However, the distribution of the types of offences within each group would suggest that sniffers tend to have a higher incidence of offences against their own person. This may be considered significant if one recognizes the tendency of the police to charge a youth "high on sniff" with some material offence that is easier to prosecute than that of sniffing itself.

These findings correspond closely with the literature, which points out that the glue sniffers turn their anger, frustrations and feelings inward and at no specific direction; they appear to be damaged by their home environment and some suffer from chronic depression (Thomas, 1967). They generally are "acting in" rather than "acting out" as compared to other delinquents (Thomas, 1967). The findings of this study support the literature by considering the type of offences committed by the glue sniffers and their subjective feelings about themselves which are punitive and their world which is in a state of confusion and empty. This study shows that the glue sniffers possess little self worth and a great deal of self depreciation; they use substances for sniffing which may result

in ill physical effects but they disregard this. Thus the findings further support the literature in that the glue sniffers sniff because it gives them relief from depression (Brozowsky and Winkler, 1965).

A factor analysis of the nineteen variables in the sentence completion schedule suggests that self concept is a composite of all the role dimensions and cannot be determined as an entity apart from these role dimensions as was done in the study. An examination of the seven factors yielded by the analysis suggests the following dimension as a more appropriate basis for differentiating between sniffers and non-sniffing delinquents in the area of self concept:

1. Meaninglessness

Glue sniffers showed a greater degree of anxiety generated by conviction of meaninglessness. These children lack the experience of temporal continuity. The human conditions in which they are caught up tend to be unintelligible to them; they do not grasp the structure of the world in which they live, they cannot understand their place in it and never know what to expect from it. As a result there is a sense of emptiness and purposelessness in life.

2. Powerlessness

Conviction of meaninglessness is usually accompanied by a feeling of powerlessness. The latter refers to the feeling of being used for purposes not one's own. Glue sniffers in interaction with superiors or authority persons, doubt the possibility of being able to act in any significant way to influence the course of their lives. There is a feeling of loss of control over the events in one's own life so that the sense of self determination is lost.

3. Identity Conflict

Glue sniffers fail to see themselves as differentiated and separate from their external reality. There is absence of confidence in their own identity resulting in an over-dependence upon definition of self by others, the consequence of which is an identity conflict.

4. Unrealistic Expectations of the Future

Lacking satisfaction in the present, glue sniffers tend to fantasize about themselves in the future. The expectations of themselves are unrealistic in terms of their subjective experiences in the present. Whereas in the present they see themselves as having little worth or autonomy, future orientation is characterized by expressions of hope, self worth and positive world view.

5. Attitude of Dependency Toward Life

Glue sniffers have a sense of basic mistrust toward themselves and thus toward their world. As a result they relate to life with an attitude of dependency, looking to others to determine their lives for them.

6. Passivity

Although detached from and uninvolved with existing institutions and social conventions, glue sniffers are passive-aggressive in their attitude. This is demonstrated by the fact that they covertly reject the authority of the school system at the same time giving verbal acceptance of what they know to be behaviour which is acceptable to school authorities.

7. Lack of Mastery

Glue sniffers tend to see life in terms of conflict. Defeated by their powerlessness to achieve mastery over their environment, they

necessarily see themselves as having little chance of winning in any competition in life.

CHAPTER V

SUMMARY AND CONCLUSION

The purpose of this study was to determine if the glue sniffing delinquents have greater feelings of maladjustment than the non-glue sniffing delinquents in the child, peer, student roles and the self concept. In the literature on glue sniffing some inferences from the objective data were made that the glue sniffers experience greater depreciation of themselves than other delinquents which would have some implications for the areas of the child, peer, student roles and the self concept.

The findings of this study have produced a substantial difference in the area of felt maladjustment between the glue sniffers and non-glue sniffing delinquents. The glue sniffers experience subjectively a greater degree of maladjustment in all four dimensions of the child, peer, student roles and the self concept. A significant difference between the two groups was found to be in the peer role dimension. The glue sniffers have a tendency to segregate themselves from their peers and to form a close association with the children who exhibit similar behaviour patterns of withdrawal, passivity, regression and depression. This finding supports the literature on glue sniffing in that the glue sniffers are introverted isolates who experience difficulty in fitting into the peer roles.

