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TITLE: LIFE EVENTS STRESS AND ITS RELATIONSHIP TO ADOLESCENT DRUG USE

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The present study investigated the relationship between life events stress and drug use among institutionalized and noninstitutionalized adolescents. The effects of gender on drug use and life events stress were also studied. Thirty-eight males from a state supported juvenile institution for adjudicated males and 39 females from a state supported juvenile institution for females were compared to control groups of 36 male and 42 female high school students from a rural southeastern Kansas county high school. The subjects were administered the Adolescent Life Change Event Scale (ALCES) and the Chemical Use Survey (CUS). The institutionalized subjects were asked to report the events they had experienced and the substances they had used for the one year period prior to entering the institution.

Group means for both dependent measures were analyzed using 2X2, male versus female by institutionalized versus noninstutionalized, analysis of variance. Results indicated significant differences for gender and institutional status on the ALCES. More specifically,

females and institutionalized subjects showed higher levels of stress than their male and noninstitutionalized counterparts. CUS scores also showed a significant difference for institutional status in that institutionalized subjects showed a higher degree of drug use than the noninstitutionalized subjects. When the substance use scores were covaried with the life events stress scores, significant differences appeared between genders and institutional status. More specifically, the institutionalized subjects and male subjects scored higher, indicating higher drug usage.

LIFE EVENTS STRESS AND ITS RELATIONSHIP TO ADOLESCENT DRUG USE

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Chapter 1

INTRODUCTION

The amount of research conducted today on drug use and abuse attests to the significance placed on this issue by behavioral scientists. They are evidently compelled by statistics reported in such studies as Johnston (1982) who reported on the drug use and related attitudes of high school seniors. Results of this sixth annual survey showed that although approximately two-thirds of all American students tried an illicit drug before they finished high school, the use of many illegal drugs, as well as cigarettes, was declining. About one in sixteen students drank alcohol daily and 41% had had five or more drinks in a row in the two weeks prior to the survey. Johnston concluded that these levels of substance use and abuse probably indicated the highest level of illicit drug use in the industrialized world.

More recent statistics are just as frightening. Larue and Bell-Bolek (1986) reported that a five year decline in drug use among high school seniors stalled in 1985. Of the students surveyed, 61% reported trying an illicit drug at some time, and 40% had used a drug other than marijuana. Cocaine had been tried by 17% of the students. It is interesting to note that while nearly 80% of seniors acknowledged the harmful effects of using cocaine, only 34% saw such a risk in experimenting with it.

Another important factor involved in drug abuse and its treatment is cost due to the large amount of time being spent on treatment of drug abusers. It is not uncommon for private hospitals to charge patients as much as $350 per day (Seligman, 1984). Outpatient programs which include both individual and group therapy can still cost up to $185 a week.

With the high cost of treatment, one would assume that clients who successfully complete their treatment program will discontinue their drug use. This is not the case however, as many are unable to live independently of their habit. The Chemical Abuse Addiction Treatment Outcome Registry system, which provides outcome evaluation for more than 60 treatment programs throughout the United States, has documented the completion rate for various facilities to be 75%. Of the 25% who do not complete treatment, 15% leave against medical advice (Hoffman, 1987). Coincidentally, program completion does not always mean the patient is cured. After one year follow-up, the percentage of addicts who remain addiction free decreases at varying rates.

Given the high incidence of drug abuse, the high cost of treatment, and the relative ineffectiveness of treatment of drug abuse, clearly more research on drug usage is warranted. One area deserving further study is the relationship between drug use and stress produced by life events. During the past two decades life event scales have been refined and used with a variety of populations.

However, a review of the literature has revealed few studies which have assessed the level of life events stress in adolescents adjudicated as delinquent. No studies exist which review delinquents' life events stress as related to drug use.

From the standpoint of cost and treatment effectiveness, much is to be gained from developing a clearer understanding of the stress produced by certain events and their subsequent effect on adolescent drug use. Mental health professionals need to understand the type of life experiences juvenile delinquents have had. This also holds true for drug abusing high school students who have not come into contact with the juvenile justice system. Further information about the relationship between life events stress and subsequent drug use could be helpful in implementing drug abuse prevention programs. If high levels of life events stress were discovered among juvenile delinquent drug users, drug prevention programs could include identification of high risk individuals (those who experienced a high number of stressful life events). These high risk adolescents could be helped to develop effective ways of coping with stress.

This study will investigate the relationship between life events stress and drug use among both institutionalized juvenile delinquents and noninstitutionalized adolescents. A second purpose is to investigate the effects of gender and institutional status on drug use and life events stress.

