1981

Effects of a Sex Education Workshop in an Adolescent In-Patient Psychiatric Population.

Christine E. Angelloz

*Louisiana State University and Agricultural & Mechanical College*

Follow this and additional works at: [https://digitalcommons.lsu.edu/gradschool_disstheses](https://digitalcommons.lsu.edu/gradschool_disstheses)

Recommended Citation


[https://digitalcommons.lsu.edu/gradschool_disstheses/3625](https://digitalcommons.lsu.edu/gradschool_disstheses/3625)
INFORMATION TO USERS

This was produced from a copy of a document sent to us for microfilming. While the most advanced technological means to photograph and reproduce this document have been used, the quality is heavily dependent upon the quality of the material submitted.

The following explanation of techniques is provided to help you understand markings or notations which may appear on this reproduction.

1. The sign or "target" for pages apparently lacking from the document photographed is "Missing Page(s)". If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting through an image and duplicating adjacent pages to assure you of complete continuity.

2. When an image on the film is obliterated with a round black mark it is an indication that the film inspector noticed either blurred copy because of movement during exposure, or duplicate copy. Unless we meant to delete copyrighted materials that should not have been filmed, you will find a good image of the page in the adjacent frame. If copyrighted materials were deleted you will find a target note listing the pages in the adjacent frame.

3. When a map, drawing or chart, etc., is part of the material being photographed the photographer has followed a definite method in "sectioning" the material. It is customary to begin filming at the upper left hand corner of a large sheet and to continue from left to right in equal sections with small overlaps. If necessary, sectioning is continued again—beginning below the first row and continuing on until complete.

4. For any illustrations that cannot be reproduced satisfactorily by xerography, photographic prints can be purchased at additional cost and tipped into your xerographic copy. Requests can be made to our Dissertations Customer Services Department.

5. Some pages in any document may have indistinct print. In all cases we have filmed the best available copy.
ANGELLOZ, CHRISTINE E.

EFFECTS OF A SEX EDUCATION WORKSHOP IN AN ADOLESCENT IN-PATIENT PSYCHIATRIC POPULATION

The Louisiana State University and Agricultural and Mechanical Col. PH.D. 1981

University Microfilms International 300 N. Zeolb Road, Ann Arbor, MI 48106

Copyright 1981 by Angelloz, Christine E. All Rights Reserved
PLEASE NOTE:

In all cases this material has been filmed in the best possible way from the available copy. Problems encountered with this document have been identified here with a check mark [✓].

1. Glossy photographs or pages [ ]
2. Colored illustrations, paper or print [ ]
3. Photographs with dark background [ ]
4. Illustrations are poor copy [ ]
5. Pages with black marks, not original copy [ ]
6. Print shows through as there is text on both sides of page [ ]
7. Indistinct, broken or small print on several pages [✓]
8. Print exceeds margin requirements [ ]
9. Tightly bound copy with print lost in spine [ ]
10. Computer printout pages with indistinct print [ ]
11. Page(s) [ ] lacking when material received, and not available from school or author.
12. Page(s) [ ] seem to be missing in numbering only as text follows.
13. Two pages numbered [ ] Text follows.
14. Curling and wrinkled pages [ ]
15. Other [ ]
EFFECTS OF A SEX EDUCATION WORKSHOP IN AN ADOLESCENT IN-PATIENT PSYCHIATRIC POPULATION

A Dissertation

Submitted to the Graduate Faculty of the Louisiana State University and Agricultural and Mechanical College in partial fulfillment of the requirements for the degree of Doctor of Philosophy in The Department of Psychology

by

Christine E. Angelloz
B.A., Louisiana State University, 1973
M.S., University of Southwestern Louisiana, 1976
August 1981
ACKNOWLEDGEMENTS

I am indebted to the various people who played personal and professional roles in the successful completion of the dissertation. First and foremost, I extend my deepest appreciation to Dr. Felicia A. Pryor, my major professor and friend, for her warm support and encouragement throughout my graduate career at L.S.U. I am also indebted to the members of my committee, Dr. Arthur J. Riopelle, co-chairman of the committee, Dr. Billy M. Seay, Dr. Myron G. Mohr, and Dr. Robert J. Devlin, my minor professor. Their professional advice and critiques insured the quality of the dissertation.

I would like to express my gratitude to those individuals at Central Louisiana State Hospital who supported the dissertation project: Dr. Ronald Pryer and Dr. George L. Henderson, Jr. for their general supervision and encouragement in the research; Dr. M. Kelly Distefano and the Hospital Research Committee for approval of the prospectus; Dr. Milton Rhea, Larry Owen, Pat Harris, Martha Bennett, Anne Jackson, and Sue Turley of the Adolescent Services for their cooperation and Florence Wetherford for her invaluable assistance in obtaining parental consents and in testing the subjects. A very special thank you is extended to the evening nursing and recreation staff of the Adolescent Services, Margie Honore, Clara Woods, Rundale Dobson, Marcella Turner, and Hank Atkins. Without
the tireless efforts, sense of humor, and commitment of these people the project could never have been completed.

I very much appreciate the professional expertise of Dr. David C. Blouin, L.S.U. Department of Experimental Statistics and Dr. Monny Sklov, formerly of the L.S.U. Medical School in New Orleans for statistical consultation and analysis of the data.

My closest friends have encouraged and morally supported me throughout my graduate career. I extend my warm appreciation to Johanna Wolfson, Dr. Patt Aptaker, Dr. Alan Appelbaum, and Stan Granberry for their companionship, personal and professional advice and support.

Finally, I am grateful to my parents, Paul and Mary Helen Angelloz for their support and encouragement of my career choice and constant availability for financial support.
### TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>ii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>vi</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>vii</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Review of the Literature</td>
<td>4</td>
</tr>
<tr>
<td>Effects of Sex Education With Adults</td>
<td>4</td>
</tr>
<tr>
<td>Sex Knowledge</td>
<td>4</td>
</tr>
<tr>
<td>Sexual Attitudes and Behavior</td>
<td>4</td>
</tr>
<tr>
<td>Self-Concept</td>
<td>6</td>
</tr>
<tr>
<td>Anxiety and Guilt</td>
<td>8</td>
</tr>
<tr>
<td>Effects of Sex Education With Adolescents and Children</td>
<td>9</td>
</tr>
<tr>
<td>Sex Knowledge</td>
<td>9</td>
</tr>
<tr>
<td>Sexual Attitudes and Behavior</td>
<td>11</td>
</tr>
<tr>
<td>Self-Concept</td>
<td>14</td>
</tr>
<tr>
<td>Effects of Sex Education With the Physically Handicapped</td>
<td>15</td>
</tr>
<tr>
<td>Effects of Sex Education With the Mentally Handicapped</td>
<td>16</td>
</tr>
<tr>
<td>Effects of Sex Education in In-Patient Psychiatric Populations</td>
<td>19</td>
</tr>
<tr>
<td>Research Questions</td>
<td>20</td>
</tr>
<tr>
<td>Hypotheses</td>
<td>22</td>
</tr>
<tr>
<td>METHOD</td>
<td>24</td>
</tr>
<tr>
<td>Subjects</td>
<td>24</td>
</tr>
<tr>
<td>Experimental Group</td>
<td>24</td>
</tr>
<tr>
<td>Attention Control Group</td>
<td>25</td>
</tr>
</tbody>
</table>

iv
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apparatus</td>
<td>26</td>
</tr>
<tr>
<td>Sex Knowledge Inventory</td>
<td>26</td>
</tr>
<tr>
<td>Tennessee Self Concept Scale</td>
<td>27</td>
</tr>
<tr>
<td>Minnesota Multiphasic Personality Inventory</td>
<td>31</td>
</tr>
<tr>
<td>Description of the Independent Variable</td>
<td>34</td>
</tr>
<tr>
<td>The Sex Education Workshop</td>
<td>34</td>
</tr>
<tr>
<td>The Informal Discussion Group</td>
<td>36</td>
</tr>
<tr>
<td>Procedure</td>
<td>36</td>
</tr>
<tr>
<td>RESULTS</td>
<td>38</td>
</tr>
<tr>
<td>Statistical Analysis of the Data</td>
<td>38</td>
</tr>
<tr>
<td>Participant Evaluation of the Sex Education Workshop</td>
<td>47</td>
</tr>
<tr>
<td>DISCUSSION</td>
<td>54</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>63</td>
</tr>
<tr>
<td>APPENDICES</td>
<td>70</td>
</tr>
<tr>
<td>VITA</td>
<td>95</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pretest-posttest means and standard deviations of dependent measures by treatment group</td>
<td>39</td>
</tr>
<tr>
<td>2. Means and standard deviations of change scores on dependent measures by treatment group</td>
<td>40</td>
</tr>
<tr>
<td>3. Analysis of variance on SKI scores for both treatment groups</td>
<td>42</td>
</tr>
<tr>
<td>4. Analysis of variance on Total Positive scores of the TSCS for both treatment groups</td>
<td>42</td>
</tr>
<tr>
<td>5. Analysis of variance on Self Criticism scores of the TSCS for both treatment groups</td>
<td>43</td>
</tr>
<tr>
<td>6. Analysis of variance on General Maladjustment scores of the TSCS for both treatment groups</td>
<td>43</td>
</tr>
<tr>
<td>7. Analysis of variance on K scores of the MMPI for both treatment groups</td>
<td>44</td>
</tr>
<tr>
<td>8. Analysis of variance on D scores of the MMPI for both treatment groups</td>
<td>44</td>
</tr>
<tr>
<td>9. Analysis of variance on Pt scores of the MMPI for both treatment groups</td>
<td>45</td>
</tr>
<tr>
<td>10. Analysis of variance on Sc scores of the MMPI for both treatment groups</td>
<td>45</td>
</tr>
<tr>
<td>11. Analysis of variance on Es scores of the MMPI for both treatment groups</td>
<td>46</td>
</tr>
<tr>
<td>12. Correlation matrix of dependent variables</td>
<td>48</td>
</tr>
<tr>
<td>13. Results of the participant evaluation of the sex education workshop</td>
<td>49</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pretest-posttest means and standard deviations of dependent measures by treatment group</td>
<td>39</td>
</tr>
<tr>
<td>2. Means and standard deviations of change scores on dependent measures by treatment group</td>
<td>40</td>
</tr>
<tr>
<td>3. Analysis of variance on SKI scores for both treatment groups</td>
<td>42</td>
</tr>
<tr>
<td>4. Analysis of variance on Total Positive scores of the TSCS for both treatment groups</td>
<td>42</td>
</tr>
<tr>
<td>5. Analysis of variance on Self Criticism scores of the TSCS for both treatment groups</td>
<td>43</td>
</tr>
<tr>
<td>6. Analysis of variance on General Maladjustment scores of the TSCS for both treatment groups</td>
<td>43</td>
</tr>
<tr>
<td>7. Analysis of variance on K scores of the MMPI for both treatment groups</td>
<td>44</td>
</tr>
<tr>
<td>8. Analysis of variance on D scores of the MMPI for both treatment groups</td>
<td>44</td>
</tr>
<tr>
<td>9. Analysis of variance on Pt scores of the MMPI for both treatment groups</td>
<td>45</td>
</tr>
<tr>
<td>10. Analysis of variance on Sc scores of the MMPI for both treatment groups</td>
<td>45</td>
</tr>
<tr>
<td>11. Analysis of variance on Es scores of the MMPI for both treatment groups</td>
<td>46</td>
</tr>
<tr>
<td>12. Correlation matrix of dependent variables</td>
<td>48</td>
</tr>
<tr>
<td>13. Results of the participant evaluation of the sex education workshop</td>
<td>49</td>
</tr>
</tbody>
</table>
ABSTRACT