The second dimension, the child role, has also produced a significant

difference between the two groups. The glue sniffers feel more maladjusted in their child roles. The findings show some validation to the objective studies in literature in that the glue sniffers come from multi-problem families - mother dominated, lack of male figure, poverty - and experience difficulty in adjustment to the outside environment.

The student role dimension, although not showing a statistically significant difference, was found to be in the same direction. The glue sniffers feel greater difficulty in performing their student roles. The findings support the literature in that the glue sniffers experience no need to achieve and succeed in the school system. They are not motivated and are passive, poor students. They feel strongly against authority in the school system and do not come to terms with it.

The fourth dimension of self concept was found not to differentiate significantly between the two groups. The glue sniffers experience more difficulty in preservation of self-esteem than the non-glue sniffers. They introject their frustrations and conflicts and experience difficulty in maintaining their fragile ego.

The findings strengthen the objective studies in that the glue sniffers act more against themselves rather than others and feel more badly about themselves than other delinquents.

A factor analysis of the nineteen variables in the Sentence Completion Schedule has shown that seventy-five per cent of the variance between the two groups was accounted for by the seven factors. These seven factors illustrate the profile of the glue sniffing children and strengthen further the literature on the subject. The glue sniffers appear to be dominated by the anxiety and frustration due to an

due to an unstructured world view. They seem not to comprehend their relationship with others, their function in the society and are apathetic about their expectations. They feel loneliness and estrangement; they have no definite purpose. The glue sniffers also experience a lack of control over their lives as well as absence of self-assertion and determination. They experience a great deal of difficulty in identity formation and view themselves in terms of definition by others - identity diffusion. The glue sniffers live in the world of fantasy and experience difficulty in gearing themselves to reality. They view themselves as possessing no autonomy and being worthless; they have no trust in others, in themselves and the world; having an over developed sense of dependence they look for attachment to others in order to be guided. The glue sniffers are passive-aggressive in their attitude; they oppose the authority subjectively but overtly they recognize what is the acceptable behaviour. The glue sniffers, having no opportunity to test their capacities, possessing little determination to establish themselves in life, see no value in competing with others as the value of this society prescribes.

In viewing the findings it becomes clearer that glue sniffing is not a disease entity in itself but is symptomatic of an underlying emotional disturbance, a deep psychological disorder. Thus the findings strengthen the literature further by recognizing the psycho-social forces behind the glue sniffers which force them into the practice. Glue sniffing is neither a passing fad nor peculiar to any subculture or group; glue sniffing is an indication of a deep seated personality disturbance that an adolescent experiences difficulty in outgrowing and which may manifest

itself to a degree in adult deviancy. Contrary to the literature findings (Sterling, 1964), the results of the glue sniffing questionnaire showed that the practice of sniffing is not exclusive of the use of alcohol.

The result of this study raises the question of treatment for the glue sniffers and the involvement of the social work profession in it. The literature on glue sniffing emphasizes group treatment as the most successful method in dealing with glue sniffers (Denver Juvenile Court, 1967). It was determined that the most effective treatment was group therapy in a natural friendship group led by a trained social worker; a non-effective treatment was proved to be done by a Social Worker in the "traditional" one to one counselling, overburdened by a heavy case-load and short duration contacts.

Our findings suggest that glue sniffing, being a group phenomenon, would be best treated in a natural peer group by a professional social worker. This would give an adolescent the opportunity to express his aggressiveness in an appropriate societal approved way; in a group through peer relationship he would also be able to develop his identity strength and self image.

This study has not produced any strong results in the sub-dimensions of each role dimension but the overall result showed a substantial difference in felt maladjustment between glue sniffers and non-glue sniffing delinquents. The future study in this area should consider the seven factors from the Factor Analysis as the appropriate basis for further research.

