

AD-A173 665

EGO IDENTITY SELF ESTEEM AND SUBSTANCE USE DURING  
ADOLESCENCE(U) ARIZONA UNIV TUCSON COLL OF MEDICINE  
R M JONES ET AL 24 AUG 85 UARZ/COM-86/3

1/1

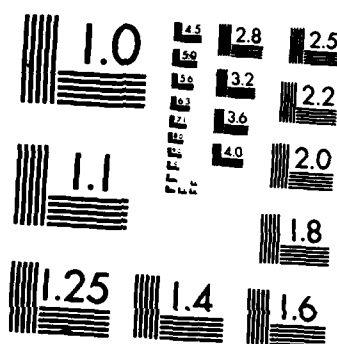
UNCLASSIFIED

N00244-84-D-1509

F/G 5/10

NL





MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

SECURITY CLASSIFICATION OF THIS PAGE

## REPORT DOCUMENTATION PAGE

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           |                                          |                                                                                                                                                                                 |                                                                 |                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-------------------------|
| 1a. REPORT SECURITY CLASSIFICATION<br><u>unclassified</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           |                                          | 1b. RESTRICTIVE MARKINGS                                                                                                                                                        |                                                                 |                         |
| 2a. SECURITY CLASSIFICATION AUTHORITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |                                          | 3. DISTRIBUTION / AVAILABILITY OF REPORT<br><br><u>unclassified/unlimited</u>                                                                                                   |                                                                 |                         |
| 2b. DECLASSIFICATION / DOWNGRADING SCHEDULE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |                                          |                                                                                                                                                                                 |                                                                 |                         |
| 4. PERFORMING ORGANIZATION REPORT NUMBER(S)<br><br><u>UARZ/COM-86/3</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |           |                                          | 5. MONITORING ORGANIZATION REPORT NUMBER(S)                                                                                                                                     |                                                                 |                         |
| 6a. NAME OF PERFORMING ORGANIZATION<br><u>University of Arizona<br/>College of Medicine</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           | 6b. OFFICE SYMBOL<br>(If applicable)     | 7a. NAME OF MONITORING ORGANIZATION                                                                                                                                             |                                                                 |                         |
| 6c. ADDRESS (City, State, and ZIP Code)<br><u>FCM/NADSAP<br/>Health Sciences Center<br/>Tucson, AZ 85724</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |           |                                          | 7b. ADDRESS (City, State, and ZIP Code)                                                                                                                                         |                                                                 |                         |
| 8a. NAME OF FUNDING / SPONSORING ORGANIZATION<br><u>Department of the Navy</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           | 8b. OFFICE SYMBOL<br>(If applicable)     | 9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER<br><br><u>N00244-84-D-1509</u>                                                                                                  |                                                                 |                         |
| 8c. ADDRESS (City, State, and ZIP Code)<br><u>Naval Supply Center<br/>937 North Harbor Drive<br/>San Diego, CA 92132-5075</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |           |                                          | 10. SOURCE OF FUNDING NUMBERS                                                                                                                                                   |                                                                 |                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           | PROGRAM ELEMENT NO.                      | PROJECT NO.                                                                                                                                                                     | TASK NO.                                                        | WORK UNIT ACCESSION NO. |
| 11. TITLE (Include Security Classification)<br><br><u>Ego Identity, Self Esteem and Substance Use during Adolescence.</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           |                                          |                                                                                                                                                                                 |                                                                 |                         |
| 12. PERSONAL AUTHOR(S)<br><u>Jones, Randall M.; Hartmann, Barbara R.</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |                                          |                                                                                                                                                                                 |                                                                 |                         |
| 13a. TYPE OF REPORT<br><u>Final</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           | 13b. TIME COVERED<br>FROM _____ TO _____ |                                                                                                                                                                                 | 14. DATE OF REPORT (Year, Month, Day)<br><u>August 24, 1986</u> |                         |
| 15. PAGE COUNT<br><u>14</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |           |                                          |                                                                                                                                                                                 |                                                                 |                         |
| 16. SUPPLEMENTARY NOTATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |                                          |                                                                                                                                                                                 |                                                                 |                         |
| 17. COSATI CODES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |                                          | 18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)                                                                                               |                                                                 |                         |
| FIELD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | GROUP     | SUB-GROUP                                | <u>Adolescent Development. Adolescents. Drinking. Drug Use. Self-Esteem. Smoking. Drug Abuse. Interpersonal Communication. Interpersonal Relationship. Secondary Education.</u> |                                                                 |                         |
| <u>05</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <u>10</u> |                                          |                                                                                                                                                                                 |                                                                 |                         |
| <u>06</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <u>15</u> |                                          |                                                                                                                                                                                 |                                                                 |                         |
| 19. ABSTRACT (Continue on reverse if necessary and identify by block number)<br><br>The similarity of factors which mediate psychosocial maturity and those which are associated with substance use or abuse suggests a reciprocal relationship between ego identity development and behavior. Because substance use has increased in our society, has become socially acceptable in some contexts, and has an effect on the perception of experience, it is a potential component of normal ego identity development. The Personal Opinion Survey (POS), a questionnaire measuring demographic information; past and present involvement with alcohol cigarettes, and illicit drugs; and ego identity development was administered to 2,612 adolescents. The Extended Version of the Objective Measure of Ego Identity Status (EOM-EIS) incorporated in the POS, measured ego identity in occupational, religious, political, and social contexts with respect to ideological and interpersonal dimensions. Respondent gender was significantly related to six of the eight ego identity subscales: namely, ideological achievement, moratorium, and foreclosure, and interpersonal achievement, foreclosure and diffusion. Interpersonal achievement scores increased with all substance use categories |           |                                          |                                                                                                                                                                                 |                                                                 |                         |
| 20. DISTRIBUTION / AVAILABILITY OF ABSTRACT<br><input type="checkbox"/> UNCLASSIFIED/UNLIMITED <input checked="" type="checkbox"/> SAME AS RPT. <input type="checkbox"/> DTIC USERS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           |                                          | 21. ABSTRACT SECURITY CLASSIFICATION<br><u>unclassified/unlimited</u>                                                                                                           |                                                                 |                         |
| 22a. NAME OF RESPONSIBLE INDIVIDUAL<br><u>Nancy F. Hubbell</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |                                          | 22b. TELEPHONE (Include Area Code)<br><u>602-626-4202</u>                                                                                                                       |                                                                 | 22c. OFFICE SYMBOL      |

