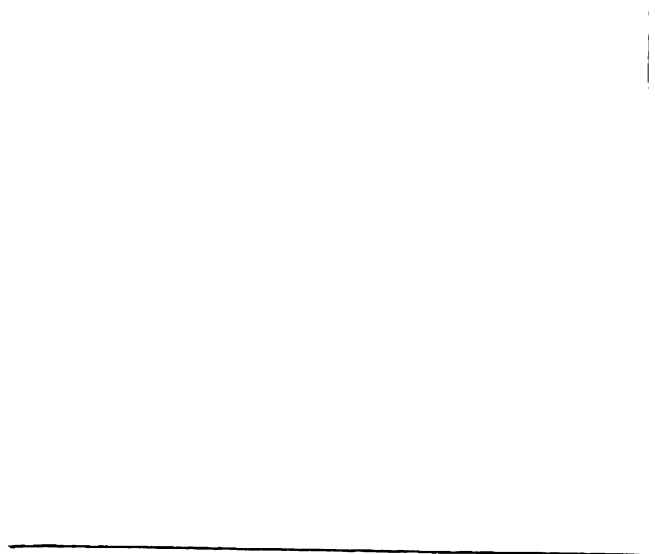


MANIFEST ANXIETY, SEVERITY OF GUILT,
AND SCHOLASTIC ACHIEVEMENT
IN JUNIOR HIGH GIRLS

Thesis for the Degree of M. A.
MICHIGAN STATE UNIVERSITY
Harold S. Sommerschild
1965

THESIS



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MANIFEST ANXIETY, SEVERITY OF GUILT, AND SCHOLASTIC ACHIEVEMENT
IN JUNIOR HIGH GIRLS

By

Harold S. Sommerschield

AN ABSTRACT OF A THESIS

Submitted to
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ABSTRACT

MANIFEST ANXIETY, SEVERITY OF GUILT, AND SCHOLASTIC ACHIEVEMENT IN JUNIOR HIGH GIRLS

by Harold S. Sommerschield

The purpose of this study was to examine the relationships between manifest anxiety, severity of guilt, confession, and scholastic achievement in junior high girls. In addition, sex differences in anxiety, guilt and confession were studied.

The subjects of this study consisted of fifty-four girls and sixty-eight boys from the seventh and eighth grade in Bath, Michigan. The instruments administered were the Children's Manifest Anxiety Scale; three story completions measuring guilt and confession; a questionnaire pertaining to familial, occupational, religious, and educational status of the home; and the California Total Reading and Arithmetic Fundamentals subtests on the California Achievement Test.

The following hypotheses were investigated:

Hypothesis I. There is a significant positive correlation between degree of manifest anxiety and severity of guilt.

Hypothesis II. There is a higher positive correlation between manifest anxiety and severity of guilt about death wishes than between anxiety and guilt about violation of maternal commands or theft.

Hypothesis III. There is a curvilinear relationship between anxiety and scholastic achievement.

Hypothesis IV. There is a curvilinear relationship between guilt and scholastic achievement.

Hypothesis V. There is a positive correlation between degree of manifest anxiety and amount of confession.

Hypothesis VI. Girls will score significantly higher than boys on a measure of manifest anxiety.

Hypothesis VII. Girls will score significantly higher than boys on a measure of guilt.

Hypothesis VIII. Girls will score significantly higher than boys on a measure of confession.

Results of the statistical analyses indicated that anxiety and guilt were positively and significantly related. The association between anxiety and guilt appeared strongest in the seventh grade sample of girls and on the story completion stem measuring guilt over theft. Thus hypothesis two was not confirmed. The hypothesized association between anxiety and confession was also rejected. Although neither anxiety or guilt was curvilinearly related to either arithmetic or reading achievement, significant negative relationships were obtained between the variables in the seventh grade group of girls. Thus both guilt and anxiety appear to be detrimental to scholastic achievement.