Review of Literature

Investigations into the causal factors of drug use and abuse have taken many forms. Researchers have attempted to establish a link between drug use and stress, (Duncan, 1977; Khantzian, Mack, & Schatzberg, 1974; Spradlin, 1972) believing that drug use may be a stress-produced disorder. The following will trace the development of life event scales as well as research issues concerning them.

Most of the research conducted has followed Holmes and Rahe's (1967) basic premise and usually their format. They constructed a checklist of 43 life experiences which, if experienced by an individual, would require a change in adjustment. The scale was called the Social Readjustment Rating Scale (SRRS). The original intent of the scale was to use it as a predictor of physical illness. The authors operated on the assumption, derived from the research, that certain clusters of life events contribute to illness. A sample of 394 subjects was used to rate a list of life events as to the degree of readjustment required if one was to experience them. As a reference point, the event "marriage" was given an arbitrary value of 500. The subjects were asked to rate the remaining events as requiring either more or less adjustment. A person's score was called Life Change Units (LCU's). Pearson correlations were computed between the ratings given by several discrete groups divided according to age, sex, race, religion, and amount of education. All of the coefficients were above .90 with the

exception of the correlation coefficient between whites and blacks, which was .82. The occurrence of each life event usually caused, or was associated with some adaptive or coping behavior on the part of the individual involved. Thus, each item was constructed to contain a life event whose advent was either indicative of or required a significant change in the ongoing life pattern of the person.

Extending Holmes and Rahe's work on stress and its relationship to physical illness to the psychological domain, Vinokur and Selzer (1975) focused on the desirability or undesirability of the events as perceived by each subject, rather than on a predetermined classification by judges as done in earlier studies. They also demonstrated, more clearly than before, that life events produce stress, which in turn contributes to psychological impairment. The questionnaire included a modified version of the Holmes and Rahe scale. Three different scores were used in determining the desirability and undesirability of the life-events checked by each subject. The first score consisted of the number of events checked. The second consisted of the sum of the life change units of the checked events, based on Holmes and Rahe's scale. The third score consisted of the sum of the respondent's self-ratings of the amount of pressure and degree of adjustment required by each life event. Each respondent was to specify its degree of desirability or undesirability. Respondents felt themselves

more greatly stressed by undesirable events, a contrast the authors felt has not been sufficiently brought out by the life change unit score of other scales.

Going a step beyond the scope of Vinokur and Selzer's research, Ross and Mirowsky (1979) studied the ability of life events to predict psychiatric symptoms. They compared 23 methods of weighting life-events in terms of how well they predicted psychiatric symptomatology. The authors compared the traditional undesirability indices to determine which best predicted psychiatric symptomatology, then tested to see if the most predictive undesirability index predicted symptomatology. A sample of 720 subjects were given a checklist of life events and an instrument measuring psychiatric symptoms. The data were collected, and the weights applied to the data one at a time. Results showed that the most predictive and efficient undesirability index consisted simply of adding up the undesirable events and that the modified Holmes and Rahe scale predicted symptomatology no better than the SRRS.

Since the introduction of the Holmes and Rahe life events checklist, other researchers have attempted to clarify many methodological issues. Several studies have assessed the methods and content of previous life events research. For example, Rabkin and Struening (1976) have attempted to identify variables that may mediate the impact of stressful events on individuals and groups. They expressed concerns regarding the definitions and statistics

used by researchers. They noted that due to the very large sample sizes used in life events research, even very small correlations of no practical utility may pass tests of statistical significance. Reported coefficients have often been below .30, suggesting that life events may account at best for only 9% of the variance in illness. Reported reliability and validity of the weighting systems ranged from .26 to .90. Rabkin and Struening suggested that the quality of recent work surpasses that of earlier studies. Many of their suggestions for methodological improvement have been incorporated into more recent research.

Like Rabkin and Struening, Cochrane and Robertson (1973) completed a methodological review of life events research. They perceived three deficiencies that reduced the usefulness of the Holmes and Rahe Schedule of Recent Experiences (SRE), another name for the SRRS discussed previously. These three concerns included: (a) Many of the items on the SRE were not appropriate to be general measures of recent life stress. Some were very trivial, for example, the event "Christmas," and some were relevant only to a small number of people, such as, "major business readjustment;" (b) The SRE was not comprehensive in the items listed; and (c) Assigned weights for each item were not available from patients or from other groups most likely to have experienced large amounts of stress caused by the events. In order to correct these deficiencies, 125 psychiatric patients were asked to rate a modified version

of the SRE. They were also asked if any of the events had happened to them in the previous year. Spearman rank order correlation coefficients were calculated between the rank order of the mean weightings (or ranks), which were assigned by three different groups, university students, psychiatric patients, and a group of psychiatrists and psychologists. The following correlation coefficients were computed: patients and psychiatrists .82, patients and students .74, and psychiatrists and students .94. These results confirmed the ability of diverse groups to assign similar ranks to the items.