DD FORM 1473, 84 MAR

83 APR edition may be used until exhausted.  
All other editions are obsolete.

SECURITY CLASSIFICATION OF THIS PAGE

DTIC FILE COPY

18. Self-Concept. Self-Disclosure. Sex Differences.
19. except cigarette experience. Recent substance use gave females significantly higher moratorium scores than similarly classified males. Ideological and interpersonal foreclosure scores decreased with substance use. Significant increases in diffusion scores occurred with marijuana experience and recent use. These findings support previous research demonstrating the earlier maturation of females and Erikson's contention that ego identity is affected by experience, but suggest that further research is needed concerning the qualitative and quantitative aspects of the substance use experience. (Graphs and tables are included.)

**EGO IDENTITY, SELF ESTEEM  
AND SUBSTANCE USE  
DURING ADOLESCENCE**

Randall M. Jones

and

Barbara R. Hartmann

Department of Family and Community Medicine  
The University of Arizona  
Tucson, Arizona

|                    |                                            |
|--------------------|--------------------------------------------|
| Accession For      |                                            |
| NTIS GRA&I         | <input checked="checked" type="checkbox"/> |
| DTIC TAB           | <input type="checkbox"/>                   |
| Unannounced        | <input type="checkbox"/>                   |
| Justification      |                                            |
| By                 |                                            |
| Distribution/      |                                            |
| Availability Codes |                                            |
| For                |                                            |
| A-1                |                                            |



66 10 29 020

# **ABSTRACT**

A survey was employed to examine the relationship between adolescent psychosocial maturity and substance use. Self reported use of cigarettes, alcohol, and marijuana was categorized into five levels of experience: "never tried," included respondents who reported that they had never tried any of the three substances; the "tobacco only" category was composed of respondents who reported having experienced tobacco (i.e., cigarettes) only; the "alcohol group" was formed on the basis of having tried tobacco and alcohol; the marijuana category included subjects who had tried tobacco, alcohol, and marijuana; and the final category consisted of respondents who reported recent use (marijuana). These categories were subsequently employed as one of two independent variables in a 5 (substance experience) X 2 (respondent gender) multivariate analysis of covariance (age constituted the covariate) where responses to measures of ego identity (8 subscales) were employed as dependent variables. Significant "substance use" effects emerged for five of the eight subscales.