The present study was an experimental investigation of the effects of a sex education workshop in an adolescent in-patient psychiatric population. Eleven adolescent patients (seven males, four females) participated in the eight session sex education workshop (SEW). The attention control group was composed of eight patients (four males, four females) who participated in eight informal discussion (ID) sessions. The research utilized a pretest-posttest design. The dependent variables were sex knowledge as measured by the Sex Knowledge Inventory, self-concept as measured by the Total Positive, Self Criticism, and General Maladjustment scales of the Tennessee Self Concept Scale, and personal adjustment as measured by the K, D, Pt, Sc, and Es scales of the Minnesota Multiphasic Personality Inventory. The data was analyzed using a multivariate analysis of variance followed by univariate ANOVAS on each of the nine dependent measures. Results of these analyses indicated that participation in the sex education workshop led to neither positive changes in self-concept nor increased personal adjustment as predicted because the subjects as a group yielded pretest TSCS and MMPI scores within normal limits. However, the SEW subjects obtained statistically significant increases in sex knowledge compared to the ID subjects. A specially designed parti-
Participant evaluation form was administered to SEW subjects at the posttest. Subjects' ratings of the workshop were positive in terms of the helpfulness of the workshop, teaching format, and changes in self acceptance, acceptance of others, and comfort in a variety of interpersonal situations. The results of the study were discussed, noting factors idiosyncratic to the particular population used, including psychiatric diagnoses of the subjects and familial and social factors. Suggestions for future research on the effects of sex education in adolescent psychiatric patients were offered.
INTRODUCTION

The present study seeks to examine the effects of sex education on sex knowledge, self-concept, and personal adjustment in an adolescent in-patient psychiatric population. Personality theorists such as Erik Erikson (1959, 1963, 1968) emphasize the importance of the relationship between self-concept and sexuality in the psychosocial development of the individual. While the nature of this relationship is an important factor in adaptation throughout the individual's lifespan, it is particularly critical during the adolescent stage of development.

Self-concept has been defined as the "totality of the individual's thoughts and feelings having reference to himself as an object" (Rosenberg, 1979, p. 7). Although the self-concept is basically developed during early childhood, it is subject to modification by both internal and external influences throughout life. Adolescence is a developmental period in the life cycle during which the self-concept undergoes major changes. Originally characterized by Hall (1904) as a period of "storm and stress", Erikson (1959) views it as a time of identity crisis in which the individual struggles for a stable sense of self. The failure to attain this sense of identity results in role diffusion (Erikson, 1963). As the adolescent approaches adulthood, the establishment of social
relationships becomes a critical feature of effective living. The ability to function as a member of a group and to form close affiliations with individuals of both sexes are the most important attainments of adolescence. Failure to attain a healthy sense of identity has adverse effects on the individual's subsequent personal growth and psychological functioning. Without a stable identity, the individual cannot be loyal to anyone or anything (Erikson, 1968).

With the onset of puberty, the individual's body-image and self-concept, particularly his view of himself as a sexual being, change radically. His newly attained physical and sexual maturity are incompatible with his psychosocial and emotional immaturity. Physically an adult, he is still a child both socially and emotionally. The complexity of achieving adulthood in western society exacerbates the adolescent's ambivalence regarding his status as an individual and engenders dependency conflicts not found in primitive cultures. Thus, despite new physical capabilities and social pressures to achieve independence, he is confronted with many impediments to actual independence, power, and sexual freedom.

Proponents of sex education believe that a comprehensive course in human sexuality can help alleviate the confusion and anxiety experienced during adolescence as well as promote role clarification and identity formation.
In order to achieve these aims, such a course must not only address biological aspects of human sexuality, but also include psychosocial, emotional, and personal-ethical components. The responsible sex educator conceptualizes a course so as to fulfill the objectives suggested by Hoyman (1974, p. 67):

1. To develop two-way communication and genuine dialogue when dealing with sexual problems and issues.

2. To impart and discuss scientific knowledge, basic unifying concepts, and our deepest insights about human sexuality and behavior.

3. To help youth evaluate conflicting sexual standards and value systems and to think things through, in relation to our guiding ethical principles and core values and laws in American democracy.

4. To help young people make sound and responsible value judgments and decisions and choices; and to develop a normative ethical code that justifies their life styles and goals.

5. To deal with sexual issues and substantive ethical systems on an objective, but not necessarily neutral, basis; and to seek areas of agreement and common ground.

6. To guide and counsel boys and girls in matters of sexual morality, as an integral dimension of their personality and character development.

7. To link human sexuality — including body, mind and spirit — with the ultimate human goals of survival, fulfillment and significant meaning.

Although Hoyman's (1974) proposal is idealistic, sex education has been shown to have beneficial effects in a variety of populations. The following review of the
literature reports on some of these effects.

Review of the Literature, 1968-1980

Effects of Sex Education With Adults

**Sex Knowledge.** The majority of early attempts to document the effectiveness of sex education were undertaken with subject populations of undergraduate college students, graduate education students, nursing and medical students, and other young adults. Since the sex education controversy focused on the school age child still under parental protection, the rationale for using older, more autonomous populations is obvious. A series of studies demonstrated that participation in a sex education course or workshop either correlated with or could substantially increase the sexual knowledge of its participants (Angelloz, 1976; Battista, 1972; Bernard & Schwartz, 1977; Davidow, 1976; Dykstra, 1977; Krizmis, 1978; Mims, Yeaworth & Hornstein, 1974; Orlovick, 1978; Schmall, 1977; Woods & Mandetta, 1975).

**Sexual Attitudes and Behavior.** A second parameter that has been extensively studied with adults concerns their sexual attitudes. While a number of researchers (Bernard & Schwartz, 1977; Davidow, 1976; Dearth & Cassell, 1976; Dykstra, 1977; Fyfe, 1978, 1979; Krizmis, 1978; Orlovick, 1978; Rees & Zimmerman, 1974; Schmall, 1977; Zuckerman, Tushup & Finner, 1974, 1976) have investigated the effects of sex education on sex attitude change,
results for the most part demonstrate greater acceptance of one's sexuality, that is, the attitudes and behavior of the self as well as that of others. Additionally, Woods and Mandetta (1975) found no correlation between liberalization of attitudes toward sexuality and completion of a human sexuality course.

In general, attitudinal shifts have occurred on the topics of heterosexual behavior, homosexuality, masturbation, premarital and extramarital sex, and infantile sexuality. While major attitudinal changes usually accompany participation in a sex education program, these changes do not necessarily imply that behavioral changes occur as well. Schmall (1977) reported that an increase in favorable attitudes toward sexuality by the participants did not result in increased acceptance of sexual behaviors for themselves. Participants became more self-accepting of their sexual behavior in only two areas, masturbation for females and infant playing with his/her genitals. In contrast, however, participants became significantly more accepting of the sexual behavior of others as shown by attitudinal changes in seven areas of sexual behavior. Likewise, Davidow (1976) reported significant changes in attitude toward the sexual behavior of others. Participants became more accepting of masturbation by females and premarital intercourse for engaged persons, while increased acceptance of one's own sexual behavior occurred only on
the concept of oral sexuality. With respect to sexual behavior, Davidow (1976) found a significant change in the reported frequency of masturbation. On the other hand, Zuckerman et al. (1976) found that a course in human sexuality effected sexual attitudinal changes in both sexes, but it changed behavior only in males. Attitudes of both males and females became more positive. Although heterosexual experience increased for both sex course and control males, neither group showed a significant increase in the number of sexual partners. However, the sex course males showed significant increases in homosexual experience and partners. In the discussion of their results, the authors cautioned that their experimental sample represented an atypical group that is "more permissive in their attitudes and more experienced in sexual behavior" (p. 16). Finally, Rees and Zimmerman's (1974) results suggested more decreases in sexual behavior than increases following participation in a college level human sexuality course.

**Self-Concept.** Although sexual attitudes have been assessed most frequently in sex education research, Erikson's (1959, 1963, 1968) theory of psychosocial development suggests that aspects of the personality such as identity and self attitudes or self-concept provide fruitful lines for investigation. Hobbs (1970) using experienced educators enrolled in graduate education programs found a significant positive correlation between
self-concept (SC) and attitude toward sex education and between sex knowledge (SK) and attitude toward sex education. However, the relationship between self-concept and sex knowledge was not significant. Likewise, Shofer's (1972) study showed that participation in a sex education course did not have a significantly positive effect on self-concept. But she suggested that the educators did not consider potential self-concept change as one of their reasons for taking the course. Shofer (1972) further called for research to determine the relationship between sex knowledge and self-concept. Although Hobbs (1970) and Shofer (1972) failed to establish a positive relationship between sex knowledge and self-concept, Battista's (1972) study of the effects of a year long sex education teacher training program found a change in self-esteem. Another study (Angelloz, 1976) found that participants with low self-concepts benefitted most by a semester long human sexuality course. Increases in self-esteem were more pronounced in the low SC-low SK subgroup than in the other three subgroups studied. This subgroup also showed increased consistency and unity of the self-concept. Likewise, the low SC-high SK subgroup exhibited significant gains in self-esteem and certainty of self perception. Interestingly, the course did not alter the self-concepts of the participants in the high SC-low SK and high SC-high SK subgroups. Thus, Angelloz's
(1976) study suggests that individuals with initially low self-concepts are likely to achieve greater benefits in terms of positive self-concept changes than their counterparts with high self-concepts.

**Anxiety and Guilt.** Clinical observation suggests many individuals suffer from emotional problems that are at least partly attributable to inadequate sexual knowledge. Furthermore, Bernard and Schwartz (1977) cite a need to establish whether a relationship exist between mental health and increases in sexual knowledge. Several studies have attempted to determine the effects of sex education on typical psychopathological symptoms as anxiety and guilt. The adult participants in Fyfe's (1974, 1976) sexual enhancement workshops experienced decreases in anxiety related to sexual experiences. Likewise, Machen (1970) found that ten hours of sex education instruction significantly reduced anxiety related to sexual concepts in young adult males. In a study by Atkins (1976) concerning the development of a sexual anxiety scale, the author reported no significant changes in level of anxiety at the end of the sex education course. While he attributed the negative findings to the participants' low levels of sex anxiety upon entering the course, he did note significant correlations between sex anxiety and: female dysfunction, sex attitudes, frequency of sexual relations, parents' sexual attitudes, and parents' religious affiliation and
commitment.

With respect to guilt, Orlovick (1978) found that a high sex guilt group was more conservative in attitudes regarding masturbation, and more supportive of common sexual myths at the pretest. Following participation in the human sexuality seminar, the difference between the high sex guilt and low sex guilt groups was not significant. Bernard and Schwartz (1977) investigated three types of guilt: hostile guilt, morality-conscience guilt, and sexual guilt. Participation in the sex education course had no impact on hostile guilt or morality-conscience guilt. While participants experienced a significant decrease in sex guilt as a result of the course, the admission-seeking control group also experienced a non-statistically significant decrease on this variable. The authors hypothesized that motivational factors related to participation in a sex education course may be responsible for this finding rather than actual participation in the course per se. Thus, research to date has not adequately substantiated a causal relationship between sexual knowledge and guilt in adults.

Effects of Sex Education With Adolescents and Children

Sex Knowledge. Sex education research conducted with school age subjects has tended to be more descriptive due to the relative lack of formal sex education courses in academic curricula. Monge, Dusek and Lawless (1977)
examined the acquisition of sex information in 182 ninth graders enrolled in a sex education course. Their findings indicated that students can acquire information through exposure to sex education and peers may not be a primary source of information about sexuality. In a study of the effects of a family planning unit conducted in the school system of Ontario, Canada, West (1976) reported significant increases in sex knowledge. Likewise, Crosby's (1970) study demonstrated an increase in knowledge of junior high students and high school boys concerning personal development within the family as a result of a family life education course.