Another issue regarding life events research is the rating (scaling) of each event with numerical values. Ruch and Holmes (1971) replicated the study by Holmes and Rahe using different samples to further test the amount of agreement between the two samples. The secondary purpose was to compare Holmes and Rahe's scaling methods, with the paired comparisons method, which paired each item with every other item. For the latter method, an adolescent group and an adult group were asked to compare and underline the member of each pair judged to be more serious for the average person. The Spearman's rank order correlation coefficient for these adult and adolescent groups was .97. Comparison of Holmes and Rahe's magnitude estimation and the paired comparisons scale scores yielded similar results in the adolescent group. The Spearman's coefficient was .93.

The rating of life events scales has been studied extensively (Chiriboga, 1977; Dohrenwend, Krasnoff, Askenasy, & Dohrenwend, 1978; Monaghan, Robinson, & Dodge, 1979). Except for minor alterations, researchers have generally concluded that the scaling methods used in life events scales like that of Holmes and Rahe are as empirically sound as other methods.

Komaroff, Masuda, and Holmes (1968) investigated the ratings given to life events in terms of the amount of adjustment required, by two American subculture groups, urban Negroes and Mexican Americans. A sample of each group was drawn from a poverty area in Los Angeles, California. The main purpose of the study was to determine whether the SRRS ratings given by the two samples differed from the white American middle-income group of Holmes and Rahe's original study. Subjects were given the list of life events and asked to rate them with a number they felt represented the magnitude of the adjustment that would be necessary in dealing with the event. A comparison of the mean item score rank orders of the white American group and the Negro group showed a correlation coefficient of .798. The Mexican American and black subculture groups were more closely related to each other than to the white American middle-income group.

This study illustrated that the instrument can be utilized with people of different cultures and backgrounds and still be useful. Rahe (1969) expanded this research by

conducting a study to assess the ratings given by groups of American, Japanese, Swedish, and Danish subjects, to determine if these groups differed in their assigned ratings. Each subject was given a list of events and asked to rank the events in order of severity of stressfulness. Results showed no significant differences in ranks. The highest agreement in their rank orderings was found between the Swedish and American samples (r = +.943), while the lowest agreement was found between the Japanese and Danish samples (r = +.629).

Although much of the initial life events research was a review of methodological issues, during the past ten years the focus of the research has changed from adults to adolescents. Coddington (1972b) was the first to adapt life events scales for use with adolescents. His study established normal values of LCU's for children. Several variables, including sex, race, socio-economic class, religion, and age, were computed to determine if LCU values differed significantly in relation to these variables. Parents of 3,526 children from Columbus, Ohio were interviewed to determine if their children had experienced any of the items on the checklist. Different lists were used for preschool, elementary, junior high, and senior high school students. The average number of life events that occurred in each group was computed, and the average amount of social readjustment required in terms of LCU's was calculated by applying values determined by a previous study

(Coddington, 1972a). Correlation coefficients between all groups failed to reveal any differences except for the age variable. A mean of 3.37 events occurred to all subjects.

Past scales of life change for adolescents have used adults to assign the weights for the amount of readjustment required by events. Yamamoto (1979) and Yeaworth, York, Hussey, Ingle, and Goodwin (1980) used adolescents to rate items, hypothesizing that these ratings would be more reliable. Yamamoto attempted to ascertain if children assessed experiences in terms of stress and if their perceptions agreed with adults' in relation to the ratings assigned to events. Classroom teachers presented twenty life events to fourth, fifth, and sixth graders in six southwestern metropolitan schools. Each experience was rated on a scale ranging from the <u>least upsetting</u> (1) to the <u>most upsetting</u> (7). In addition, children indicated whether an event had been personally experienced. It was concluded that children assessed the stressfulness of life events in a discriminating manner. Experiences such as "loss of sight," and "pants wetting" were infrequently experienced, yet very upsetting. For some events, for example, "loss of parent," children's own judgments appeared to coincide with evaluations made by professionals.