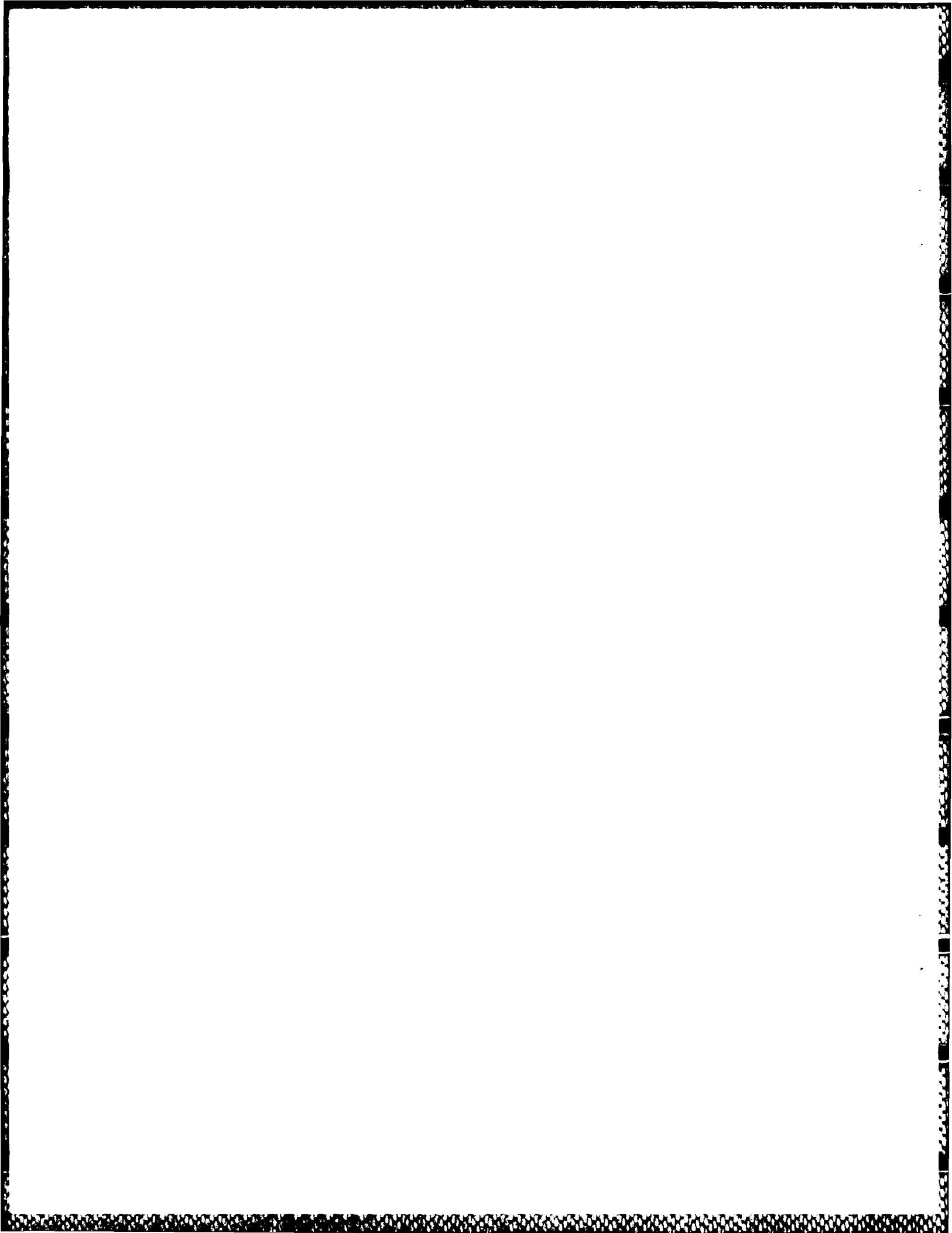
## Introduction

To date, studies of ego identity development have focussed, almost exclusively, upon identifying correlates of advanced stages of ego identity. While questions concerning identity development and actual behavior have received minimal attention, the association between psychosocial maturity and socially unacceptable behavior has been ignored completely. In light of the similarity between factors that affect psychosocial maturity and documented mediators of substance use/abuse, this exclusion is unfortunate.

Age, a positive correlate of psychosocial maturity, is also positively related to marijuana use among adolescents. Likewise, SES (another positive correlate of ego identity) is positively correlated with substance use among adolescents. Higher levels of ego identity have been found among adolescents from single-parent family backgrounds, and adolescents from intact homes are less likely to use marijuana. Apparently, factors that are conducive to psychosocial development are also positively related to marijuana use among adolescents.

The similarity between factors which mediate psychosocial maturity and those which are associated with potential for, and actual substance use/abuse (namely: SES, age, family structure, and perceptions of parental socialization styles) raise many, previously unaddressed questions concerning the reciprocal relationship between





ego identity development and actual behavior. Erikson (1963; 1968), the "founding" father of ego identity, addressed socially unacceptable behavior by creating a status labeled "negative identity." This developmental category is "an identity perversely based on all those identifications and roles which, at critical stages of development, had been presented to them [the developing adolescent] as most undesirable or dangerous and yet also the most real" (Erikson, 1968; p. 174). Although negative identity applies to some "drug" consumers (perhaps those who reside in various institutional settings), the vast majority of "indulgers" are not, by definition, categorized as adolescents who have adopted "negative identities." Erikson did not address the possibility of differential effects emanating from conflicting societal expectation. Hence, it was predicted that substance use, a behavior that: 1-is socially acceptable in some, but not all social contexts; 2-distorts perception of experience (the primary ingredient of identity); and, 3-is increasingly evident within our society; is a potential component of "normal" ego identity development.

#### Sample

A total of 2612 7th through 12th grade adolescents responded to a questionnaire. The sample was predominately "Hispanic" (63.5%; 27.2% White, 2.4% Black, 1.4% American Indian); Female (51.1%); and the grade distribution was as

64-item instrument was designed to measure ego identity in regard to occupational, religious, political, and social contexts in two dimensions: ideological and interpersonal. Initial estimates of reliability (internal consistency, test-retest) and validity (content, factorial, discriminant, and concurrent) are impressive (cf., Grotevant & Adams, 1983).

### Procedures

The POS was administered to all 7th through 12th grade students in a large, Southwest school district. Homeroom teachers, previously instructed to answer definitional questions only during testing, disseminated the questionnaire.

### **Results**

Initially, reliability coefficients (Cronbach, 1951) and interscale correlations (Pearson) were generated to examine the psychometric properties of the EOM-EIS within this sample of adolescents. Estimates of internal consistency ranged from .51 (interpersonal achievement) to .75 (ideological foreclosure).

As expected, significant main effects were observed on each of the independent measures. Respondent gender (SEX) yielded a multivariate  $F [8, 2534.00] = 21.46$  ( $p < .001$ ); for substance experience (DRUG)  $F [32, 9346.53] = 9.91$  ( $p < .001$ ), and the SEX X DRUG interaction was significant also  $F [32, 9346.53] = 1.88$  ( $p < .002$ ).

follows: 7th - 18.9%; 8th - 16.0%; 9th - 24.2%; 10th - 15.8%; 11th - 13.6%; 12th - 11.5%.