Planned Parenthood agencies and community mental health settings have been instrumental in providing adolescents with factual sex information. Reichelt and Werley (1975, 1976), reporting on the benefits of educational rap sessions, concluded that adolescents are poorly informed in most areas regarding methods of birth control with lack of information rather than faulty information being the main problem. James, James and Walker (1977) also cite a lack of information regarding contraception, sexuality, personal hygiene, and human reproduction as a common complaint of black adolescent girls. The sexual concerns of 13 and 14 year old students were assessed following participation in ten 1½ hour/week sex education sessions utilizing didactic presentation and small group
discussion (Parcel, Finkelstein, Luttman & Nader, 1979). No significant differences were found in the order of expressed concerns or in the number of items subjects reported were still of concern to them. However, items such as "whether someone really loves you" and "some sex dreams I have" were of greater concern at the end of the workshop. Finally, Angelloz (1979) investigated the effects of a ten week human sexuality workshop sponsored by a Presbyterian church in Baton Rouge, Louisiana. The adolescent participants demonstrated significant gains in sex knowledge as a result of the workshop.

**Sexual Attitudes and Behavior.** The areas of sexual attitudes and behavioral changes stemming from participation in sex education programs have also been investigated in adolescent and child populations. West (1976) studied the effects of a family planning unit and reported positive changes in students' attitudes toward family planning as a world concern and attitudes toward birth control. Furthermore, the students' behavior was least affected by the instruction when compared with changes in knowledge and attitudes. In a second study, Greenberg (1975) examined the effects of a three week unit on homosexuality attended by eleventh and twelfth grade students in Buffalo, New York. He found that the unit affected neither faith in people, acceptance of others, nor levels of masculinity and femininity. The students, however, felt that their
attitudes toward different life styles became somewhat more open. Greenberg suggested that faith in people and acceptance of others should be subjected to further study utilizing a homosexuality unit of longer time duration and a younger subject sample. That masculinity-femininity levels did not change as a result of the unit supports the idea that parental concern over the effect of such a unit on gender identity of their children seems unwarranted.

Jensen and Maben (1973) provide a narrative description of a program at a teen center designed to provide information on sex, reproduction, and venereal disease to a sexually promiscuous female teenage gang. The authors reported changes in attitudes concerning sexual behavior. For example, all 11 girls changed their attitudes toward pregnancy and began using contraceptives voluntarily. Thus, there were no unwanted pregnancies during the six months in which the meetings were held. Furthermore, "all the girls stopped participating in gang bangs, regarded such behavior as undesirable and criticized other girls who did" (p. 154). Finally, all of the girls voluntarily sought examination for venereal disease and there were no reported cases during the tenure of the meetings.

Despite the importance of the church as an agent of socialization in American society, only one study in the literature has reported on efforts at sex education in a religious setting. Iverson (1973) investigated the effects
of a sexuality course offered by the Unitarian Church in Washington, D.C. Findings indicated that the adolescent participants completing the course became more liberal in their sexual attitudes. Secondly, the basic sexual standards by which an adolescent guides his sexual behavior remained unchanged as a result of the course. A majority of the adolescents believed sex should be associated with love relationships and cited fear of pregnancy and venereal disease as major deterrents to sexual relations. Thus, Iverson concluded that the course did not lead to promiscuous sexual behavior. A second study by the present author (Angelloz, 1979) reported no significant changes in the love attitudes of the adolescent participants. However, there was a strong tendency for participants who dated or went steady to become more realistic in their views of love as a result of the sex education workshop.

The effects of parental involvement in sex education have also been investigated. Nash (1968), reporting on a pilot sex education program in the Syracuse, New York public school system, cited a significant increase in parent-child interaction following participation in sex education. In a similar vein, Diprizio (1974) described sex education programs in both a public and private school in which child and parental attitudes were assessed. Attitudinal differences between parents and students were found to decrease as a result of the program as did differ-
ences between the public and parochial populations. Data from Rosenberg and Rosenberg's (1976) intensive two day experiential sex education program for adolescents and their families suggest that communication between generations is possible and that such communication assists rather than inhibits the development of an adult identity.

Self-Concept. Although Erikson (1959, 1963, 1968) emphasizes the importance of establishing a healthy sense of identity during adolescence, few studies have investigated the effect of sex education on self-concept in adolescent populations. An early study by Crosby (1970) reported positive changes in self image and self attitudes following participation in a family life education course. Likewise, Jensen and Maben's (1973) female teenage gang members reported improved self-esteem and exhibited a willingness to discuss their own personalities as well as an acknowledgement of positive characteristics about themselves. On the other hand, Angelloz's (1979) adolescent participants did not achieve positive changes in self-concept. However, this lack of change appears to be due to the fact that the participants as a group possessed healthy self-concepts at the outset of the ten week workshop. The relative lack of research in the area of self-concept as related to sex education suggests a need for further study of this variable in adolescent populations.
Effects of Sex Education With the Physically Handicapped

The physically disabled are a population that until recently have been ignored in sex education research. This lack of attention appears to stem from the tendency of professionals to assume that the physically disabled are "disabled" in all aspects of functioning, including sexuality. When the disability is one involving spinal cord injury, there is an even greater tendency to apply this rule. Clinical experience suggests that the physically disabled, like their able-bodied counterparts, have needs for basic sexual information and sexual expression. When these needs are frustrated, anxiety is created and any negative sexual attitudes exacerbate this anxiety. The physically disabled individual becomes psychologically handicapped. Such a climate provides fertile ground for miscommunication, unfulfilling interpersonal relationships, and an inability to effectively express love and affection. Elwood's (1977) study is an attempt to document the effectiveness of a two hour sex education program with institutionalized physically disabled males. His results indicated that a brief sex education program utilizing lecture, films, and group discussion was not effective in alleviating anxiety and changing sex attitudes in the participants. In addition, spinal injured subjects did not respond differently from subjects with various other physical injuries. Finally, the two month follow-up revealed no
significant differences on the variable of self-actualizing love between the subjects who had participated in the sex education program and the placebo control group.

Karpen and Lipke (1974) found sex education included as a part of a four week summer workshop proved beneficial in significantly increasing the sexual knowledge of visually impaired young people. While Elwood's (1977) findings fail to prove the value of brief sex education endeavors with the physically disabled, Karpen and Lipke's (1974) research suggests that workshops of longer duration are effective in at least one category of physical disability. Future research utilizing programs of longer duration and perhaps more sensitive outcome measures is clearly needed with spinal injured individuals before any substantive conclusions can be drawn.

Effects of Sex Education With the Mentally Handicapped

The sexual rights of the mentally retarded and other developmentally disabled groups are receiving increasingly greater attention in recent years, particularly since the passage of Public Law 94:142, the Education for All Handicapped Children Act of 1975. This law mandates that the educational needs of all handicapped individuals, ages 3-21, be met in a manner which resembles as closely as possible that of the normal individual. A liberal interpretation of this law would include the provision of sex information as a part of the special education services
offered to handicapped individuals. Analogous to the concept of mainstreaming, Kempton (1978) cites a need for social-sexual training to help the mentally retarded return to the community. He also lists a need to train professionals capable of providing sex education as well as develop policies in this area. Lebrun and Hutchinson (1977) describe the operation and goals of Camp Kohai, a sex education program for children, adolescents, and adults who are mentally retarded, learning disabled, or have behavioral or emotional problems. The program integrates learning and living with a sex education program which includes the teaching of self-awareness, concern for others, and basic sensitivity. Considering the greater adjustment difficulties imposed on the mentally handicapped, comprehensive sex education programs exploring not only the biological but social, emotional, and psychological aspects of sexuality are essential with this population.

Little sex education research has been conducted with the mentally retarded (MR) and developmentally disabled. In a study of the sex knowledge, sexual attitudes, and self-concepts of 61 institutionalized MR adolescents and 61 noninstitutionalized MR adolescents, Hall and Morris (1976) found the two groups differed on sex knowledge only, with the noninstitutionalized group being more knowledgeable. Rothenberg, Franzblau and Geer (1979) reported on a seven week sex education program for learning disabled male
and female high school students held at the insistence of a group of parents. Interviews conducted with the subjects showed their knowledge of anatomy, reproduction, birth control, venereal disease, and other sexual topics was extremely limited or nonexistent. Results of the program indicated that the amount of material learned varied with the topic; factual information was easily learned but females had difficulty with socially oriented material. The parents and instructors met several times during the course, with the meetings serving to facilitate greater parent-child discussion of sexual matters.

Kempton's (1978) observation that very little work has been done in the area of sexuality of the mentally ill points out another group requiring attention in sex education programs and research. Hausler and Scallon (1977) and Partak and Berner (1977) addressed this topic in a recent symposium on sex education and residential child care. Hausler and Scallon (1977) studied the effects of a 13 session sex education program with preadolescent and adolescent boys having emotional and behavior problems. Although the boys exhibited no improvement in sex knowledge at the end of the program, the staff reported benefits accrued from their participation. A second study (Partak & Berner, 1977) employed emotionally disturbed and developmentally disabled 10-14 year old boys and girls. Assessing the outcome of the 10 session program, the authors concluded
success was indicated by the realistic, healthy, open discussions conducted by the students.

Effects of Sex Education in In-Patient Psychiatric Populations

Sex education efforts on in-patient psychiatric units have been conducted primarily to fulfill the patients' needs for sexual information. Stine's (1974-75) two exploratory sex education programs for hospitalized adult psychiatric patients sought "to provide patients with an opportunity to learn needed facts as well as to verbally explore and clarify their attitudes about human sexuality" (p. 30). Diagnostic categories of the participating patients included schizophrenia, neurotic depression, hysterical personality, and dependent personality, with patients ranging in age from 18-69. The content of the course was mutually contracted for, with the patients defining their own needs, interests, and problems. Results of the course indicated that patients who completed the entire course rated it high in terms of its helpfulness, the patients' increased comfort, and the extent to which it clarified sexual questions. Both patients who completed the course and those who did not felt that the course should be offered to other patients and that the male and female co-leaders were knowledgeable. Patient ratings also indicated that sex education groups should include both sexes as well as varied age ranges. Of no small
significance, there was no reported sexual acting out on the patients' halls during the time the courses were held. The possibility of sexual acting out is a practical concern and often a reservation of staff when providing sex education to patients with varying degrees of impulse control.

Mindek's (1974) study involved a nine week sex education program for female patients on an adolescent in-patient psychiatric unit. The participants ranged in age from 13 to almost 16 years and were sexually experienced. The program had several objectives: 1). to provide facts concerning growth and development of the female and male bodies; 2). to provide accurate information on subjects such as venereal disease, birth control, homosexuality, and prostitution; 3). to provide discussion time for the girls to explore their thoughts and ideas, to clear up misconceptions, and to ask questions; 4). to give the participants the experience of hearing sexual matters discussed in correct terms, openly and freely. The program was further personalized to focus on the participants' problems and feelings. However, while Mindek provided a detailed narrative of topics discussed and participant interaction, she made no formal attempt to evaluate the effects of the program.

Research Questions

In general, research shows that sex education can increase sex knowledge, change sexual attitudes in the
direction of greater acceptance, and promote positive changes in self-concept. From this review, the major question to be investigated is: Does sex education have the same effects in an adolescent in-patient psychiatric population that it has been shown to have in other populations? In order to answer this question, the author has generated several relevant questions as suggested by the literature review to be investigated in this study.

1. Does participation in a sex education workshop lead to significant gains in sexual knowledge as measured by the Sex Knowledge Inventory (SKI)?