The only sex differences in anxiety were obtained in the seventh grade as the girls scored higher on the CMAS. Although the eighth grade boys scored significantly lower than the girls on all indices of guilt and confession, significant sex differences in guilt and confession were not found for the seventh graders. Additional

analyses indicated that the seventh grade girls scored significantly higher than the eighth grade girls on the anxiety scale. It is conjectured that anxiety associated with puberty resulted in elevated anxiety scores on the CMAS by the seventh grade girls and in inhibition of guilt and confession expression by the eighth grade boys.

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INTRODUCTION

Anxiety

Almost all psychological definitions of anxiety state that "anxiety is tied up with the inner danger of unacceptable thoughts, feelings, wishes or drives which elicit the expectation of loss of love and approval or of punishment (Fromm-Reichmann, p. 131). The function of anxiety is, therefore, to alert the individual to potentially threatening situations and to instigate behavior which maintains the individual's security. According to Freud, anxiety is subjectively experienced as "(1) a specific unpleasant quality, (2) efferent or discharge phenomena, and (3) perception of these" (Sarason et al., 1960). The subjective basis of anxiety differentiates anxiety from fear, which has an objective basis.

Guilt

In the following passage Freud traced the development of the superego and stated the relationship between objective and moral anxiety:

The role which the superego undertakes later in life is at first played by an external power, by a parental authority. The influence of the parents dominates the child by granting proofs of affection and by threats of punishments, which, to the child, mean loss of love, and which must also be feared on their own account. The objective anxiety is the forerunner of the later moral anxiety; so long as the forerunner is dominant, one need not speak of superego or conscience. It is only later that the secondary situation arises which we are ready to regard as the normal state of affairs; the external restrictions are introjected, so that

the superego takes the place of the parental function and thenceforth observes, guides, and threatens the ego in just the same way as the parent acted toward the child (1933, p. 89).

The operation of conscience involves both resistance to temptation and feelings of guilt when the individual's moral standards have been violated. Kohlberg (1963) conceptualizes guilt or superego anxiety as a form of self-punishment and internalized aggression.

Although most theoretical writers equivocate concerning possible sex differences in experiencing of guilt feelings, there are some who theorize that women have more severe guilt feelings than men. Fenichel has written, "analysis shows that other and older fears, above all the fear over loss of love, are stronger in women and in many ways take over the role that castration anxiety plays in men (1945, p. 99).

Blum has deduced from Fenichel's observations that women "who have had more conflicts over intense deprivation and loss of love, theoretically should show greater evidence of guilt feelings than males do" (1949, p. 48). Blum has also written:

The subsequent identification process is less clear and it appears that largely through the mechanism of identification with the "aggressor" the girl is able to pattern herself after the mother towards whom she still harbors strong undercurrents of hostility. Once the mother has been introjected as the superego, the aggressions formerly directed toward her are turned inward and result in strong guilt feelings (1949, p. 73).

From a different framework, Sears, Maccoby, and Levin hypothesized that "girls more easily develop a strong conscience because of the continuity afforded by the mother who serves as both a socializing agent and adult model" (1957, p. 384).

Relationship between Anxiety and Guilt

As indicated previously anxiety and guilt are developmentally related in the child's fear of loss of love. In addition, they are also both related to the individual's expression of hostility and his feelings of self-esteem.

Since the child is dependent upon his parents for the satisfaction of his needs, he perceives his expressed aggression as threatening his security. Following his aggressive behavior, his parents may respond negatively, thus arousing his fears of losing their love. This results in anxiety within the child. Sarason et al. (1960) maintain that anxiety in children is primarily the result of guilt concerning hostile feelings toward the parents. Ruebush (1963) found a negative relationship between anxiety and overt aggression, while the relationship between anxiety and covert aggression was positive.