### Measurement

A questionnaire, The Personal Opinion Survey (POS), was developed specifically to assess the extent of alcohol and drug use among adolescents. The POS contains several demographic questions; forty questions designed to elicit information regarding past and present involvement with alcohol, cigarettes, and a variety of illicit drugs; and a measure of ego identity development.

Demographic questions query respondents about their ethnicity, gender, age, grade, family status, and number of siblings.

The alcohol and drug questions were designed to elicit information concerning past and present use, ease of procurement, and perceptions of friends' involvement. Major emphasis is on cigarettes, alcohol, inhalants, marijuana, heroin, and cocaine; amphetamines, barbiturates, opiates, and hallucinogens receive minimal attention.

Ego identity was assessed with The Extended Version of the Objective Measure of Ego Identity Status (EOM-EIS: Grotevant & Adams, 1983). The EOM-EIS represents a combination of the Objective Measure of Ego Identity Status (Adams, Shea, & Fitch, 1979) and a structured interview of identity status (Grotevant, Thorbecke & Meyer, 1982). The

than males on "less mature" ego identity scales (ideological and interpersonal foreclosure and diffusion). These findings support previous research which has demonstrated that females mature earlier than males in terms of physiological, cognitive, and emotional development.

Significant main effects for substance use experience (DRUG) emerged within the ideological foreclosure and diffusion scales, and the interpersonal achievement and foreclosure scales. A significant SEX X DRUG interaction emerged for the ideological moratorium analysis. Specifically, examination of cell means revealed the following: Comparisons across (from no experience to recent experience) the substance use hierarchy indicate that- **Achievement** (interpersonal only) scores decrease slightly with cigarette experience, but reverse trend for remaining substance use classifications, the recent use (marijuana) respondents exhibiting the most mature levels of interpersonal achievement.

**Moratorium** (ideological and interpersonal) scores were not associated with the substance use experience variable exclusively. There was, however, a significant SEX X DRUG interaction for the ideological moratorium scale. "No experience" females had higher levels of moratorium than similar males, but males who had tried cigarettes and alcohol had higher moratorium scores than similar females. The trend reversed again for marijuana experience and

Given the ongoing debate regarding appropriate post hoc analytical techniques following significant MANOVA's (Bray and Maxwell, 1982), separate univariate analyses of covariance (ANCOVA) were generated for each of the eight dependent variables. Interscale correlations and the associated alpha inflation were controlled by adjusting alpha levels according to the following formula:  $1-(1-\alpha) ** C$ ; where alpha represents actual probability prior to adjustment and C represents an exponent equal to the number of comparisons (Blalock, 1972).

The covariate (age) was significantly related to interpersonal moratorium only. A comparison of the obtained and adjusted means revealed that increments in age suppress interpersonal moratorium scores, and the correlation between age and interpersonal moratorium confirmed this interpretation ( $r = -.09$ ).

Respondent gender (SEX) was significantly related to six of the eight ego identity subscales: namely, ideological achievement, moratorium, and foreclosure, and interpersonal achievement, foreclosure, and diffusion. Comparison of group means following adjustment for the covariate (age) and the additional independent variable (DRUG), revealed that females had developed more "mature" levels of ego identity than males on all six measures. Females obtained higher scores than males on the more advanced stages of identity development (ideological and interpersonal achievement and moratorium), and lower scores

recent use; females in these categories obtained significantly higher moratorium scores than similarly classified males.

**Foreclosure** (ideological and interpersonal) scores were slightly higher for respondents who had tried cigarettes only. Progression from cigarettes to alcohol was associated with significantly lower foreclosure scores, and although foreclosure scores continued to decline for remaining categories (i.e., marijuana experience and recent marijuana use), decrements were nonsignificant. The ideological and interpersonal dimensions of foreclosure demonstrated identical patterns.

**Diffusion** (ideological only) scores showed a slight decrease from no experience to cigarette experience, and the pattern replicated with alcohol experience. Significant, linear increases in diffusion scores were observed with marijuana experience and recent use.

The findings from this study provide direct support for Erikson's contention that ego identity is affected by experience, but raise a number of questions regarding both qualitative and quantitative aspects of substance use experience.