Yeaworth et al. (1980) undertook a study to develop a life change event scale which utilized items of importance to adolescents. The subjects had a mean age of 14.1 and a mean grade of 8.4. Thirty-one items made up the first

section of the test where the respondents were asked to rate each item as to how upset they would be if it happened to them. The second portion of the questionnaire repeated each item to ascertain if the subject had actually experienced the event. Results showed that adolescents rated events related to death and separation as being the most stressful. The authors suggested that this questionnaire be given to a larger sample of adolescents from other socioeconomic, racial, and cultural backgrounds before final weightings were assigned to the scale.

Tracing the development of life events scales, it is clear that they have been thoroughly reviewed. Since the initial development of the SRRS by Holmes and Rahe (1967), researchers have been refining their methods. The fact that certain experiences cause individuals stress has become widely accepted, (Cochrane & Robertson, 1973; Coddington, 1972a; Coddington, 1972b; Dohrenwend, et al. 1978; Forman, Eidson, & Hagan, 1983; Vinokur & Selzer, 1975).

As mentioned previously, however, research between stressful life events and adolescent drug abuse has been sparce. Duncan (1977) conducted a study to develop quantitative, analyzable data measuring life stress in relation to adolescent drug dependence. Coddington's Life Event Record (LER) was administered to all applicants to a halfway house for adolescent drug abusers. Each of the 31 applicants was asked to describe his/her history of drug use and to identify those events on the LER which had occurred

to them during the year prior to when they started using drugs. Data from the LER's of the subjects were compared to Coddington's (1972b) data for 1,014 junior high school and 913 senior high school adolescents. Significant differences were found when comparing the mean of the drug dependent subjects to the normative mean. Results also indicated that higher levels of stress were needed to induce drug abuse by younger adolescents. Duncan suggested that further research on the relationship between life events and drug abuse be conducted.

Hence, the current study is designed to expand Duncan's findings. Further information will be gained regarding the types of events experienced by institutionalized and noninstitutionalized youth as well as the relationship of life events to drug use.

Chapter 2

METHOD

Subjects

The sample in this study included 38 institutionalized males from a state supported juvenile institution for males and 39 females from a state supported juvenile institution for females. Seventy-eight noninstitutionalized students from a rural southeastern Kansas county high school (36 males and 42 females) were also included. The adolescents ranged in age from 13 to 18 years. The mean age of the four groups was as follows: institutionalized males, 16.6; institutionalized females, 15.4; noninstitutionalized males, 16.4; noninstitutionalized females, 16.4. Regarding the ethnic composition of the subjects, the groups consisted of the following: institutionalized males, 30 white, 5 black, 2 Hispanic, 1 mullatto; institutionalized females, 21 white, 13 black, 4 American Indian, 1 Hispanic; noninstitutionalized males, 34 white, 1 American Indian, 1 Hispanic; noninstitutionalized females, 42 white.

Questionnaires

All subjects were given the Adolescent Life Change Event Scale (ALCES) (Yeaworth, et al., 1980), an instrument designed to provide a measure of stress (See Appendix). Each respondent was asked to indicate whether or not they had experienced any of 31 events. Each event has been assigned a weight which corresponds to the amount of stress an

individual would experience if it were to happen to them. For instance, the event "death of parent," a very stressful experience, is assigned a weight of 98, while the event "brother or sister getting married," a minor event in terms of stress, is assigned a weight of 26. The subject's scores were obtained by adding the corresponding weight of each item experienced by the respondent, thus giving a total life events stress score. The possible range of scores was zero to 1979.

One of the original intentions in developing the ALCES was to examine life events in adolescents who were identified as "acting out," therefore, the items dealing with sex and violence were not included when Yeaworth et.al. selected the items for the scale. The events relating to sexuality are as follows: "being raped," "getting pregnant," and "having sex with girls." Violent, aggressive events, included: "getting beat up," "killing someone," "stealing," and "wrecking a car."

Reliability of the ALCES has been demonstrated by Ferguson (1981). The Spearman rank-order correlation coefficient technique was used to compare the ranking of items given by three groups (gifted, non-gifted, and Yeaworth's original sample). The correlation coefficient ranged from .94 to .38 on the list of 31 items. Validity data on the ALCES has been provided by Forman et al. (1983). They asked a group of high school students to rank-order the statements from most upsetting to least upsetting. These ranks were compared to those reported by Yeaworth et al.

(1980) using Spearman's rho. In each case, rho exceeded .90 ($p<.001$), indicating a very high degree of correspondence in the ranking of items.