2. Does participation in a sex education workshop lead to positive changes in self-concept in terms of:
   a. self-esteem;
   b. self-criticism; and
   c. personal adjustment as measured by the Tennessee Self Concept Scale (TSCS)?

3. Does participation in a sex education workshop lead to greater personal adjustment as measured by the Correction, Depression, Psychasthenia, Schizophrenia, and Ego Strength Scales of the Minnesota Multiphasic Personality Inventory (MMPI)?
Hypotheses

The preceding research questions generated the following experimental hypotheses. The use of a control group receiving attention from the experimenter in the form of group discussions was deemed necessary in order to meet the ethical obligations of conducting research in an applied clinical setting.

1. Using a multivariate analysis of variance a linear composite of change scores on the dependent measures (SKI, TSCS, MMPI) would be significantly different for both experimental and attention control group subjects;

Using univariate analyses of variance:

2. subjects who participate in a sex education workshop would obtain significantly greater change scores on the SKI than attention control subjects;

3. subjects who participate in a sex education workshop would achieve positive changes in self-concept as determined by:
   a. greater change scores on the Total Positive Scale of the TSCS than attention control subjects;
   b. greater change scores on the Self Criticism Scale of the TSCS than attention control subjects;
   c. greater change scores on the General Maladjustment Scale of the TSCS than attention control subjects;

4. subjects who participate in a sex education workshop would achieve greater personal adjustment than attention control subjects as determined by:
   a. greater change scores on the K (Correction) Scale of the MMPI;
b. greater change scores on the D (Depression) Scale of the MMPI;

c. greater change scores on the Pt (Psychasthenia) Scale of the MMPI;

d. greater change scores on the Sc (Schizophrenia) Scale of the MMPI;

e. greater change scores on the Es (Ego Strength) Subscale of the MMPI.
METHOD

Subjects

Twenty-three subjects were selected by the experimenter from the Adolescent Unit at Central Louisiana State Hospital in Pineville, Louisiana for participation in the research. Only adolescents with diagnoses of overtly psychotic and moderately/severely mentally retarded were screened from participation. Otherwise, participation was on a voluntary basis and subject solely to the subjects' and their parents/guardians' informed voluntary consent in accordance with the requirements established by the hospital's Research Committee. See Appendix A.

Subjects were randomly divided into two groups, an experimental group and an attention control group, with an approximately equal number of males and females in each group. See Appendix B. The experimental group consisted of adolescents exposed to a primarily didactic method of teaching sex education, while the attention control group was composed of adolescents who participated in informal discussion sessions. All subjects received 800 points in conjunction with their behavioral management programs for participation in the research.

Experimental Group. Five females and seven males served as the experimental group. Subjects ranged in age from 12-17 with a mean of 14.4 years. Racial composition
included nine whites and three blacks. All of the subjects were single and had never been married. The attrition rate in the experimental group was one; a black female was discharged from the hospital prior to the first session of the workshop.

Attention Control Group. Five females and six males comprised the attention control group. Ages of subjects ranged from 12-17 with a mean of 15.4 years. There were eight whites and three blacks in the group. All subjects were single with the exception of Subject 5 who was separated from her husband. The attrition rate in the attention control group was three. One white female was discharged from the hospital after the third session of the informal discussions. Two white males also terminated their participation in the research. One wanted to participate in the informal discussions but did not want to complete the testing phase of the project. The other male subject terminated his participation for reasons which could not be determined by the experimenter.

As an experimental control measure, subjects in the attention control group were not exposed to any other type of sex instruction during the course of the experiment. Furthermore, none of the subjects had received any sex instruction for three months prior to the beginning of the experiment. Subjects who were on the Adolescent Unit in February 1981 attended lectures on birth control and
venereal disease conducted by personnel from the local family planning center. All subjects were tested by the experimenter, a doctoral student in clinical psychology from Louisiana State University in Baton Rouge currently interning at Central Louisiana State Hospital. A female member of the social service department of the Adolescent Unit assisted in the administration of the tests.

**Apparatus**

McHugh's Sex Knowledge Inventory, Form X Revised edition (McHugh, 1979), Fitts' Tennessee Self Concept Scale - Clinical and Research Form (Fitts, 1964), and the Minnesota Multiphasic Personality Inventory (Hathaway & McKinley, 1943) were employed in the research. A specially designed participant evaluation form to assess the experimental subjects' degree of satisfaction with the workshop was also administered at the posttest. See Appendix C.

**Sex Knowledge Inventory (SKI).** Form X of the SKI was selected to test the sex knowledge of the participants because it is the only commercially available test of sex knowledge. It consists of 80 multiple choice questions with five possible choices. The examinee is required to choose a best answer to each question as determined by "experts" in the fields of sex education and marital counseling. Questions deal with the content areas of "'sex-act techniques', hymen, possible causes of poor
sexual adjustment, sex dreams, birth control, sterilization and circumcision, menstruation, conception, pregnancy and childbirth, superstitions and misconceptions, masturbation, venereal disease, and change of life effects" (Buros, 1972). Angelloz (1976) computed correlation coefficients to determine the utility of the SKI as an instrument for measuring sexual knowledge gained in a college level human sexuality course. Spearman rho correlation coefficients of .64 between pretest and mid-semester grade and .75 between posttest and final grade, both significant at an alpha level of .01 were obtained.

**Tennessee Self Concept Scale (TSCS).** The TSCS was selected to assess different aspects of the participants' self concepts. It is the most widely used and researched self concept instrument. The Clinical and Research Form of the TSCS is composed of 100 self-referent statements adopted from several other self concept scales and the Lie Scale of the MMPI (Hathaway & McKinley, 1943). Response choices for each question range on a continuum from completely false to completely true. Self concept is conceptualized in terms of Fitts' (1964) 3 (identity, self satisfaction, behavior) x 5 (physical self, moral-ethical self, personal self, family self, social self) model. The TSCS yields scores purporting to assess the following dimensions of the self concept: self-criticism, self-esteem, variability among the different aspects of the

The Total Positive and Self Criticism Scales of the TSCS were used to determine pretest-posttest changes in self concept. The Total Positive Score reflects the subject's overall level of self-esteem. Referred to by Fitts (1964) as the "most important single score" (p. 2), factor analytic studies by Deiker and Lanthier (1975) and Pound, Hansen and Putnam (1977) provide evidence of construct validity for this score. Deiker and Lanthier (1975), in the most comprehensive study to date, reported the following results in an adolescent in-patient psychiatric population:

1. Total Positive Scores, which were independent of age, sex, and intelligence were positively correlated with the following measures:
   a. Factors C (Ego Strength), H (Social Boldness), O (Untroubled Adequacy), O₂ (Self-Sufficiency), and O₃ (Self-Sentiment Strength) of the High School Personality Questionnaire and the 16 Personality Factor Questionnaire;
   b. positive future outlook on the Guevara Success/Failure Inventory;
   c. internal reward orientation on the Rotter I-E Scale;
   d. overall academic achievement on the California Achievement Test.

2. Total Positive Scores were not significantly related to scores on the Social Presence and Self Acceptance Scales of the California Psychological Inventory.
3. Total Positive Scores were negatively correlated with the number of problems reported on the Mooney Problem Checklist.

4. Total Positive Scores were neither related to treatment completion nor improvement as rated by therapists.

Pound et al. (1977) also investigated the contributions of the TSCS to the understanding of self concept. They concluded that one general factor, best represented by overall level of self-esteem, accounted for the majority of explainable variance within the subscales.

The Self Criticism (SC) Scale is based on 10 items taken from the Lie Scale of the MMPI. High scores on this scale are indicative of "a normal healthy openness and capacity for self-criticism" (Fitts, 1964, p. 2), while low scores suggest defensiveness and efforts to present oneself in a favorable light. Stewart (1976) indicated that the Positive scores which comprise the Total Positive Score, the Self Criticism Scale, and the T/F Ratio are generally independent of one another. Likewise, Fitzgibbons and Cutler (1972) found that factors representing positive self-evaluation and tendency to place oneself in a favorable light accounted for the largest and second largest proportion of variance in a factor analysis of the TSCS. The authors suggested that the positive self-evaluation factor is "equivalent to the personality construct 'ego strength'" (p. 185). They further interpreted the second largest factor as "indexing the same variables as the L-scale"
(p. 185) from which the Self Criticism Score is derived.

In addition to reporting validity data for the TSCS, Stewart (1976) also computed two year test-retest reliability coefficients, obtaining .83 for the Total Positive Score and .84 for the Self Criticism Score. These coefficients are somewhat consistent with Fitts' (1964) two week test-retest coefficients of .92 and .75 for the Total Positive and Self Criticism Scores, respectively.

In addition to the eight basic scores yielded by the TSCS, Fitts (1964) empirically derived six scales by item analysis. These scales which purport to differentiate groups of subjects are the Defensive Positive, General Maladjustment, Psychosis, Personality Disorder, Neurosis, and Personality Integration Scales. The General Maladjustment (GM) Scale was chosen as one of the measures to assess personal adjustment in this study. It is composed of 24 items which differentiate psychiatric patients from non-patients and thus serves as a "general index of adjustment-maladjustment" (Fitts, 1964, p. 5). High T-scores are generally obtained by psychiatric patients and other individuals experiencing psychological difficulty, while low T-scores are obtained by psychologically healthy or normal individuals. The GM Scale correlates .62 with the Psychasthenia Scale, .62 with the Schizophrenia Scale, and -.51 with the Ego Strength Subscale of the MMPI (Fitts, 1964). Fitts' (1964) test-retest reliability of .87 suggests that
the GM Scale has adequate stability over time. In a factor analytic study of the TSCS, Bertinetti and Fabry (1977) determined that the empirical scales are independent of each other rather than interdependent as postulated in Fitts' (1964) model of the self concept.

**Minnesota Multiphasic Personality Inventory (MMPI).**
The MMPI is composed of 566 true-false items and is the most widely used objective test of personality. These items are divided among 10 clinical scales and 4 validity scales. The clinical scales are: 1. Hypochondriasis (Hs); 2. Depression (D); 3. Hysteria (Hy); 4. Psychopathic deviate (Pd); 5. Masculinity-Femininity (Mf); 6. Paranoia (Pa); 7. Psychasthenia (Pt); 8. Schizophrenia (Sc); 9. Mania (Ma); 10. Social Introversion (Si). The validity scales, ?, Lie (L), Frequency (F), and Correction (K), are designed to detect test taking behaviors such as response set and degree of defensiveness.

The K, D, Pt and Sc Scales plus Barron's (1953) Ego Strength (Es) subscale were used to assess treatment changes in personal adjustment. Previous research has demonstrated the special sensitivity of these scales to patient improvement in psychotherapy (Garfield, Prager & Bergin, 1971; Berzins, Bednar & Severy, 1975). Barron (1953) developed the Es subscale as an "estimate of adaptability and personal resourcefulness" intended to "measure the various aspects of effective personal functioning" (p. 327). Originally
designed to predict the response of patients to psychotherapy, the subscale appears to be adequately valid and reliable. Barron (1953) reported significant differences between the Es scores of patients judged as Improved and Unimproved in therapy by independent ratings of two skilled judges. He obtained an odd-even reliability coefficient of .76 and a three month test-retest coefficient of .72. In comparing the Es subscale to the clinical and validity scales of the MMPI, Barron (1953) found high negative correlations ranging between -.50 and -.70 with the Hypochondriasis, Depression, Hysteria, Psychasthenia, Schizophrenia, and Paranoia Scales. The author interpreted this data as suggesting "that the prediction scale is picking up a general factor of psychopathology in the MMPI, reflecting degree of maladjustment or ego-dysfunction irrespective of differential diagnosis" (Barron, 1953, p. 330).