# INTERPERSONAL ACHIEVEMENT

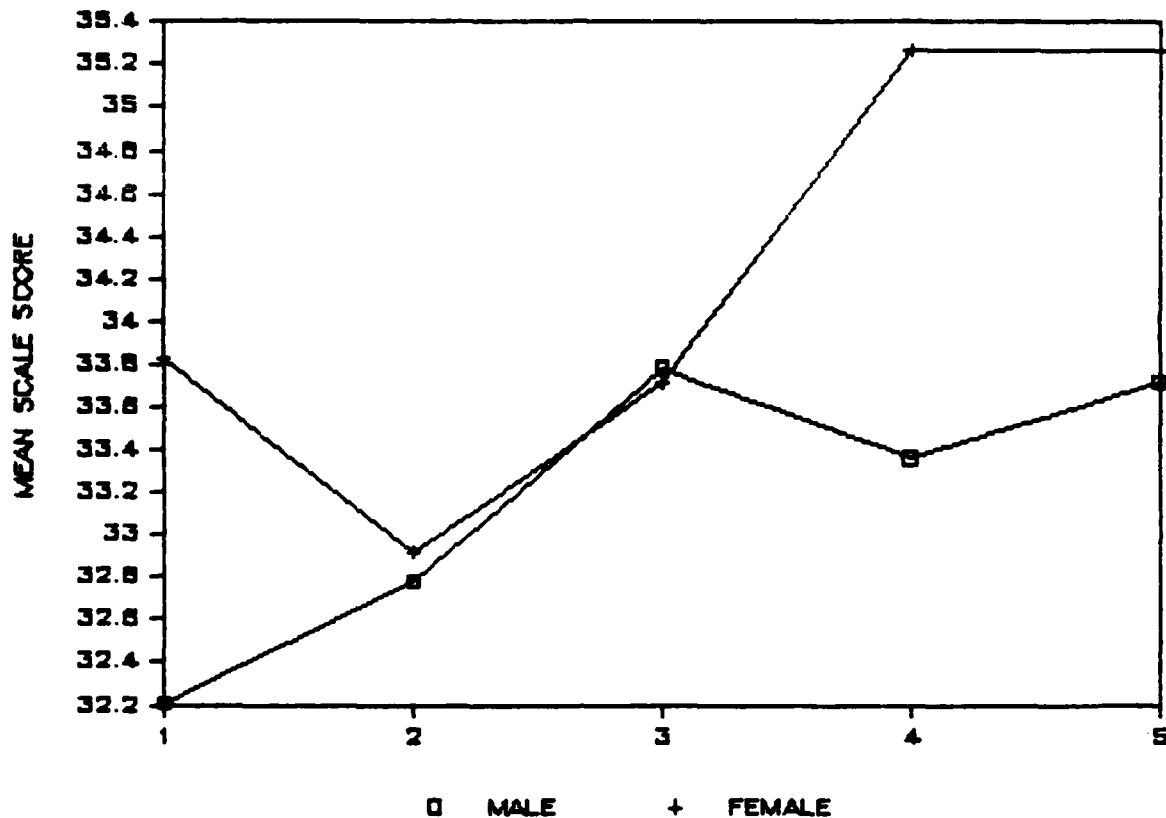


Table 4: Summary of Analysis of Covariance results depicting the relationship between respondent gender, substance use experience and Interpersonal Achievement.

|                                  | <u>SS</u> | <u>df</u> | <u>MS</u> | <u>F</u> | <u>p1</u> | <u>p2</u> |
|----------------------------------|-----------|-----------|-----------|----------|-----------|-----------|
| <b>Interpersonal Achievement</b> |           |           |           |          |           |           |
| AGE                              | 4.82      | 1         | 4.82      | .15      | .699      | .999      |
| DRUG                             | 1021.54   | 4         | 255.39    | 7.94     | .001      | .008*     |
| SEX                              | 1107.68   | 1         | 1107.68   | 34.43    | .001      | .008*     |
| DRUG X SEX                       | 331.84    | 4         | 82.96     | 2.58     | .036      | .254      |
| Residual                         | 81758.80  | 2541      | 32.18     |          |           |           |

Note: p1 = actual probability;  
p2 = probability following adjustment for multiple univariate comparisons.  
\* = statistical significance following alpha adjustment.