The subjects were also given the Chemical Use Survey (CUS), a questionnaire on which the respondent indicates his/her level of use of nine substances during the past year (See Appendix). The subjects reported their level of use on a five point Likert type scale ranging from zero (no use) to four (daily use). Their responses were added to obtain a total substance use score. The possible range of scores was zero to 40. The categories on this survey have been used clinically as a screening device by the staff at the Youth Center at Topeka, Topeka, Kansas (C. Muiu, personal communication, February 10, 1988).

Procedures

The questionnaires were administered in groups of approximately 15 subjects. The institutionalized female group was tested by clinical staff, while the three remaining groups were tested by the author. An introduction to the study was read orally to the groups (See appendix). The introduction described the purpose of the research and gave any person an opportunity to leave if he/she was not interested in participating. Instructions for completing the questionnaires were given as well as a request that no one talk while answering the questions. Completing both questionnaires took approximately ten minutes.

To control for the stabilizing effect institutionalization may have on the drug use and life experiences of the institutionalized subjects, these respondents were instructed to indicate the substances they had used, as well as the life events they had experienced, one year prior to entering the institution.

CHAPTER 3

RESULTS

It will be recalled that the primary purpose of the present study was to investigate the level of life events stress experienced by the subjects as well as the frequency of their use of drugs. More specifically, this study was designed to determine if differences existed between a group of institutionalized juveniles and a group of noninstitutionalized juveniles on these dependent measures. Another purpose of the study was to examine the effects of gender on life events and drug use.

The means and standard deviation for the ALCES and CUS are presented in Table 1. Separate analysis of variance were computed for each dependent measure. A 2X2, male versus female by institutionalized versus noninstitutionalized, design was used to analyze the results.

TABLE 1

Mean ALCES and CUS Scores and Standard Deviations by Gender and Institutional Status

Group	ALCES		CUS	
	Means	Standard Deviations	Means	Standard Deviations
Institutionalized Males	804.55	335.30	16.55	9.35
Institutionalized Females	1026.18	340	16.18	9.73
Noninstitutionalized Males	310.03	231.66	4.28	3.95
Noninstitutionalized Females	416.40	216.81	3.38	4.24

Analysis of ALCES scores indicated that females scored significantly higher than males, $F(1,151) = 12.695$, $p<.001$ (See Table 2). Significant differences were also found on the institutional status of the subjects. Adolescents in the youth centers displayed significantly higher levels of life events stress than the high school groups, $F(1,151) = 143.902$, $p<.001$. The gender by institutional status interaction was not found to be significant, therefore no specific comparison procedure was required.

TABLE 2

Summary of Analysis of Variance for ALCES Scores

SOURCE	SS	df	MS	F	p
Gender	1039040.372	1	1039040.373	12.695	<.001
Institutional Status	11777371.727	1	11777371.727	143.902	<.001
Gender X Institutional Status	128279.053	1	128279.053	1.567	.210
Error	12358328.188	151	81843.233		
Total	25003019.340	154			

The analysis of variance performed on the CUS data resulted in significant institutional effects $F(1,151) = 113.043$, $p<.001$, with the institutionalized group scoring higher (See Table 3). The gender effect as well as the interaction effect revealed no significant differences regarding substance use.

TABLE 3

Summary of Analysis of Variance for CUS Scores

SOURCE	SS	df	MS	F	p
Gender	15.576	1	15.576	.290	
Institutional Status	6071.565	1	6071.565	113.043	<.001
Gender X Institutional Status	2.649	1	2.649	.049	
Error	8110.265	151	53.710		
Total	14200.055	154			

To determine the robustness of the institutional status effects on substance use when life events stress was controlled, CUS scores were covaried with ALCES scores. Males displayed a higher level of substance use than females, $F(1,150) = 5.534$, $p<.018$. Likewise, institutionalized subjects scored significantly higher than noninstitutionalized subjects, $F(1,150) = 16.251$, $p<.001$. There was, however, no significant interaction effect on the gender by institutional status comparison (See Table 4).

TABLE 4

Summary of Analysis of Covariance of CUS Covaried With ALCES

SOURCE	SS	df	MS	F	p
Gender	234.249	1	234.249	5.534	.018
Institutional Status	687.957	1	687.957	16.251	.001
Gender X Institutional Status	8.026	1	8.026	.190	
Error	6349.829	150	42.332		
Total	7280.061	153			

The number of life events reported by the subjects ranged from zero to twenty-six, with means ranging from 5.25 for noninstitutionalized males to 15.95 for institutionalized females. The frequency with which specific life events were reported by each group is recorded in Table 5.