Berzins, Bednar and Severy (1975) studied the problem of intersource consensus among several therapist, patient, and independent judge measures of therapeutic outcome. With respect to the MMPI as a criterion measure, they reported higher pretest-posttest t ratios on the K, D, Pt, Sc, Es, and Si Scales than on all other MMPI scales. Test-retest reliability coefficients for these scales were: K = .62; D = .54; Pt = .59; Sc = .60; Es = .57; Si = .63. These correlations closely parallel those obtained by Stone (1965) in a male psychiatric population with a one year interval
between tests. As would be expected, Stone's (1965) and Berzins et al.'s (1975) correlation coefficients are lower than Jurjevich's (1966) and Eichman's (1973) coefficients obtained with a one to two week interval between tests. These two authors reported the following correlations in male and female psychiatric populations, respectively:

\[ K = .85, .71; \ D = .89, .80; \ Pt = .83, .86; \ Sc = .74, .86; \ Si = .88, .80. \]

Berzins et al. (1975) then performed a principal components factor analysis to detect the contribution of each outcome measure to therapeutic change. Four components emerged. The first component, changes in patient-experienced distress, accounted for 36% of the common variance and was "defined principally by patient-reported decreases on the Pt, D, and Sc scales, along with increases on the Es scale of the MMPI" (p. 13). Likewise, the fourth component, labeled "changes in self-acceptance", accounted for 15% of the common variance and depicted "increased self-acceptance (increases on K, Es, and the self-ideal Q sort)" (p. 14). Finally, Berzins et al. (1975) subjected their data to a typological analysis employing a correlational clustering procedure. The first cluster (\( N = 19 \)) contained patients exhibiting improvement on all outcome measures, with the largest changes occurring on the Q Sort, D, Es, and K Scales of the MMPI. The authors suggested that increased self-acceptance was the most characteristic change for this group of patients. On the other hand,
the fourth cluster which contained five patients seen as deteriorating by therapists' ratings was distinguished by increases in K Scale scores. Thus, Berzins et al.'s (1975) study appears to provide several lines of evidence for the utility of the K, D, Pt, Sc, and Es Scales as treatment outcome measures.

Description of the Independent Variable

Experimental Group: The Sex Education Workshop (SEW). Subjects participating in the sex education workshop were exposed to a series of 8 formal one-hour lectures. These lectures were presented by the experimenter, an experienced sex educator, during the course of a two-week period. An opportunity for having questions answered was provided. Topics for the workshop included: anatomy and physiology of the male and female reproductive systems; conception, growth, and development of the fetus, labor and delivery; dating, love and heterosexual behavior; methods of contraception; venereal disease; variant sex practices; sexual responsibility and values; marriage and parenthood versus remaining single. In addition, the workshop utilized oral and written exercises to facilitate small group discussion of the designated topic for each session. See Appendix D.

A teaching format of lecture and small group discussion was developed based on the following research. Watts (1977) investigated the efficacy of three teaching methods: lecture, independent study + small group discussion,
audiovisual. The lecture method was significantly more effective in producing sex knowledge and attitude change than the audiovisual method. No further comparisons of methods reached significance. Likewise, Mandel (1977), in a study using sexually explicit films with adult participants, found that inclusion of films versus no films in a sex education workshop did not have a significantly greater effect on sex knowledge and attitude change. Finally, Garcia Werebe and Reinert (1976) described a comparison of the effects of two methods of providing sex education to adolescents, presentation of information versus free discussion. Their results indicated that: 1). both methods contributed to increased sex knowledge; 2). material which was retained longest and best was that related directly to the subjects' concerns; 3). certain information was "not heard" for reasons that could not be determined; 4). opinions and values about sexuality reflected the subjects' cultural milieu, especially the family religion; and 5). the discussion method contributed to the establishment of positive communication among the subjects.

Drawing on the research of Watts (1977), Mandel (1977), and Garcia Werebe and Reinert (1976), the present workshop was conceptualized so as to provide factual sexual information via lectures and facilitate positive communication among the subjects with the use of small group discussion. In addition, the experimenter chose topics for the workshop
considered to be related directly to adolescent concerns.

Attention Control Group: The Informal Discussion (ID) Group. The subjects forming this group participated in a series of 8 one-hour informal group discussions that were held over a two-week time period. Since this group was conducted as an informal discussion group by the experimenter, subjects were responsible for selecting a topic(s) for each discussion session. See Appendix E. The topics they chose included: hobbies, childhood experiences, "what to do on a date", perceptions of staff at the Adolescent Unit, personal experiences in using street drugs, personal and family problems.

As a control measure, all discussion of sexual topics in which factual information was presented by either the experimenter or the participants was prohibited. To avoid the ethical issue of withholding treatment, all subjects in this group having questions related to sexuality were given an opportunity to have questions answered and information provided to their satisfaction following the conclusion of the final session of the group.

Procedure

The experiment utilized a pretest-posttest research design. The SEW and ID control groups of subjects were pretested in a group setting prior to the first session of each respective group. Due to the fatigue level of the subjects and the fact that the experiment was conducted at
night after the day's activities, the SKI was administered first, followed by the MMPI and the TSCS on three consecutive weekday nights. The experimenter was available throughout the testing to answer questions the subjects had concerning their understanding of test items on the SKI, MMPI, and TSCS. The subjects had less difficulty completing the TSCS and MMPI since they are more familiar with objective personality tests. In addition, seven subjects who were unable to read and comprehend the three tests required oral administration for both pretest and posttest.

A time lapse of approximately three weeks existed between the pretest and the posttest, during which time subjects were exposed to the two group treatments. The posttest was conducted in the same manner as the pretest. In addition, subjects in the SEW group were required to complete the participant evaluation form.
RESULTS

The present study was an experimental investigation of the effects of a sex education workshop on sex knowledge, self-concept, and personal adjustment in an adolescent in-patient psychiatric population. The dependent variables were sex knowledge as measured by the Sex Knowledge Inventory, self-concept as measured by the Total Positive, Self Criticism, and General Maladjustment Scales of the Tennessee Self Concept Scale, and personal adjustment as measured by the K, D, Pt, Sc, and Es Scales of the Minnesota Multiphasic Personality Inventory. Group means and standard deviations for pretest, posttest, and change scores were reported for all dependent measures. See Tables 1 and 2.

Statistical Analysis of the Data

The data was analyzed using a multivariate analysis of variance (MANOVA) design testing the null hypothesis that a linear composite of change scores on the dependent measures would be equal for both treatment groups. The MANOVA failed to reach significance, Hotelling-Lawley Trace \( F(9,9) = .89, p = .5699 \). Pillai's Trace and Wilk's Criterion for computation of the MANOVA yielded the same \( F \) and \( p \) values, thus supporting the results of the Hotelling-Lawley Trace. Participation in the sex education workshop (SEW) did not differentially affect the change
Table 1
Pretest-Posttest Means and Standard Deviations of Dependent Measures by Treatment Group

<table>
<thead>
<tr>
<th>Measure</th>
<th>SEW Group</th>
<th></th>
<th></th>
<th>ID Group</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pretest</td>
<td>Posttest</td>
<td>Pretest</td>
<td>Posttest</td>
<td>Pretest</td>
<td>Posttest</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>S.D.</td>
<td>Mean</td>
<td>S.D.</td>
<td>Mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>SKI</td>
<td>25.6</td>
<td>12.1</td>
<td>36.0</td>
<td>12.3</td>
<td>23.8</td>
<td>8.6</td>
</tr>
<tr>
<td></td>
<td>(7.6)</td>
<td>(14.1)</td>
<td>(24.6)</td>
<td>(25.2)</td>
<td>(2.6)</td>
<td>(3.4)</td>
</tr>
<tr>
<td>TSCS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TP</td>
<td>327.2</td>
<td>30.8</td>
<td>337.4</td>
<td>35.4</td>
<td>320.0</td>
<td>52.0</td>
</tr>
<tr>
<td>SC</td>
<td>33.8</td>
<td>5.2</td>
<td>34.1</td>
<td>6.4</td>
<td>35.9</td>
<td>7.0</td>
</tr>
<tr>
<td>GM</td>
<td>85.7</td>
<td>9.6</td>
<td>90.7</td>
<td>10.4</td>
<td>89.1</td>
<td>11.7</td>
</tr>
<tr>
<td>MMPI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>53.5</td>
<td>5.1</td>
<td>53.6</td>
<td>8.4</td>
<td>52.6</td>
<td>22.4</td>
</tr>
<tr>
<td>D</td>
<td>56.3</td>
<td>13.4</td>
<td>60.5</td>
<td>15.1</td>
<td>58.8</td>
<td>9.2</td>
</tr>
<tr>
<td>Pt</td>
<td>51.2</td>
<td>10.2</td>
<td>52.5</td>
<td>10.5</td>
<td>58.8</td>
<td>17.4</td>
</tr>
<tr>
<td>Sc</td>
<td>55.1</td>
<td>12.1</td>
<td>55.1</td>
<td>9.6</td>
<td>63.6</td>
<td>15.6</td>
</tr>
<tr>
<td>Es</td>
<td>49.1</td>
<td>11.0</td>
<td>48.8</td>
<td>10.2</td>
<td>42.1</td>
<td>17.0</td>
</tr>
</tbody>
</table>

Means and standard deviations for SKI raw scores with percentiles in parentheses, TSCS raw scores, and MMPI T-scores are reported. All means and standard deviations are rounded off to the nearest tenth.
Table 2
Means and Standard Deviations of Change Scores
on Dependent Measures by Treatment Group

<table>
<thead>
<tr>
<th>Measure</th>
<th>SEW Group</th>
<th>ID Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S.D.</td>
</tr>
<tr>
<td>SKI</td>
<td>10.4</td>
<td>8.8</td>
</tr>
<tr>
<td>TSCS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TP</td>
<td>10.2</td>
<td>23.3</td>
</tr>
<tr>
<td>SC</td>
<td>.3</td>
<td>4.8</td>
</tr>
<tr>
<td>GM</td>
<td>5.0</td>
<td>9.9</td>
</tr>
<tr>
<td>MMPI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>.1</td>
<td>7.7</td>
</tr>
<tr>
<td>D</td>
<td>4.3</td>
<td>14.3</td>
</tr>
<tr>
<td>Pt</td>
<td>1.4</td>
<td>8.9</td>
</tr>
<tr>
<td>Sc</td>
<td>.0</td>
<td>7.9</td>
</tr>
<tr>
<td>Es</td>
<td>-.3</td>
<td>8.9</td>
</tr>
</tbody>
</table>

*Means and standard deviations are rounded off to the nearest tenth.*
scores of the participants as compared to those of the informal discussion (ID) group.

Univariate analyses of variance (ANOVAS) were computed to test Hypotheses 2, 3a-c, and 4a-e. See Tables 3-11. Hypothesis 2 was supported with the finding that the SEW subjects obtained significantly greater change scores on the SKI than the ID subjects, $F(1,17) = 4.11, p = .05$. A significant $F$-test was also obtained on Hypothesis 4c, $F(1,17) = 4.99, p = .04$. Interestingly, this finding reflected greater change scores on the Pt Scale of the MMPI by ID subjects rather than SEW subjects. None of the remaining seven $F$-tests was significant.