# INTERPERSONAL FORECLOSURE

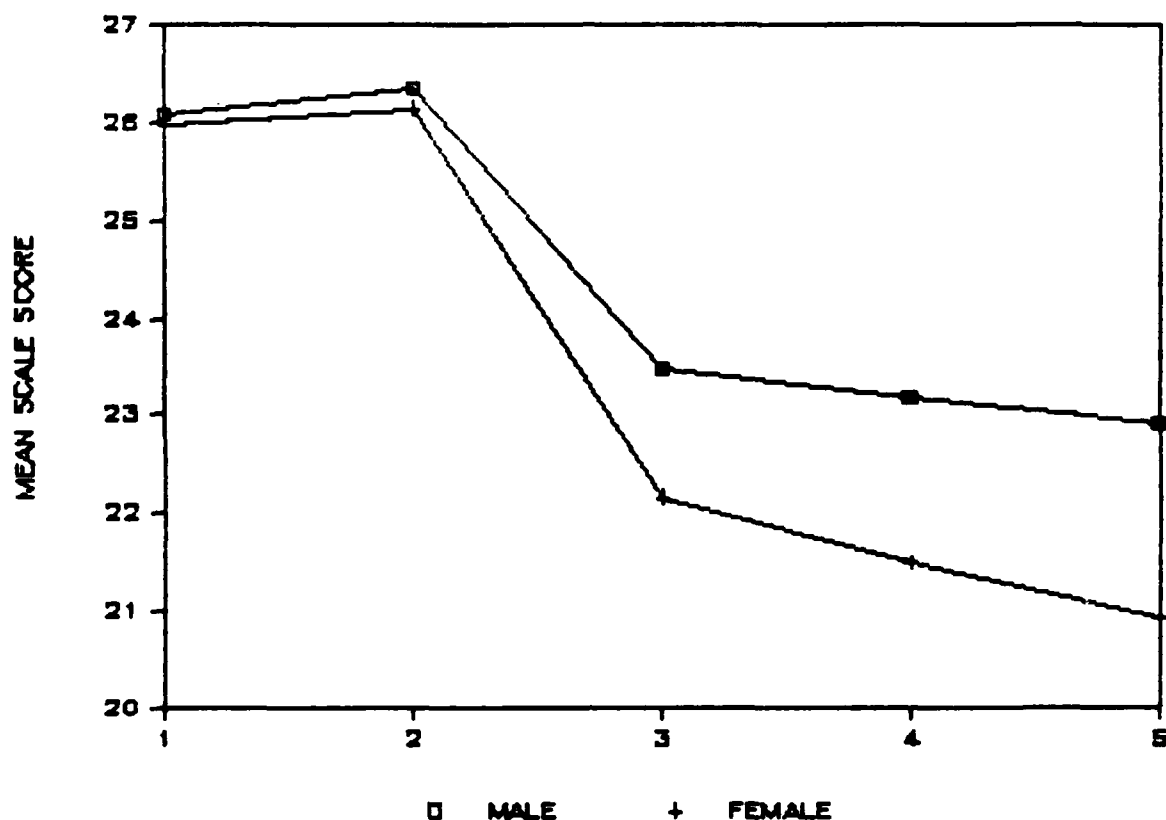


Table 5: Summary of Analysis of Covariance results depicting the relationship between respondent gender, substance use experience and Interpersonal Foreclosure.

|                                  | <u>SS</u> | <u>df</u> | <u>MS</u> | <u>F</u> | <u>p1</u> | <u>p2</u> |
|----------------------------------|-----------|-----------|-----------|----------|-----------|-----------|
| <b>Interpersonal Foreclosure</b> |           |           |           |          |           |           |
| AGE                              | 2.29      | 1         | 2.29      | .05      | .826      | .999      |
| DRUG                             | 7751.08   | 4         | 1937.77   | 40.75    | .001      | .008*     |
| SEX                              | 1015.19   | 1         | 1015.19   | 21.35    | .001      | .008*     |
| DRUG X SEX                       | 352.22    | 4         | 88.05     | 1.85     | .117      | .630      |
| Residual                         | 120844.64 | 2541      | 47.56     |          |           |           |

Note: p1 = actual probability;

p2 = probability following adjustment for multiple univariate comparisons.

\* = statistical significance following alpha adjustment.

# IDEOLOGICAL MORATORIUM

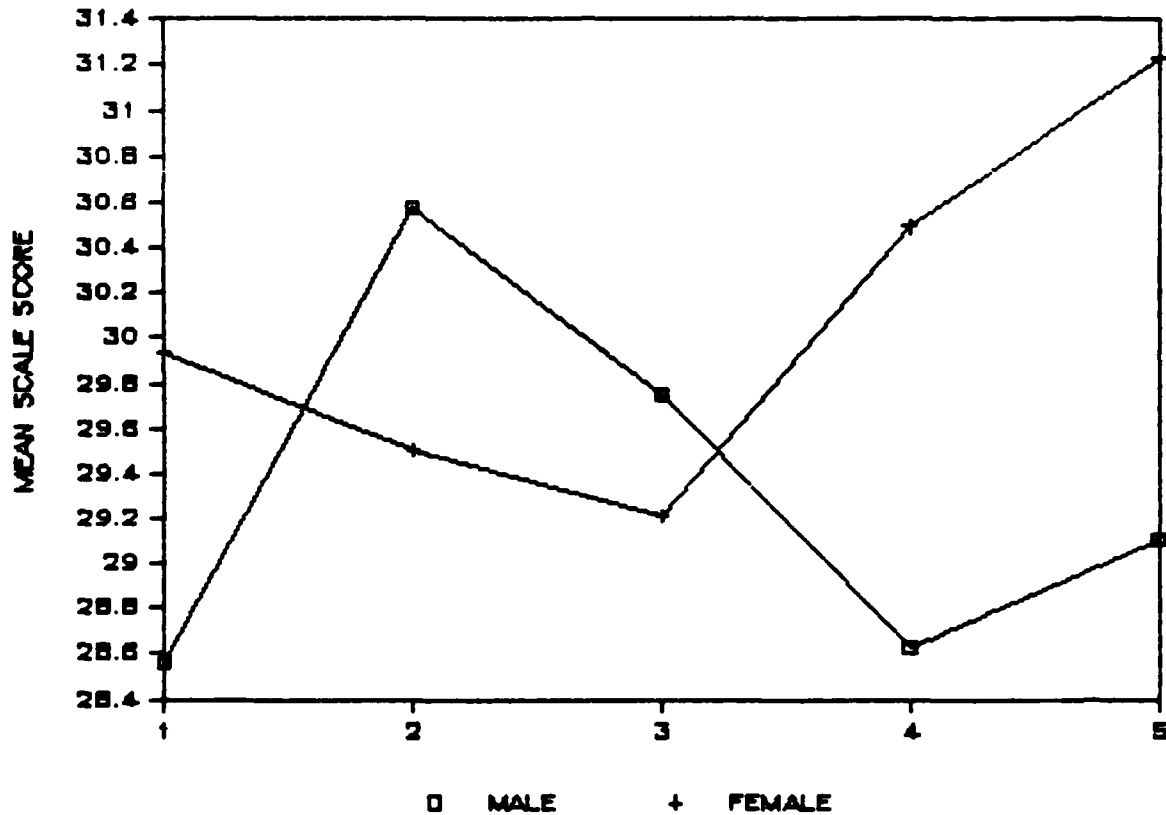


Table 1: Summary of Analysis of Covariance results depicting the relationship between respondent gender, substance use experience and Ideological Moratorium.