Anxiety and guilt are also related to a person's self-esteem. Lipsitt summarized his experiment with these words: "Significant correlations were obtained for all grades and sex combinations between Children's Manifest Anxiety Scale and self-concept score, with high anxiety subjects producing low self-concept or high self-disparagement ratings" (1958, p. 471). Lipsitt's self-disparagement ratings measure what other researchers operationally label guilt. Bruce (1958) found that subjects low in anxiety had high self-acceptance scores. A significant positive relationship was obtained between anxiety and self-blame tendencies by Doris (1959). Finally, Kohlberg has written, "the neo-Freudians have seen moral emotions of guilt, shame, and anxiety as types of reactions of the social self

concerned about maintaining self-esteem in the eyes of significant others . . ." (1963, p. 296).

Summary

In the preceding pages the theoretical concepts of anxiety and guilt have been discussed. Since both anxiety and guilt are involved in fear of losing love, in the expressions of aggression and hostility, and in one's self-esteem, a theoretical basis for the relationship between anxiety and guilt has been established.

REVIEW OF LITERATURE

Only one study was found that pertained to the relationship between anxiety and guilt. Unfortunately, Lowe's (1961) anxiety and guilt scales were not independent measures. Thus the close positive relationship between anxiety and guilt is of questionable validity. Since there are no other published experimental studies which pertain directly to the relationship between anxiety and guilt, the relevant literature in both domains will be reviewed.

Anxiety

The relationship between anxiety and performance is particularly relevant to this thesis. Due to the impetus of Hullian theory, many experiments have helped clarify the relationship between anxiety and performance. Hullian theory predicts:

in simple, uncomplicated learning situations, where only one response is elicited, anxiety should facilitate performance. In complex, even two-choice situations, the effect of increased drive depends upon two further considerations: (a) the nature of the dominant habit evoked in the learning situation, and (b) whether the response which corresponds to this habit is right or wrong In complex learning situations, thus, the effects of anxiety upon behavior may be facilitating, interfering, or first interfering and then facilitating . . . (Hilgard and Marquis, 1961, pp. 447-48).

Palermo (1956), Montague (1953), and Ramond (1953) have reported that highly anxious subjects do poorly when there are a number of competing responses. Highly anxious subjects have performed better than less anxious subjects in simple situations and have

performed worse than less anxious subjects in complex situations in experiments published by Pickrel (1958), Castaneda, Palermo, and McCandless (1956), Farber (1953), and Taylor (1952). All of these studies support the theoretical position of Hull and Spence.

Numerous studies have also been published concerning the association between anxiety and performance on scholastic achievement tests. A recent study by Lunneborg (1964) using upper elementary students showed that anxiety as measured by the Children's Manifest Anxiety Scale was significantly and negatively related to both reading and arithmetical achievement. McCandless (1956) also obtained a significant negative relationship between anxiety and achievement. In both studies the negative correlations between anxiety and achievement increased with age and were greater for the girls. Kerrick (1955), Broen (1959), and Reese (1961) also report significant negative associations.

Not all the researchers have reported consistent negative correlations between anxiety and achievement. Keller and Rowley (1961) administered the Children's Manifest Anxiety Scale (CMAS) and the Metropolitan Achievement Test to upper elementary children. Only "eight of the twenty-eight correlations between anxiety and achievement were negative and significant, those for the sixth grade girls accounting for five of the eight" (p. 20). They concluded that anxiety is only a useful predictor of achievement in highly anxious subjects. Feldhausen and Klausmeier (1962) obtained a positive correlation between anxiety and achievement in "intelligent" children and a negative correlation between the same two variables in low and medium

"intelligent" children. Morgan, Sutton-Smith, and Rosenberg (1960) administered the CMAS and two achievement tests to 366 fifth and sixth graders. They were confronted with a positive correlation between anxiety and achievement in the fifth grade sample of girls and a negative association for the sixth graders. Anxiety surrounding preadolescent growth spurt two years before puberty was used to explain the results.

Patterson, Helper, and Wilcott (1960) reported a curvilinear relationship between anxiety and conditioning on a complex verbal task. Matarazzo and Phillips (1955) also obtained a curvilinear relationship between anxiety as measured by the Taylor Manifest Anxiety Scale and performance in timed learning situations. The experimenters concluded that "high anxiety may impede performance on complex tasks because there is too much drive, while low anxiety may impede performance because there is too little drive" (1959, p. 256).