A post hoc analysis of covariance was performed using the pretest scores on each of the dependent measures as the covariate. Results of this analysis yielded a significant treatment effect on the sex knowledge variable, $F(1,16) = 4.78, p = .04$. A stronger treatment effect was demonstrated when the effects of the pretest SKI were covaried with the posttest SKI scores. However, the analysis of covariance on the Pt scores using the Pt pretest scores as the covariate was not significant, $F(1,16) = 3.17, p = .09$. This finding refutes the spuriously significant ANOVA reported earlier. Thus, the treatment did not lead to greater change scores by either the SEW or ID subjects. Results of the remaining analyses of covariance substantiated those of the univariate ANOVAS in that the treatment
Table 3

Analysis of Variance on SKI Scores for Both Treatment Groups

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>304.90</td>
<td>1</td>
<td>304.90</td>
<td>4.11</td>
<td>.05</td>
</tr>
<tr>
<td>Error</td>
<td>1262.05</td>
<td>17</td>
<td>74.24</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4

Analysis of Variance on Total Positive Scores of the TSCS for Both Treatment Groups

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>6.59</td>
<td>1</td>
<td>6.59</td>
<td>.01</td>
<td>.94</td>
</tr>
<tr>
<td>Error</td>
<td>21171.51</td>
<td>17</td>
<td>1245.38</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 5
Analysis of Variance on Self Criticism Scores of the TSCS for Both Treatment Groups

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>2.77</td>
<td>1</td>
<td>2.77</td>
<td>.10</td>
<td>.75</td>
</tr>
<tr>
<td>Error</td>
<td>448.18</td>
<td>17</td>
<td>26.36</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6
Analysis of Variance on General Maladjustment Scores of the TSCS for Both Treatment Groups

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>127.66</td>
<td>1</td>
<td>127.66</td>
<td>1.08</td>
<td>.31</td>
</tr>
<tr>
<td>Error</td>
<td>2015.50</td>
<td>17</td>
<td>118.56</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 7
Analysis of Variance on K Scores of the MMPI
for Both Treatment Groups

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>148.33</td>
<td>1</td>
<td>148.33</td>
<td>.92</td>
<td>.35</td>
</tr>
<tr>
<td>Error</td>
<td>2730.41</td>
<td>17</td>
<td>160.61</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 8
Analysis of Variance on D Scores of the MMPI
for Both Treatment Groups

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>161.10</td>
<td>1</td>
<td>161.10</td>
<td>.84</td>
<td>.37</td>
</tr>
<tr>
<td>Error</td>
<td>3250.06</td>
<td>17</td>
<td>191.18</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 9
Analysis of Variance on Pt Scores of the MMPI
for Both Treatment Groups

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>693.74</td>
<td>1</td>
<td>693.74</td>
<td>4.99</td>
<td>.04</td>
</tr>
<tr>
<td>Error</td>
<td>2365.42</td>
<td>17</td>
<td>139.14</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 10
Analysis of Variance on Sc Scores of the MMPI
for Both Treatment Groups

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>88.65</td>
<td>1</td>
<td>88.65</td>
<td>1.26</td>
<td>.28</td>
</tr>
<tr>
<td>Error</td>
<td>1191.88</td>
<td>17</td>
<td>70.11</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 11
Analysis of Variance on Es Scores of the MMPI for Both Treatment Groups

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>161.10</td>
<td>1</td>
<td>161.10</td>
<td>1.23</td>
<td>.28</td>
</tr>
<tr>
<td>Error</td>
<td>2222.06</td>
<td>17</td>
<td>130.71</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
had no significant effect on the other seven dependent measures.

To investigate whether level of sex knowledge was related to change on personality scores, SKI scores were correlated with change in the personality variables over the treatment. Correlations ranged from -.21 to .16, none of which were significant. See Table 12.

Participant Evaluation of the Sex Education Workshop

Results of the 12 objective statements rated by the SEW participants at the posttest to evaluate the sex education workshop were reported both individually and as group means. See Table 13. A narrative of the results is listed by question as follows:

1. All 11 participants agreed that the sex education workshop had been worthwhile or helpful. Comments by participants concerning why the workshop had been helpful included: "because it teaches us to think ahead and if we do things to accept responsibility" (Subject 2); "because I feel my parents (mother) has never related to me about such matters" (Subject 4).

2. Seven participants (64%) disagreed with the statement that the presentation of material had been too honest or embarrassing. Only one subject (#2) felt "the parts on homosexuality" had been "embarrassing".

3. Eight participants (73%) disagreed with the statement that their questions had not been answered.
Table 12
Correlation Matrix of Dependent Variables

<table>
<thead>
<tr>
<th></th>
<th>SKI</th>
<th>TP</th>
<th>SC</th>
<th>GM</th>
<th>K</th>
<th>D</th>
<th>Pt</th>
<th>Sc</th>
<th>Es</th>
</tr>
</thead>
<tbody>
<tr>
<td>SKI</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TP</td>
<td>-.05</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SC</td>
<td>.02</td>
<td>-.19</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GM</td>
<td>.16</td>
<td>.78</td>
<td>.01</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>-.21</td>
<td>.08</td>
<td>-.19</td>
<td>.07</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>.11</td>
<td>-.28</td>
<td>.14</td>
<td>.14</td>
<td>.19</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pt</td>
<td>.12</td>
<td>-.32</td>
<td>.49</td>
<td>-.01</td>
<td>-.37</td>
<td>.69</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sc</td>
<td>-.15</td>
<td>-.14</td>
<td>.24</td>
<td>-.12</td>
<td>-.24</td>
<td>.24</td>
<td>.55</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Es</td>
<td>.01</td>
<td>.35</td>
<td>-.24</td>
<td>.11</td>
<td>.51</td>
<td>-.37</td>
<td>-.65</td>
<td>-.37</td>
<td>1.00</td>
</tr>
</tbody>
</table>
Table 13
Results of the Participant Evaluation of the Sex Education Workshop

<table>
<thead>
<tr>
<th>Subject^a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question^b 1 2 3 4 6 7 8 9 10 11 12 x</td>
</tr>
<tr>
<td>--------------------------------</td>
</tr>
<tr>
<td>1. The sex education workshop was worthwhile or helpful.</td>
</tr>
<tr>
<td>2 1 2 1 1 2 . 2 2 2 2 2 2 1.7</td>
</tr>
<tr>
<td>2. The presentation of material has been too honest or embarrassing.</td>
</tr>
<tr>
<td>4 4 1 5 5 3 - 4 4 4 4 4 3 3.7</td>
</tr>
<tr>
<td>3. My questions have not been answered.</td>
</tr>
<tr>
<td>4 5 2 5 4 3 5 4 4 3 4 3 3.9</td>
</tr>
<tr>
<td>4. The information was presented in such a way that it was easy to understand.</td>
</tr>
<tr>
<td>5 1 1 1 1 1 2 2 2 2 2 2 1.9</td>
</tr>
<tr>
<td>5. The workshop has helped me to understand and accept myself better.</td>
</tr>
<tr>
<td>2 1 2 2 5 2 1 2 3 2 2 2 2.2</td>
</tr>
</tbody>
</table>
6. The workshop has helped me to understand and accept other people better, even those that are different from me.

   2   2   1   3   3   2   2   2   3   2   3   2.3

7. The workshop has helped me to understand myself better as a young man/young woman.

   2   1   5   1   1   2   2   3   3   2   2   2.2

8. The workshop has helped change some of my opinions about love.

   2   1   2   5   5   2   2   3   3   2   5   2.9

9. The workshop has helped me feel more comfortable in groups containing young men.

   2   2   5   1   1   2   2   4   3   2   2   2.4

10. The workshop has helped me feel more comfortable in groups containing young women.

    2  1  1  5  2  2  3  2  2  1  2.0
11. The workshop has helped me feel more comfortable in groups containing both young men and young women.

<table>
<thead>
<tr>
<th>Question</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2.0</td>
</tr>
</tbody>
</table>

12. The workshop has helped me feel more comfortable with people in general.

<table>
<thead>
<tr>
<th>Question</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2.3</td>
</tr>
</tbody>
</table>

\(^a\) Subject number corresponds to listing of subjects in Appendix B.

\(^b\) For answering questions 1-12, the following rating scale was used:

1 = strongly agree; 2 = agree; 3 = undecided; 4 = disagree; 5 = strongly disagree.
4. Ten participants (91%) agreed that the information was presented in such a way that it was easy to understand.

5. Nine participants (82%) felt that the workshop had helped them to understand and accept themselves better.

6. Seven participants (64%) felt that the workshop had helped them to understand and accept other people better.

7. Eight participants (73%) felt that the workshop had helped them to understand themselves better as young men and young women.

8. As a group, participants were undecided as to whether the workshop had helped change some of their opinions about love. However, six participants (55%) felt their opinions about love had changed as a result of their participation in the workshop. Subject 2 who strongly agreed that the workshop had helped change some of her opinions about love commented that "sex isn't everything".

9. Eight participants (73%) agreed that the workshop had helped them feel more comfortable in groups containing young men.

10. Nine participants (82%) agreed that the workshop had helped them feel more comfortable in groups containing young women.

11. Nine participants (82%) agreed that the workshop had helped them feel more comfortable in groups containing
both young men and young women.

12. As a group, participants agreed that the workshop had helped them feel more comfortable with people in general. However, six participants (55%) were undecided in their ratings of this statement.

In general, participants' ratings of the workshop were positive in terms of the teaching format and changes in self acceptance, acceptance of others, and comfort in interpersonal situations. As a group, the subjects listed male and female anatomy, birth control, conception and development of the baby, venereal disease, male and female relationships, and marriage and parenthood as the topics they found most interesting. Homosexuality and venereal disease were listed by Subjects 2 and 4 and birth control was listed by Subject 3 as least interesting topics since these subjects claimed to have some prior knowledge of these topics. Subjects 1, 9, and 12 listed marriage and parenthood vs. remaining single as the least interesting topic.
DISCUSSION

The results of the study offered support for predicted change in only one of the ten hypotheses tested. The SEW participants manifested significantly higher levels of sex knowledge as a result of their participation in the sex education workshop. This finding is especially noteworthy in light of the fact that the Revised SKI (McHugh, 1979) is more oriented towards the psychology of human sexuality rather than factual information per se which was the primary objective of the workshop. Additionally, the SKI was originally intended for use with high school and college populations. Since the SKI is the only commercially available objective measure of sex knowledge, it was employed in the present study despite the fact that eight of the 11 participants who completed the sex education workshop were junior high level students. Visual inspection of the SKI scores of these eight participants indicated pretest-post-test increases by seven of the eight participants. These results, along with those of the pilot study for this research (Angelloz, 1979), provide evidence of the utility of the SKI as a measure of sex knowledge in younger adolescents.

The finding that sex education for hospitalized adolescent psychiatric patients produces increased sex knowledge corroborates the findings of earlier studies.
of sex education in normal and special adolescent populations (Angelloz, 1979; Crosby, 1970; Monge, Dusek & Lawless, 1977; Rothenberg, Franzblau & Geer, 1979; West, 1976). Given the paucity of research in the area of sex education in in-patient psychiatric populations, the study is the first formal attempt to evaluate the effects of sex education in this population. It does, however, parallel the results of Stine's (1974-75) study of the effects of sex education programs for adult psychiatric patients in several respects. As a group, the SEW participants held the opinion that the workshop had been worthwhile and helpful. They further felt that participation in the workshop had led to increased comfort in interpersonal situations. Finally, there were no reported incidents of sexual acting-out by either SEW or ID participants during the course of the workshop. This observation demonstrates that emotionally disturbed adolescents are capable of approaching sex education with a reasonable degree of maturity and responsibility. As such, it should serve to help alleviate unjustified fears of adolescent treatment staff concerning the potential for sexual acting-out in response to sex education efforts.