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APPENDIX A

SENTENCE COMPLETION SCHEDULE

I. Self-Concept

- (a) Fear (Intensity and frequency of - not what he is afraid of)
1. I know it is silly, but I am most afraid of 53
 2. Nobody knows he is so afraid that 67
 3. My fear sometimes forces me to 81
 4. The kid was most afraid when 1
- (b) Self Worth (How worthwhile he feels he is)
5. I believe I have the ability to 14
 6. I have so many weaknesses that 27
 7. The kid thinks he is 40
 8. Compared to most kids, I am 54
 9. Unlike other people, I am 68
 10. In a group of people, I feel 82
 11. My friends think I am 2
 12. People seem to think that I 15
- (c) Body Image (How they see their bodies)
13. Some people are good looking, and I 28
 14. My face is 35
 15. He thinks his hands are 55
 16. If I could change my looks 69
- (d) Problem Solving (1. How he characteristically responds to stress
2. Opinion of self as being able to master problems - is he a loser or winner?)
17. When things get rough 83

18.	I get so mad I could	3
19.	When I get mad	11
20.	When his parents yell at him	29
21.	When I can't have my way	42
22.	He wins arguments when	56
23.	When people make fun of her, she	70
24.	Some win, some lose, and I	84
25.	Anything you can do, I can do	4
 (e) Depression and Hope (What is the prevailing mood?)		
26.	When I am alone and think about things, I feel	17
27.	To me, my future looks	23
28.	I think my future	43
29.	Most of the time I feel	57
30.	Someday, I	76
 (f) Autonomy (1. Must include idea of relatedness - child is caught up with what others think of him. 2. Must include ideas of shame and doubt - the less the feelings of shame and doubt, the greater the feeling of autonomy.)		
31.	When I have to make a decision,	85
32.	When I have a problem, I	5
33.	When I have to do something no one else agrees with, I	18
34.	Other people think I do things	31
 (g) World View (Feeling for life - is it liveable? "I like it - I don't like it")		
35.	Life is worth	49
36.	Life is	58

37. If I changed my world	72
38. I feel the world is	86

II. Child Role

(a) Feelings Toward Mother, Father, Siblings

1. My mother is	6
2. When he was with his mother he felt	19
3. I secretly wish my mother would	32
4. When he thought of his father he	45
5. I secretly wish my father would	59
6. If only my father would	73
7. When things get tough for me, my brothers and sisters	87
8. I wish my brothers and sisters would	7

(b) Belongingness (Does child feel part of the family and how valued a member does he see self as being)

9. In my family, I am	20
10. My family treats me like	33
11. If I were to die, my family	46
12. Compared with most families, mine	60
13. When I was a child, my family	74

(c) Family Relationships (How the child feels about the relationship between his parents and interaction within the family)

14. My mother and father	88
15. Looking at my parents, I feel married life is	8
16. Although my parents argue, they	21
17. When my parents are together	34

18. In our family, we often	47
(d) Sexual Identification (masculine-feminine identity - how clearly they see themselves as male or female)	
19. Of all the people I know, I want to be like	61
20. With girls I feel	75
21. With boys I feel	89
22. Being a girl	9
23. Being a boy	22

III. Student Role (Get at subjective feelings)

(a) Attitude Toward School	
1. School is	41
2. When I think about school, I	48
3. When I am in school, I	66
4. The kid thought school work	71
5. Being a student makes me feel	90
(b) Satisfaction Felt Re Performance	
6. My school work is	10
7. I thought my report cards were	30
8. My teachers think I am	36
(c) Attitude Toward Authority (Does he accept it)	
9. Most teachers are	44
10. When I saw the teacher in the office	63
11. When the teacher told him what to do, he	77
12. When I break a school rule, I feel	93

(d) Behavior In Relation To School (Acceptance of behavior essential to student role)	
13. Kids who skip school	16
14. When kids talk back to the teacher	24
15. Keeping up with school work	37
16. If a student fails, he should	50

IV. Peer Role

(a) Value Of Group To Child (How important is the group to the child as a frame of reference. "Group" does not mean his friends or gang.)	
1. Among kids my own age, I generally feel	64
2. When the kid has to turn his friends down, he	78
3. If my friends are up to no good, I	91
4. When my parents say one thing, and my friends another, I	12
(b) How The Child Feels He Is Accepted By The Group	
5. His friends think he is	25
6. When I'm not around, my friends feel	38
7. When he is in trouble, his pals	51
(c) Leader-Follower (Does the child see himself as a leader)	
8. Some kids are leaders, some followers, and I	65
9. When I suggest something to do, my friends	79
10. When they put the kid in charge	92
11. When I have to tell others what to do, I feel	13

- (d) Sexual Relations (1. Physical attractiveness to opposite sex
2. Confirmation of sexual identity
3. How they see sex - healthy/unhealthy - can they see it as usual or natural expression of mutual respect.)