|                               | <u>SS</u> | <u>df</u> | <u>MS</u> | <u>F</u> | <u>p1</u> | <u>p2</u> |
|-------------------------------|-----------|-----------|-----------|----------|-----------|-----------|
| <b>Ideological Moratorium</b> |           |           |           |          |           |           |
| AGE                           | 207.46    | 1         | 207.46    | 5.10     | .024      | .177      |
| DRUG                          | 305.11    | 4         | 76.28     | 1.87     | .113      | .617      |
| SEX                           | 982.43    | 1         | 982.43    | 24.14    | .001      | .008*     |
| DRUG X SEX                    | 674.73    | 4         | 168.68    | 4.15     | .002      | .016*     |
| Residual                      | 103407.44 | 2541      | 40.70     |          |           |           |

Note: p1 = actual probability;

p2 = probability following adjustment for multiple univariate comparisons.

\* = statistical significance following alpha adjustment.

## IDEOLOGICAL DIFFUSION

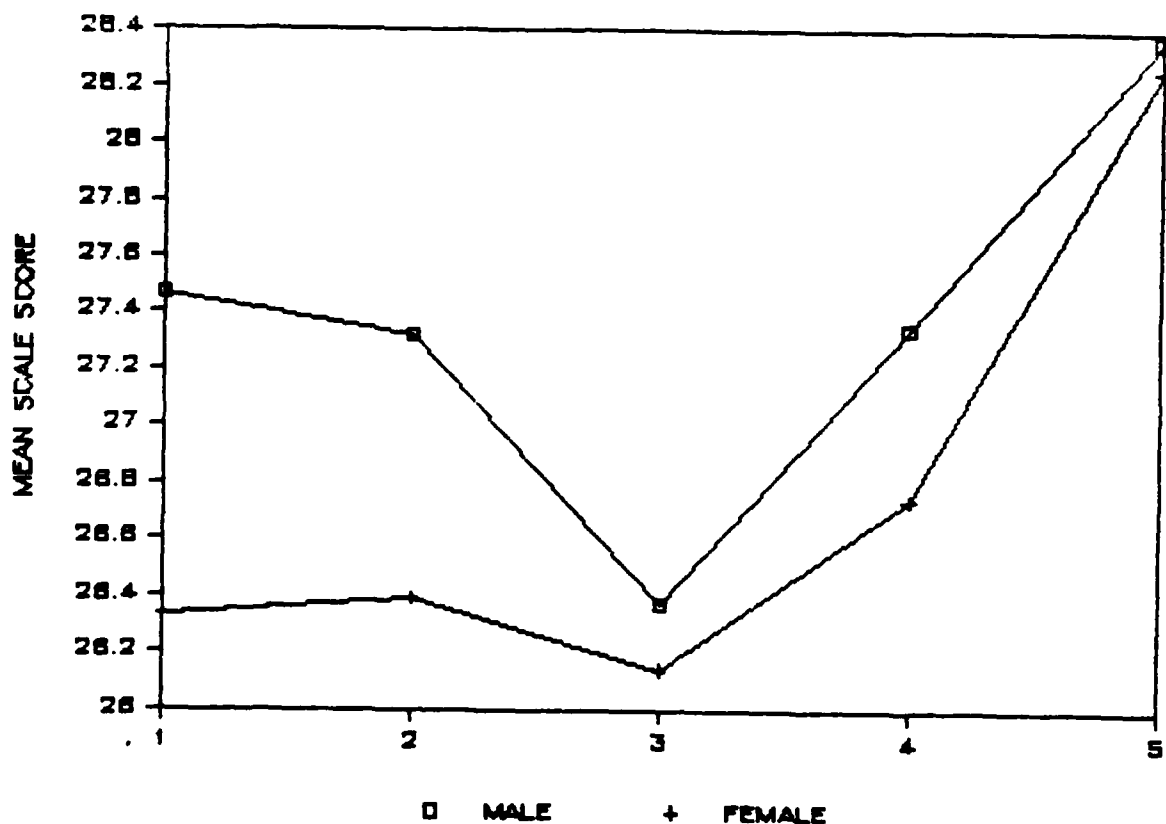


Table 3: Summary of Analysis of Covariance results depicting the relationship between respondent gender, substance use experience and Ideological Diffusion.

|                              | <u>SS</u> | <u>df</u> | <u>MS</u> | <u>F</u> | <u>p1</u> | <u>p2</u> |
|------------------------------|-----------|-----------|-----------|----------|-----------|-----------|
| <b>Ideological Diffusion</b> |           |           |           |          |           |           |
| AGE                          | 2.25      | 1         | 2.25      | .06      | .810      | .999      |
| DRUG                         | 1302.60   | 4         | 325.65    | 8.34     | .001      | .008*     |
| SEX                          | 193.86    | 1         | 193.86    | 4.97     | .026      | .190      |
| DRUG X SEX                   | 98.70     | 4         | 24.67     | .63      | .640      | .999      |
| Residual                     | 99175.72  | 2541      | 39.03     |          |           |           |

Note: p1 = actual probability;

p2 = probability following adjustment for multiple univariate comparisons.

\* = statistical significance following alpha adjustment.