Overall, the sex education workshop was ineffective as a treatment insofar as the self-concept and personal adjustment variables are concerned. The SEW participants achieved neither positive changes in self-concept as measured by the TSCS nor greater personal adjustment
as measured by the MMPI. This lack of predicted change is largely due to the fact that almost all of the pretest TSCS and MMPI mean scores for both the SEW and ID participants fell within subclinical or normal ranges. This finding replicates the results of previous research (Angelloz, 1979) by the author on the variable of self-concept change as related to participation in a sex education workshop. In the present study, only the pretest General Maladjustment score for the SEW participants was in the clinical range. Although the SEW participants achieved greater change scores on this dependent measure than the ID participants (+5.0 points vs. -0.3 points) as predicted by Hypothesis 3c, the difference was not statistically significant.

Likewise, the subclinical group scores are not due to the frequently observed phenomenon of individual scores on profiled measures such as the TSCS and MMPI losing their individual character and becoming buried within the group data. In terms of individual scores, only 15 of the total 114 TSCS pretest-posttest scores and 30 of the total 190 MMPI pretest-posttest scores were within clinical ranges. Of these scores, the deviant TSCS scores were all within one standard deviation of the normal range and only one of the 30 deviant MMPI scores was more than two standard deviations outside of the normal range. Thus, the possibility of extreme scores biasing the data can be rejected.
While it is possible that the TSCS and MMPI were not adequately valid instruments for assessing self-concept and personal adjustment in this study, factors idiosyncratic to the subject sample appear to be a far more plausible explanation. An examination of diagnostic categories of the subjects may help to delineate those factors which account for the subclinical TSCS and MMPI scores. Ten of the 19 participants in the SEW and ID groups were diagnosed as conduct, oppositional, or personality disorders. In the adolescent population from which the participants were drawn, patients receiving these diagnoses more often than not yield subclinical profiles on clinical tests of personality such as the MMPI. This observation also holds true for a similar out-patient population of adolescent boys with whom the author has been utilized as a sex education consultant. Personal adjustment in this group is defined more on the basis of overt deviant behavior rather than intrapersonal dynamics that are more accessible to assessment by the clinical scales of the MMPI, particularly those utilized in this study. Similarly, impairment in self-esteem is not a diagnostic criterion for any of these categories. As expected from the diagnoses, the TSCS assessed the conduct, oppositional, and personality disordered participants as possessing healthy self-concepts, thus precluding the potential for positive change on this parameter.
One of the SEW participants received a diagnosis of parent-child disorder. This diagnostic category reflects a pathological interaction between a parent and a child not due to existing pathology in either the parent or the child. Again, the TSCS and MMPI did not assess impaired self-concept and personal maladjustment where such pathology would not be expected to exist.

The remaining eight SEW and ID participants were diagnosed as having either identity, psychotic, or affective disorders. These eight participants accounted for 16 of 30 and 12 of 15 deviant scores on the MMPI and TSCS, respectively, as noted earlier. Otherwise, their scores on the MMPI and TSCS uniformly fell within normal ranges. Previous research (Garfield, Prager & Bergin, 1971; Berzins, Bednar & Severy, 1975) has demonstrated the sensitivity of the K, D, Pt, Sc, and Es scales of the MMPI as treatment outcome measures. However, the eight subjects diagnostically most likely to exhibit change failed to do so because, like their counterparts, they yielded MMPI scores within normal limits. While visual inspection of individual scores for these subjects often depicted substantial change, the resulting change was not great enough to affect the group scores in either treatment.

When diagnostic information is taken into consideration, it appears that external factors rather than internal attributes, sex-related or otherwise, precipitated hospital-
ization at the Adolescent Services for many of the participants. More specifically, familial and other social interactional factors are leading reasons for hospitalization for the adolescent population from which the subject sample was drawn. Unfortunately, removal of the adolescent from an unhealthy family environment is often the only solution to prevent him from experiencing further personal difficulties. Of course, the existence of familial difficulties does not exclude the possibility of personal maladjustment in the adolescent. But, to the extent that such familial difficulties exist, the probability of a given adolescent experiencing personal difficulties in response to this situation is greatly increased. An examination of the social histories of the SEW and ID participants yielded evidence that a disproportionate number of the participants are products of unstable family environments. A majority of the participants were either: 1). wards of the state because of their family situations; 2). from one parent homes due to marital separation/divorce; 3). from two parent homes fraught with marital and familial conflict; or 4). residing with relatives other than parents prior to hospitalization. Social data such as these suggest that treatment outcome measures of familial and interpersonal adjustment may have been more useful parameters to investigate in the present study. These factors are at least equal to, and frequently more important than intrapersonal
dynamics in determining prognosis for the adolescent participants in the study.

Results of the participant evaluation of the sex education workshop substantiate the need to address interpersonal concerns. The SEW participants as a group felt that their participation in the workshop had led to increased comfort in a variety of interpersonal situations. A need to address social and relationship issues had to exist and be recognized by the participants before they could perceive the need as having been fulfilled by the workshop. Although the TSCS yielded no objective evidence of positive change in self-concept for the reasons mentioned earlier, results of the participant evaluation confirmed that perceived change on this variable had occurred. As a group, SEW participants felt that the workshop had not only helped them to understand and accept themselves better as people but also as sexual beings. They further felt that the workshop had helped them to better understand and accept other people, even those who are perceived as being different from themselves. This shift in self attitudes towards increased understanding and acceptance of self and others is reflective of healthy self-concept development. Thus, the results of the participant evaluation provide subjective evidence of self-concept change.

An obvious limiting factor in the present study was the small subject sample. However, this is one of the
inevitable difficulties of conducting research in any applied clinical setting. Mindek's (1974) study on an adolescent psychiatric unit included 12 subjects while 16 adults hospitalized on a psychiatric unit served as the subjects in Stine's (1974-75) study. Mindek's (1974) study highlighted the increased difficulty in recruiting minors for research since they require parental consent before participation is possible. The issue of obtaining parental consent significantly delayed the beginning of the present study and almost jeopardized the project altogether. Finally, the attempt to utilize a control group in applied research is difficult and no doubt accounts for the relative absence of controlled clinical research.

It is unlikely that future studies of the effects of sex education in in-patient psychiatric populations will be able to account for the limiting factor of small subject samples. However, the present study suggested two fruitful lines for future research. The effects of sex education in adolescent psychiatric patients manifesting enough personal maladjustment and impaired self-esteem to be detected by clinical measures such as the MMPI and TSCS still remain to be assessed. Additionally, the relationship between external factors such as familial and social adjustment should be investigated, particularly in light of the fact that adolescence is a time for establishing the ability to
form interpersonal relationships, both within the family and in society as a whole (Erikson, 1968).
REFERENCES


Diprizio, C. S. The effects of a program of sex education on the attitudes of junior high school students and their parents (Doctoral dissertation, Northwestern University, 1974). *Dissertation Abstracts International,* 1975, 35(10-B), 5081. (University Microfilms No. 75-7902)


Shofer, L. M. The relationship between college coursework in sex education, students' reasons for enrolling in the course, students' reactions to course components and changes in their self concept (Doctoral dissertation, University of Maryland, 1972). *Dissertation Abstracts International*, 1973, 34(1-B), 286. (University Microfilms No. 73-17,051)

Stine, D. Sex education in a psychiatric hospital. 
*Journal of the National Association of Private Psychiatric Hospitals*, 1974-75, 6(4), 30-34.

Stone, L. A. Test-retest stability of the MMPI scales. 
*Psychological Reports*, 1965, 16, 619-620.

Watts, P. R. Comparison of three human sexuality teaching methods used in university health classes. 

*Dissertation Abstracts International*, 1977, 37(8-A), 4883-4884. (University Microfilms No. 77-2532)


Zuckerman, M., Tushup, R. & Finner, S. The effects of a course in human sexuality on sexual attitudes and experience. 

Zuckerman, M., Tushup, R. & Finner, S. Sexual attitudes and personality correlates and changes produced by a course in sexuality. 
APPENDICES
APPENDIX A

Informed Consent Form

Instructions to Participants

You are being asked to participate in the dissertation research project of a doctoral student in psychology from LSU. The study is being conducted with the cooperation of the Adolescent Services. It is designed to investigate the therapeutic effects of sex education in adolescents. The study involves two different treatment groups. You will have a 50/50 chance of being placed in one of these two groups: 1). a sex education workshop; 2). an informal discussion group which will deal with topics of interest or concern to you. You will be asked to: 1). complete three psychological tests on two different occasions; 2). attend 8 one-hour lectures/group discussions; 3). complete an evaluation form. The information you provide will be treated in a confidential manner. Your name will not appear on any test materials. Discussion within the lecture/group discussion sessions will also be treated in a confidential manner. Any reports written about the study will refer to participants in general and not you personally. There are no anticipated risks for you involved in the study.

You should understand that you are being asked to take part in this research on a voluntary basis. You should understand also that if you agree to participate you are free to withdraw your consent to participate at any time you wish. If you decide not to participate, or if you decide to withdraw your consent later, your decision will not affect your treatment at Adolescent Services. Do you have any questions about the project?

Statement of Consent

This is to certify that I have been made aware of the purpose of the project in which I will participate. I understand that I am free to withdraw my consent to participate at any time I choose. The purpose and procedures of the study have been explained to me, and I have been given a chance to ask questions about the project. I understand that any information I provide will be confidential and that my name will not be used in any research reports.

Witness

Signature of Participant

Date

Name of Researcher: Christine E. Angelloz
Informed Consent Form

As a parent/legal guardian of a student currently enrolled in the Adolescent Services Program at Central Louisiana State Hospital, you are being asked to give your consent for your child to participate in a research project being conducted at the Adolescent Services. The study is the dissertation research project of a doctoral student in psychology from LSU. It is being conducted with the cooperation of the Adolescent Services and is designed to investigate the therapeutic effects of sex education in adolescents. The study involves two different treatment groups. Your child will have a 50/50 chance of being placed in one of these two groups: 1). a sex education workshop (see attached Schedule of Topics); 2). an informal discussion group which will deal with topics of interest or concern to your child (see attached Instructions to Informal Discussion Group). Your child will be asked to: 1). complete three psychological tests on two different occasions; 2). attend 8 one-hour lectures/group discussions; 3). complete an evaluation form. The information your child provides will be treated in a confidential manner. There are no anticipated risks for your child if he/she participates in this study.

You should understand that you are being asked to give your consent for your child to participate in this research on a voluntary basis. Your child will also be given an opportunity to complete a form similar to this one in order to decide whether he/she wishes to participate. However, your child will be allowed to participate only if you also give your consent. You should understand that if you and your child agree for him/her to take part in the project, you are both free to withdraw consent to participate at any time you wish. If you or your child decide not to participate, or if you or your child decide to withdraw consent later, it will not in any way influence the treatment services provided to your child. I will be happy to answer any questions you may have about the project.

Statement of Consent

This is to certify that I have been made aware of the purpose of the project in which my child will have an opportunity to participate. I understand that I, as well as my child, am free to withdraw consent at any time I choose. I understand that any information gained in this project will be confidential and that names will not be used in any research reports.