12. He felt sex	26
13. Being with boys	39
14. Being with girls	51
15. Girls see me as sexually	62
16. Boys see her as sexually	80

APPENDIX B

SENTENCE COMPLETION TEST

1. The kid was most afraid when _____
2. My friends think I am _____
3. I get so mad, I could _____
4. Anything you can do, I can do _____
5. When I have a problem, I _____
6. My mother is _____
7. I wish my brothers and sisters would _____
8. Looking at my parents, I think married life is _____
9. Being a girl _____
10. My school work is _____
11. When I get mad _____
12. When my parents say one thing and my friends another, I _____

13. When I have to tell others what to do, I feel _____
14. I believe I have the ability to _____
15. People seem to think that I _____
16. Kids who skip school _____
17. When I am alone and think about things, I feel _____
18. When I have to do something no one else agrees with, I _____

19. When he was with his mother, he felt _____
20. In my family, I am _____
21. Although my parents argue, they _____
22. Being a boy _____

23. To me, my future looks _____
24. When kids talk back to the teacher _____
25. His friends think he is _____
26. He felt sex _____
27. I have so many weaknesses that _____
28. Some people are good looking, and I _____
29. When his parents yell at him _____
30. I thought my report cards were _____
31. Other people think I do things _____
32. I secretly wish my mother would _____
33. My family treats me like _____
34. When my parents are together _____
35. My face is _____
36. My teachers think I am _____
37. Keeping up with school work _____
38. When I'm not around, my friends feel _____
39. Being with boys _____
40. The kid thinks he is _____
41. School is _____
42. When I can't have my way _____
43. I think my future _____
44. Most teachers are _____
45. When he thought of his father, he _____
46. If I were to die, my family _____
47. In our family, we often _____
48. When I think about school, I _____

49. Life is worth _____
50. If a student fails, he should _____
51. When he is in trouble, his pals _____
52. Being with girls _____
53. I know it is silly, but I'm afraid of _____
54. Compared to most kids, I am _____
55. He thinks his hands are _____
56. He wins arguments when _____
57. Most of the time I feel _____
58. Life is _____
59. I secretly wish my father would _____
60. Compared with most families, mine _____
61. Of all the people I know, I want to be like _____
62. Girls see me as sexually _____
63. When I saw the teacher in the office _____
64. Among kids my own age, I generally feel _____
65. Some kids are leaders, some followers, and I _____
66. When I am in school, I _____
67. Nobody knows that he is so afraid that _____
68. Unlike other people, I am _____
69. If I could change my looks _____
70. When people make fun of her, she _____
71. The kid thought school work _____
72. If I changed my world _____
73. If only my father would _____
74. When I was a child, my family _____

75. With girls I feel _____
76. Someday I _____
77. When the teacher told him what to do he _____
78. When the kid has to turn his friends down, he _____
79. When I suggest something to do, my friends _____
80. Boys see her as sexually _____
81. My fear sometimes forces me to _____
82. In a group of people I feel _____
83. When things get rough _____
84. Some win, some lose, and I _____
85. When I have to make a decision _____
86. I feel the world is _____
87. When things get tough for me, my brothers and sisters _____

88. My mother and father _____
89. With boys I feel _____
90. Being a student makes me feel _____
91. If my friends are up to no good, I _____
92. When they put the kid in charge _____
93. When I break a school rule, I feel _____

APPENDIX C

Instructions for Administration of Projective Sentence Schedule and Glue Sniffing Questionnaire.

Rationale (Read to Subjects):

"This is a research study to see how kids nowadays think and feel about different things."

Instructions (Given to Subjects in Writing):

1. Put your name on the top of the right hand corner.
2. Complete the sentences with the first thing that comes to your mind, and work as fast as possible.
3. There is no right or wrong answer. Your answers don't have to be logical and don't have to make complete sentences.
4. If you get stuck on a sentence and can't complete it immediately, just circle the number and come back to it later.
5. Please remain seated until everyone is finished. Then you will be asked to fill out a brief questionnaire.
6. Please don't compare answers with your neighbours, and remember to work as quickly as possible.

Administrators made no mention of glue sniffing prior to completion of the sentence schedule so as to avoid possible bias in responses.