# IDEOLOGICAL FORECLOSURE

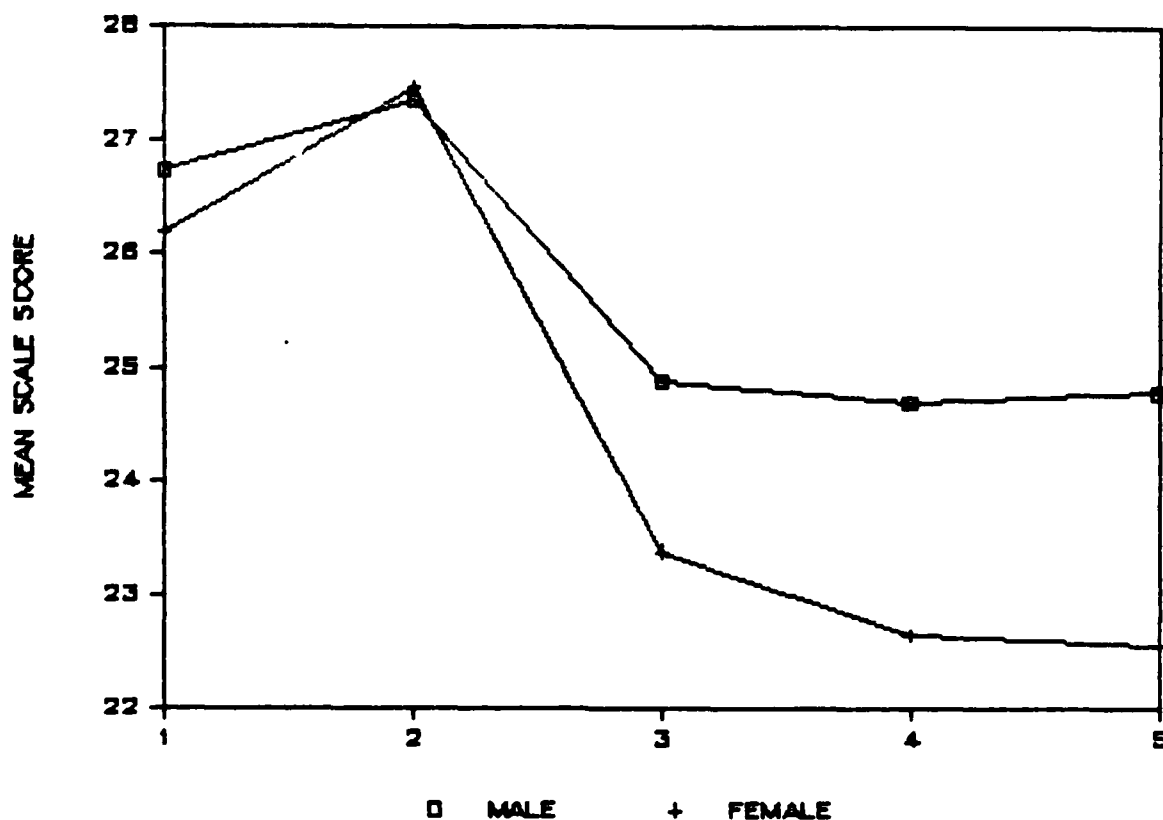


Table 2: Summary of Analysis of Covariance results depicting the relationship between respondent gender, substance use experience and Ideological Foreclosure.

|                                | SS        | df   | MS      | F     | p1   | p2    |
|--------------------------------|-----------|------|---------|-------|------|-------|
| <b>Ideological Foreclosure</b> |           |      |         |       |      |       |
| AGE                            | 6.80      | 1    | 6.80    | .13   | .719 | .999  |
| DRUG                           | 4525.62   | 4    | 1131.40 | 21.54 | .001 | .008* |
| SEX                            | 1508.09   | 1    | 1508.09 | 28.72 | .001 | .008* |
| DRUG X SEX                     | 343.02    | 4    | 85.76   | 1.63  | .164 | .761  |
| Residual                       | 133452.13 | 2541 | 52.52   |       |      |       |

Note: p1 = actual probability;

p2 = probability following adjustment for multiple univariate comparisons.

\* = statistical significance following alpha adjustment.

## References

- Adams, G. R., & Grotevant, H. D. (1983). Extended Version: Objective measure of ego identity status (EOM-EIS). Scoring Procedures; available from Gerald R. Adams, Utah State Univeristy.
- Adams, G. R., Shea, J., & Fitch, S. A. (1979). Toward the development of an objective assessment of ego-identity status. Journal of Youth and Adolescence, 8, 223-237.
- Bray, J. H., & Maxwell, S. E. (1982). Analyzing and interpreting significant MANOVAs. Review of Educational Research, 52, 340-367.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. Psychometrika, 16, 297-334.
- Erikson, E. H. (1963). Childhood and society, 2nd ed., Norton, New York.
- Erikson, E. H. (1968). Identity: Youth and crisis, Faber, London.
- Grotevant, H. D., & Adams, G. R. (1983). Development of an objective measure to assess ego identity in adolescence: Validation and replication. Unpublished manuscript, available from Gerald R. Adams, Utah State University.
- Grotevant, H. D., Thorbecke, W. L., & Meyer, M. L. (1982). An extension of Marcia's identity status interview into the interpersonal domain. Journal of Youth and Adolescence, 11, 33-47.

END

12-86

DTIC