Date ______________________________ Signature of Parent/Guardian

Name of Researcher: Christine E. Angelloz
APPENDIX B

Characteristics of the Two Treatment Groups

<table>
<thead>
<tr>
<th>Subject</th>
<th>Sex</th>
<th>Religion</th>
<th>Age/ Grade</th>
<th>Education on Admission (Grade)</th>
<th>Date of Admission/ Discharge</th>
<th>Intellectual Level</th>
<th>Achievement Level</th>
<th>Psychiatric Diagnosis (DSM-III by Axis)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1²</td>
<td>11</td>
<td>Baptist</td>
<td>5</td>
<td>2-27-81</td>
<td>V = 68</td>
<td>R = 4.5</td>
<td></td>
<td>I. Conduct Disorder, Socialized, Aggressive</td>
</tr>
<tr>
<td>2</td>
<td>14</td>
<td>Baptist</td>
<td>8</td>
<td>12-4-80</td>
<td>V = 100</td>
<td>R = 7.7</td>
<td></td>
<td>I. Conduct Disorder; Conduct Disorder, Undersocialized, Aggressive</td>
</tr>
<tr>
<td>3</td>
<td>15</td>
<td>Catholic</td>
<td>6</td>
<td>9-10-80</td>
<td>V = 10-54</td>
<td>R = 5.6</td>
<td></td>
<td>I. Conduct Disorder, Undersocialized, Nonaggressive</td>
</tr>
<tr>
<td>4</td>
<td>17</td>
<td>Catholic</td>
<td>11</td>
<td>3-31-81</td>
<td>V = 103</td>
<td>R = 9.1</td>
<td></td>
<td>I. Bipolar Disorder, Mixed</td>
</tr>
<tr>
<td>5²</td>
<td>17</td>
<td>Baptist</td>
<td>10</td>
<td>4-14-81</td>
<td>V = 105</td>
<td>R = 7.4</td>
<td></td>
<td>I. Conversion Disorder; Mixed Drug Abuse</td>
</tr>
<tr>
<td>6²</td>
<td>12</td>
<td>Baptist</td>
<td>4</td>
<td>2-2-81</td>
<td>V = 85</td>
<td>R = 4.5</td>
<td></td>
<td>I. Atypical Psychosis; Exhibitionism</td>
</tr>
<tr>
<td>7²</td>
<td>13</td>
<td>Catholic</td>
<td>6</td>
<td>11-24-80</td>
<td>V = 92</td>
<td>R = 4.5</td>
<td></td>
<td>I. Conduct Disorder, Undersocialized, Aggressive</td>
</tr>
<tr>
<td>8</td>
<td>14</td>
<td>Catholic</td>
<td>7</td>
<td>5-19-80</td>
<td>V = 101</td>
<td>R = 6.1</td>
<td></td>
<td>I. Conduct Disorder, Overanxious Disorder; Functional Exsuraeal</td>
</tr>
<tr>
<td>9</td>
<td>14</td>
<td>Methodist</td>
<td>8</td>
<td>3-17-81</td>
<td>V = 95</td>
<td>R = 8.7</td>
<td></td>
<td>I. Parent-Child Disorder</td>
</tr>
<tr>
<td>10</td>
<td>14</td>
<td>Baptist</td>
<td>8</td>
<td>3-20-81</td>
<td>V = 77</td>
<td>R = 4.1</td>
<td></td>
<td>I. Conduct Disorder, Undersocialized, Aggressive</td>
</tr>
<tr>
<td>11²</td>
<td>14</td>
<td>Baptist</td>
<td>6</td>
<td>8-22-80</td>
<td>V = 81</td>
<td>R = 4.5</td>
<td></td>
<td>I. Oppositional Disorder</td>
</tr>
</tbody>
</table>

1. Conduct Disorder, Undersocialized, Aggressive
2. Conduct Disorder, Socialized, Aggressive
3. Conduct Disorder, Overanxious Disorder
4. Functional Exsuraeal
5. Hearing Impairment
6. Schizotypal Personality with Antisocial Trends
<table>
<thead>
<tr>
<th>Subject</th>
<th>Age</th>
<th>Race</th>
<th>Religion</th>
<th>Sex</th>
<th>Date of Admission/Discharge</th>
<th>Education on Admission (Grade)</th>
<th>Intellectual Level* (VIRC-8/WEIS IQ)</th>
<th>Achievement Level* (WAB Grade Level)</th>
<th>Psychiatric Diagnosis (DSM-III by Axis)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15</td>
<td>WF</td>
<td>Baptist</td>
<td>8</td>
<td>11-28-79</td>
<td>V = 79</td>
<td>R = 7.3</td>
<td>A = 3.0</td>
<td>I. Schizoaffective Disorder</td>
</tr>
<tr>
<td>2</td>
<td>16</td>
<td>WF</td>
<td>Baptist</td>
<td>8</td>
<td>3-14-81</td>
<td>V = 82</td>
<td>R = 6.3</td>
<td>A = 3.0</td>
<td>I. Conduct Disorder, Undersocialized, Nonaggressive</td>
</tr>
<tr>
<td>3</td>
<td>17</td>
<td>WF</td>
<td>Baptist</td>
<td>9</td>
<td>10-9-79</td>
<td>V = 65</td>
<td>R = 5.3</td>
<td>A = 3.0</td>
<td>I. Schizophrenia, Residual Type, Chronic</td>
</tr>
<tr>
<td>4</td>
<td>17</td>
<td>Catholic</td>
<td>9</td>
<td>9-25-80</td>
<td>V = 81</td>
<td>V = 125</td>
<td>R = 3.0</td>
<td>A = 3.0</td>
<td>I. Schizophrenia, Paranoid Type, Chronic</td>
</tr>
<tr>
<td>5</td>
<td>17</td>
<td>Catholic</td>
<td>G.R.D.</td>
<td>3-31-81</td>
<td>V = 115</td>
<td>P = 112</td>
<td>R = 6.9</td>
<td>A = 3.0</td>
<td>III. Tardive Dyskinesia; Aepypticom Gonorrhea</td>
</tr>
<tr>
<td>6</td>
<td>15</td>
<td>WM</td>
<td>Baptist</td>
<td>3</td>
<td>10-28-80</td>
<td>V = Low Avg.</td>
<td>R = 3.0</td>
<td>A = 3.0</td>
<td>I. Oppositional Disorder</td>
</tr>
<tr>
<td>7</td>
<td>14</td>
<td>WM</td>
<td>Catholic</td>
<td>6</td>
<td>13-1-80</td>
<td>V = Br. Normal</td>
<td>R = 6.6</td>
<td>A = 3.0</td>
<td>I. Conduct Disorder, Undersocialized, Aggressive</td>
</tr>
<tr>
<td>8</td>
<td>14</td>
<td>WM</td>
<td>Baptist</td>
<td>7</td>
<td>11-27-80</td>
<td>V = 70</td>
<td>R = 3.0</td>
<td>A = 6.4</td>
<td>I. Major Depression with Psychotic Features</td>
</tr>
<tr>
<td>9</td>
<td>15</td>
<td>WM</td>
<td>Catholic</td>
<td>6</td>
<td>9-24-80</td>
<td>V = 69</td>
<td>R = 3.0</td>
<td>A = 3.0</td>
<td>I. Conduct Disorder, Undersocialized, Nonaggressive</td>
</tr>
<tr>
<td>10</td>
<td>16</td>
<td>WM</td>
<td>Protestant</td>
<td>9</td>
<td>3-3-81</td>
<td>V = 101</td>
<td>R = 8.6</td>
<td>A = 3.0</td>
<td>I. Conduct Disorder, Undersocialized, Aggressive</td>
</tr>
<tr>
<td>11</td>
<td>16</td>
<td>WM</td>
<td>Catholic</td>
<td>9</td>
<td>5-28-80</td>
<td>V = 100</td>
<td>R = 9.0</td>
<td>A = 5.3</td>
<td>I. Identity Disorder; Pedophilia</td>
</tr>
</tbody>
</table>

*Intellectual and achievement levels were assessed at the time of admission except for Subject 3 (Experimental Group) and Subjects 6 and 7 (Attention Control Group) who were assessed by private practitioners in clinical psychology prior to admission to CLSH.

Subject required oral administration of SKI, MMPI, and TSCS.

Subject either terminated participation in workshop or was discharged from hospital prior to completion of workshop.
APPENDIX C
Participant Evaluation of the Sex Education Workshop

Please answer this evaluation as completely and honestly as possible.

Have you ever had a sex education class or any other chance to learn about sex? Check one: _____yes _____no
If your answer is yes, describe when and where this took place.

For questions 1-12, use the following rating scale. Place the appropriate number in the blank next to each question.

1. strongly agree
2. agree
3. undecided
4. disagree
5. strongly disagree

1. The sex education workshop was worthwhile or helpful. Why?

2. The presentation of material has been too honest or embarrassing. How?

3. My questions have not been answered. Why?

4. The information was presented in such a way that it was easy to understand. How?

5. The workshop has helped me to understand and accept myself better. How?

6. The workshop has helped me to understand and accept other people better, even those that are different from me. How?
7. The workshop has helped me to understand myself better as a young man/young woman. How?

8. The workshop has helped change some of my opinions about love. How?

9. The workshop has helped me feel more comfortable in groups containing young men. How?

10. The workshop has helped me feel more comfortable in groups containing young women. How?

11. The workshop has helped me feel more comfortable in groups containing both young men and young women. How?

12. The workshop has helped me feel more comfortable with people in general. How?

Answer the following questions with a sentence or short paragraph. Please be as honest and as specific as possible.

1. What comments do you have to help the instructor improve? Why?

2. What areas or topics did you find most interesting? Why?
3. What areas or topics did you find boring or least interesting? Why?

4. What other suggestions do you have for improving the workshop? Why?

---

APPENDIX D

Topics for Lectures and Group Exercises

Session

1: Anatomy and Physiology of the Male and Female Reproductive Systems.

A. Anatomy of the male and female systems
B. Functions of male and female sexual and reproductive organs
C. Changes that occur at puberty
D. Psychological and physiological changes that occur throughout the lifespan

Group Exercise: Handouts of Male and Female Sex Parts

2: Conception, Growth and Development of the Fetus, Labor and Delivery.

A. What occurs at conception
   1. Signs of pregnancy
B. Week by week prenatal development of the fetus
C. What occurs during labor
   1. Stages of labor
   2. Types of delivery

3: Dating, Love and Heterosexual Behavior.

A. Types of sexual behavior
B. Recognizing love versus infatuation
C. Advantages and disadvantages of going steady

Group Exercise: Sexual Behavior

4: Contraception.

A. Methods of contraception
B. Advantages and disadvantages of each method

Group Exercise: Moral Dilemma

5: Venereal Disease.

A. Types of venereal disease
B. Harmful consequences of contracting VD
C. Responsibility for one's self and one's partner

Group Exercise: Venereal Disease Information Survey
6: Variant Sexual Practices.
   A. Abnormal sexual deviations
   B. Homosexuality — abnormal or just different?
   C. Socially organized sexual deviations

7: Developing Sexual Responsibility and Values.
   A. What are values
   B. The "new morality" vs. the "old morality"
   C. Value systems followed in the U.S. currently
   D. Legal aspects of sexual behavior

Group Exercises: Sexual Practices and the Law
Consensus Exercise

8: Marriage and Parenthood Versus Remaining Single.
   A. Advantages and disadvantages of getting married versus staying single
      1. Disadvantages of early marriage
      2. Considerations in choosing a spouse
   B. Characteristics of the successful marriage
   C. Family planning
      1. Considerations in becoming a parent

Group Exercise: Relationship Contract
PLEASE NOTE:

Copyrighted materials in this document have not been filmed at the request of the author. They are available for consultation, however, in the author's university library.

These consist of pages:

80-93


University Microfilms International
300 N. ZEEB RD., ANN ARBOR, MI 48106 (313) 761-4700
Candidate: Christine E. Angelloz

Major Field: Psychology

Title of Thesis: Effects of a Sex Education Workshop in an Adolescent In-Patient Psychiatric Population

Approved:

Felicia D. Roper
Co-Major Professor and Chairman

James D. Traylor
Dean of the Graduate School

EXAMINING COMMITTEE:

Celina Rinella
Co-Chairman

Murray E. Mohr

William M. Decay

Edward J. Deakin

Date of Examination:

July 17, 1981