TABLE 5

Frequency of Reported Life Events

	Frequency			
	Youth Center Males	Youth Center Females	High School Males	High School Females
1. Starting a new school	29	32	4	7
2. Family member (other than yourself) having trouble with alcohol	18	25	6	11
3. A parent dying	5	10	2	2
4. Failing one or more subjects in school	22	27	9	3
5. Quitting school	20	17	1	0
6. Close friend dying	11	23	3	6
7. Getting badly hurt or sick	19	21	4	9
8. Trouble with teacher or principal	21	23	9	12
9. Parent getting very sick	17	24	7	13
10. Being arrested by the police	29	32	2	2
11. Hassling with brother or sister	19	24	15	25
12. Having problems with any of the following: acne, overweight	11	24	11	26
13. Losing your job	14	11	4	2
14. Breaking up with a close girlfriend	20	35	8	18
15. Losing a favorite pet	9	11	3	9
16. Brother or sister dying	3	8	0	1
17. Close girlfriend getting pregnant	11	15	2	12
18. Parent losing a job	9	14	2	6
19. Hassling with parents	23	29	14	28
20. Getting into drugs or alcohol	30	33	10	8
21. Moving to a new home	17	23	5	8
22. Parents getting divorced or separated	11	14	4	3
23. Flunking a grade in school	15	19	5	1
24. Change in physical appearance	7	13	3	7
25. Starting menstrual period (for girls)	--	15	--	5
26. Having someone new move in with your family	14	14	3	6
27. Starting a new job	11	14	7	20
28. Mother getting pregnant	3	9	3	2
29. Starting to date	22	18	13	28
30. Making new friends	34	35	23	36
31. Brother or sister getting married	13	11	6	5

The life events most often selected by the subjects were ones which may be considered normal experiences for most adolescents. For instance, the events "making new friends," "hassling with parents," and "starting to date," were selected by a majority in each group. Items regarding the death of a family member or friend were selected by very few subjects except in the institutionalized groups. Eleven males reported the death of a close friend, while ten females reported the death of a parent and 23 reported the death of a close friend.

Regarding responses on the CUS, the most frequently used substance in all groups was tobacco, followed by alcohol and marijuana. The institutionalized subjects showed the highest level of daily use. They also reported more moderate use (one or two times per week) and more experimental use (less than four times), even with the so called "harder" drugs. The majority of high school students reported that they had never used most of the substances listed or had only experimented with them. The tenth category on the CUS allowed respondents to write in any unlisted substances they had used. Several took advantage of this opportunity, reporting the use of glue, rush, crank, and embalming fluid. Most of these substances were used by the institutionalized subjects. The frequency of use for each substance is reported in Table 6.

TABLE 6

Frequency of Reported Substance Use

	Youth Center Males (38)					Youth Center Females(34)					High School Males (36)					High School Females(42)				
	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
Tobacco	2	1	1	4	30	8	1	0	1	29	15	8	2	2	9	31	4	0	2	5
Alcohol	4	3	3	14	14	1	5	7	12	14	8	7	6	14	1	8	12	14	15	3
Marijuana	7	3	5	9	14	3	7	2	8	19	26	5	2	2	1	37	2	2	0	1
Hallucinogens	19	6	5	5	3	23	5	5	2	4	33	3	0	0	0	38	1	2	0	1
Amphetamines	13	5	6	10	4	10	9	6	7	7	31	3	1	1	0	36	1	2	2	1
CNS Depressants	16	6	7	9	0	21	6	6	4	2	35	1	0	0	0	39	2	1	0	0
Heroin	27	5	3	1	2	28	5	2	1	3	35	1	0	0	0	41	1	0	0	0
Cocaine	19	4	3	4	8	17	6	5	5	6	34	2	0	0	0	40	2	0	0	0
PCP	22	9	2	3	2	29	4	3	1	2	35	1	0	0	0	41	1	0	0	0

Category Code

0- Never
1- Less than four times
2- One or two times a month
3- One or two times a week
4- Almost daily or daily

CHAPTER 4

DISCUSSION

The results of this study supported the hypothesis that institutionalized subjects would show significantly higher levels of life events stress and substance use. There was also support that a differentiation was made according to gender on the measure of stress. More specifically, females scored higher. Although no interaction effect was found between gender and institutional status on either dependent measure, there was some support that substance use was related to life events stress. These differences will be discussed to further analyze the study's results and to explore their implications.