APPENDIX D

GLUE SNIFFING QUESTIONNAIRE

1. Where do kids go to sniff glue, nail polish, etc?

2. What kind of stuff do kids sniff most?

3. Why do they choose to sniff that particular kind of stuff?

4. How many kids in your home room at school sniff?

5. Do most of these kids just try the stuff once, or very often?

6. Do most kids sniff alone or with others?

7. How do most kids get interested in sniffing?

8. Do these kids think sniffing is physically harmful? If so, why?

9. Do most kids who sniff also drink alcoholic beverages?

10. Why do kids bother to sniff at all?

APPENDIX F

SENTENCE COMPLETION SCHEDULE - SCORING SHEET

	FEAR	SELF- WORTH	BODY IMAGE	PROBLEM SOLVING	DEPRESSION AND HOPE	AUTONOMY	WORLD VIEW
SELF-CONCEPT	53	14	28	83	17	85	49
	67	27	35	3	23	5	58
	81	40	55	11	43	18	86
	1	54	69	29	57	31	72
		68		42	76		
		82		56			
		2		70			
		15		84			
				4			
CHILD ROLE	FEELINGS TOWARD PARENTS AND SIBLINGS	FAMILY BELONG.	FAMILY RELATION- SHIPS	SEXUAL IDENTITY			
	6	59	20	88	61		
	19	73	23	8	75		
	32	87	46	21	89		
	45	7	60	34	9		
		74	47	22			
STUDENT ROLE	ATT. TO SCHOOL	SELF SATIS- FACTION	ATT. TO AUTHORITY	BEHAVIOR IN SCHOOL			
	41	10	44	16			
	48	30	63	24			
	60	36	77	37			
	71		93	50			
90							
PEER ROLE	VALUE OF PEER GROUP	ACCEPT. BY PEERS	LEADER- SHIP ABILITY	SEX- IDENTITY & ATT.			
	64	25	65	26			
	78	38	79	39			
	91	51	92	51			
	12		13	62			
			80				

APPENDIX G

ANALYSIS OF GLUE SNIFFING QUESTIONNAIRE

The following is a compilation of the results obtained from the glue sniffing questionnaire answered by both glue sniffers and non-glue sniffers. The non-glue sniffers answered the questionnaire on the basis of their knowledge about sniffers.

1. Where they sniff:

Public	- 20%
Private	- 55%
Don't know	- 4%
No answer	- 2%

2. Substance used:

Glue	- 13%
Nail polish remover	- 81%
Other	- 1%
Don't know	- 3%
No answer	- 2%

3. Why this substance:

Easy to obtain	- 9%
Inexpensive	- 12%
Prefer effects	- 52%
Other	- 13%
Don't know	- 11%
No answer	- 3%

4. Numbers in school classroom that sniff:

All	- 2%
Most	- 13%
Some	- 49%
None	- 7%
Don't know	- 16%
No answer	- 13%

5. How often:

Once	- 17%
Often	- 58%
Don't know	- 23%
No answer	- 2%

6. With whom:

Alone	- 4%
With others	- 72%
Both	- 14%
Don't know	- 4%
No answer	- 6%

7. How became interested:

From others	- 58%
News media	- 0%
Other	- 16%
Don't know	- 14%
No answer	- 12%

8. Considered unhealthy:

Yes	-	33%
No	-	33%
Don't know	-	23%
No answer	-	11%

9. Is alcohol used also:

Yes	-	71%
No	-	16%
Don't know	-	9%
No answer	-	4%

10. Why do kids sniff:

For kicks	-	32%
Everyone else does	-	11%
To escape	-	16%
Other	-	28%
Don't know	-	10%
No answer	-	3%

The results from question seven support the suggestion that sniffing is a group phenomenon. They also support Dr. Gellman (1968) who says that glue sniffing is learned from the grapevine. Fifty-eight per cent became interested in sniffing from others. It would appear from these results (news media - 0%) that information provided through the news media has not had any significant effect on the practice of glue sniffing.

Only 33% of the sample appeared to realize that glue sniffing is unhealthy. Fifty-six per cent either don't know or believe that sniffing

is not unhealthy. These results suggest that an education program on the effects of glue sniffing is needed and might help in the prevention of this practice.

The results of question nine indicate that 71% use alcohol. This suggests that the same person who uses alcohol might also use glue. These findings differ from the results obtained by Sterling (1967) who found that sniffing and drinking were mutually exclusive habits.