The results indicated that noninstitutionalized subjects used less drugs than their institutionalized counterparts, thus supporting the original hypothesis. Alcohol was the drug of choice for both noninstitutionalized males and females. Most reported moderate or frequent use (one or two times per week or one or two times per month). Thirty-nine percent of males consumed alcohol one or two times per week compared to 12% of females.

The use or other substances by the noninstitutionalized subjects was negligible, as only two females reported everyday use of amphetamines and hallucinogens. No males reported using any of the six remaining substances. Experimentation with the so called harder drugs was reported by seven of the 78 noninstitutionalized subjects. Marijuana

use was similar to that of the harder drugs listed with the exception of the male group. Their responses reflected more willingness to experiment with marijuana than did the females.

As stated previously, the prevalence of use among institutionalized respondents during the one year period prior to entering the institution was significantly higher than that of the noninstitutionalized group. The most frequently used substance was tobacco, followed by alcohol and marijuana. The male subjects reported the same percentage of everyday use for alcohol and marijuana (36%), while the females reportedly used marijuana more often than alcohol. The percentage of females using marijuana everyday was 49% while the percentage using alcohol everyday was 36%. As with the noninstitutionalized group, the remaining substances were used with predominantly less frequency than tobacco, alcohol, and marijuana. However, the institutionalized subjects' use of these substances was still higher than that of the other group. They were involved in more experimental and moderate use of these drugs, 21% of the males reportedly used cocaine each day while 18% of the females used amphetamines. Amphetamines and cocaine were the drugs of choice from the substances listed.

These results lead one to question why such substance use is taking place. An explanation has been put forth by Khantzian, Mack and Schatzberg (1974). According to them, what appears to be unique about drug users is the role that the drug plays in the personality organization of users.

They have not established common adaptive mechanisms as a way of dealing with their distress. Instead, they have resorted to the use of drugs as a way of coping with a range of problems involving ordinary anxiety, disappointment, anguish, and other suffering. Failing to adapt more common adaptive mechanisms to resolve their suffering, they have resorted to the extraordinary solution of drug use. In other words, the more familiar path to adaptive coping has been replaced by the stability of the moment that can be provided by drugs. Adolescents often seek the fastest relief from distress rather than finding more adaptive means of dealing with it. The responses given by the institutionalized subjects in this study appear to support such conclusions. Their tendency to abuse drugs may be viewed as a maladaptive way of coping with the life events they have experienced. The patients in the Khantzian et al. (1974) study gave clear indications that the pharmocological properties of certain drugs strongly influenced a range of feelings and emotions. The loss of a friend, anticipated inability to live up to parental expectations and loneliness were all events which were made more manageable through the use of drugs. Similar experiences were reported by the subjects in the present study.

As indicated, drugs provide a buffer for dealing with various human interaction (Hoffman, 1987). Adolescents characterized as delinquent often become part of a drug culture. This culture represents, for many, the first place they have achieved a sense of belonging and acceptance. In

many cases, the difficulty these individuals have interacting in the larger society is removed by their becoming an element in the drug culture. Although acceptance in the drug culture is often superficial, it may be preferred to a society in which they feel they have no role.

A body of research supporting this stress-reduction theory of drug use has been developing for several years (Duncan, 1974; Duncan, 1977; Singer, 1974; Zimmering, Toolan & Safrin, 1952). By reviewing such research in a theoretical perspective, important implications for drug abuse treatment and prevention are revealed. The central problem for most people who have become addicted to drugs is that they have failed to develop effective adaptive solutions in response to stress. Their response has been to revert to the use of drugs, thereby preventing the development of other solutions that would normally develop and that might better help them cope. It is on this basis that addicts are probably so dependent on their drugs and have so little confidence that they can survive without them. The use of drugs is their characteristic way of dealing with their inner emotions and the real world around them (Khatzian et al., 1974). Therefore, learning more effective ways of coping with life experiences seems to be the solution. According to Douglas (1987), recovery from addiction does not occur through treatment, but by beginning a new life. By disposing of previous, more maladaptive coping methods, drug users can begin a new life by learning more effective and socially acceptable ways of dealing with life events stress.

Much is gained from developing a clearer understanding of the stress produced by certain events and their subsequent effect on adolescent drug use. Results of this study seem not to lend complete support to this theory. For instance, females displayed the highest level of stress. However, when the level of stress was controlled, males displayed higher levels of drug use. On the other hand, institutionalized subjects displayed the highest level of life events stress and drug use. Even when the level of stress was controlled, they showed significantly higher levels of substance use than the control group. This data from the institutionalized subjects seems to lend some support to the stress-reduction theory.

Many factors could contribute to the present results. Characteristics of the institutionalized population could account for them. Socio-economic, familial, and cultural factors should be researched to evaluate their influence on studies utilizing substance use and life events scales.

Limitations and Implications

The present study contains several limitations that warrant some caution when interpreting the study's results. The major limitation concerns the scope of the stress measure used. Some researchers would prefer a more global assessment of stress rather than the single aspect of life events stress. Obtaining a measure of only one facet of stress somewhat limits the findings. Research providing such data could be the focus of further research.

Another limitation of the study relates to the demographic composition of the subjects. The data was collected from a high school of predominently white middle-class students. Only one Hispanic and one American Indian student were included in the noninstitutionalized sample. The ethnic composition of the institutionalized subjects was similar to the control group in that minorities were under- represented. Further research should investigate the effects of race and ethnic background on life events stress and drug use.

As mentioned previously, when the ALCES was developed the authors were studying adolescents identified as "acting out" and therefore removed certain items which were more likely to happen to that type of individual. However, items such as "being arrested by the police" and "getting into drugs and alcohol" still remain on the scale. These events were experienced by several students. Such items overlap with the institutionalized status variable. Further research mignt control for this variable. Perhaps a scale with such items omitted might be developed.

Despite the limitations described above, the present findings would seem to hold several implications for future research. It is not altogether clear whether certain experiences have had an effect on drug use. Further exploration of such a relationship may provide better approaches to treatment and prevention. Further research into a stress-reduction theory of drug use seems warranted.

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APPENDIX

Introduction

This study is about the experiences and behavior of adolescents. The purpose of the project is to examine the relationship between life experiences and subsequent drug use.

We would like to encourage as many people as possible to participate, however, participation in the study is strictly voluntary. For all who decide to participate, the information you provide will be completely confidential, and will not be associated with your name. No one outside of the research staff will see your responses to the questions.

In order for our study to be of value, it is important that you answer the questions honestly. We appreciate your willingness to help with this project. Please answer the questions regarding your age, sex, and race at the bottom of this page. Do not put your name on the questionnaire. The directions for each item are given on the questionnaire.

Feel free to ask questions at any time. Please begin.

Age: _____

Sex: Male _____ Female _____

Race: White _____ Black _____ Hispanic _____

Other (specify) _____

ADOLESCENT LIFE CHANGE EVENT SCALE

Directions: For each event listed below, indicate whether or not you have experienced that event in the past year. If you have, circle "A" for Yes, if you have not, circle "B", for No.

Life Event	Yes	No
Starting a new school	A	B
Family member (other than yourself) having trouble with alcohol	A	B
A parent dying	A	B
Failing one or more subjects in school	A	B
Quitting school	A	B
Close friend dying	A	B
Getting badly hurt or sick	A	B
Trouble with teacher or principal	A	B
Parent or relative in your family (other than yourself) getting very sick	A	B
Being arrested by the police	A	B
Hassling with brother or sister	A	B
Having problems with any of the following: acne, overweight, underweight	A	B
Losing your job	A	B
Breaking up with a close girlfriend or boyfriend	A	B
Losing a favorite pet	A	B
Brother or sister dying	A	B
Close girlfriend getting pregnant	A	B
Parent losing a job	A	B
Hassling with parents	A	B
Getting into drugs or alcohol	A	B
Flunking a grade in school	A	B
Moving to a new home	A	B
Parents getting divorced or separated	A	B
Change in physical appearance such as braces or glasses	A	B
Starting menstrual period (for girls)	A	B
Having someone new move in with your family (grandparent, adopted brother or sister, or other)	A	B
Starting a new job	A	B
Mother getting pregnant	A	B
Starting to date	A	B
Making new friends	A	B
Brother or sister getting married	A	B

Chemical Use Survey

Directions: Circle the number that best describes how often you used each listed substance during the last year.

	Never	Less than four times	1 or 2 times a month	1 or 2 times a week	Almost daily or daily
Tobacco	0	1	2	3	4
Alcoholic beverages (eg. beer, wine, whiskey)	0	1	2	3	4
Marijuana	0	1	2	3	4
Hallucinogens (eg. LSD, acid, Peyote)	0	1	2	3	4
Amphetamines (eg. uppers, speed)	0	1	2	3	4
CNS Depressants (eg. Barbiturates, downers, reds)	0	1	2	3	4
Heroin	0	1	2	3	4
Cocaine (eg. crack)	0	1	2	3	4
PCP (angel dust)	0	1	2	3	4
Other _____ (specify)	0	1	2	3	4