The relationship between anxiety and achievement is indeed complex as indicated by the numerous experimental results. Predominantly, however, there seems to be a negative relationship between the two variables. Some of the studies suggest that the relationship may be curvilinear, which would help integrate the conflicting results.

Because of the hypothesized relationship between anxiety and guilt, the relationship between guilt and achievement is expected to parallel the association between anxiety and achievement.

Guilt

Clarification of terms. Transgression and resistance to temptation designs have been used experimentally to measure conscience

development. Grinder defines the temptation situation as "a pre-decision-type conflict situation where an individual, free from coercion or danger of detection, must choose between a positive incentive and conformity to learned role behavior" (1961, p. 680). The transgression paradigm involves yielding to the temptation and thus also involves violation of the moral standard.

Interpretation of the research on guilt is confusing because the experimental studies have not shown a consistent relationship between resistance to temptation and guilt responses after transgression. Grinder (1960) and Sears et al. (1957) have reported low positive correlations between the two measures of conscience development. AllinSmith (1960) and Sears et al. (1965) found the relationship to be insignificant, while AllinSmith and Burton (1961) reported a negative association. Not being surprised by the contradictory findings pertaining to these two indices of conscience development, Bandura and Walters write:

In fact, the learning principles involved in the development of these two modes of response seem to differ radically; whereas resistance to temptation involves the classical conditioning of emotional responses, the habit of responding self-punitively appears to result from instrumental conditioning. It is therefore not surprising that no consistent relationships between resistance to temptation and guilt have emerged from a number of studies in which both variables have been measured (1964, p. 203).

In the following discussion both the methods of measuring guilt and findings of previous studies relevant to this study will be discussed.

Instruments and results. In a multi-culture study Whiting and Child (1958) related child-rearing patterns to a cultural index of

guilt. Self-blame for being sick was the index of guilt. A positive relationship between guilt and the use of love oriented techniques of discipline was reported.

In the theoretical discussion the relationship of anxiety and guilt to loss of love was introduced. In the following studies guilt was positively related with discipline techniques which threaten loss of love: Allinsmith and Greening (1955), Heinicke in Hoffman (1963), Unger (1962), and Sears et al. (1957). Story completions, interviews, projective tests, questionnaires, and mother's ratings of six year old children's guilt responses were the techniques utilized to measure guilt in these experiments.

Rabin (1959) utilized a sentence completion measure of guilt in detecting attitudinal differences between fifty-two American and forty-five Israeli fourth and fifth graders. The Israeli children responded more frequently with guilt responses and the American children with anxiety responses on this instrument.

A modified Allinsmith story technique was administered by Rabin and Goldman (1963) to study the association between guilt and the intensity and diffuseness of parental identification. The subjects were 110 Kibbutz and 100 non-Kibbutz children. Since the parental identification of the Kibbutz children is less focused, it was predicted and confirmed that the Kibbutz children show a lower level of transgression guilt.

In a very extensive study, Allinsmith administered a story completion technique to 112 urban, seventh and eighth grade boys (Miller and Swanson, 1960). Three stories pertaining to death wishes, theft,

and disobedience were utilized to measure guilt in both a temptation and transgression situation. These stories were constructed to eliminate fear of detection. Guilt was defined as "any kind of pain, anxiety, disadvantage, punishment or threat of punishment experienced by the hero in the subject's story" (p. 148). The conclusions of this study are: (1) severity of guilt is related to the timing of weaning and the severity of toilet training, (2) there is a negative relationship between the intensity of guilt and early weaning and toilet training, (3) discipline procedures are related to guilt in middle class children, and (4) obedience requests and social class are not antecedents to severity of guilt. Allinsmith found that the death wish story aroused the most anxiety in his subjects, who thus responded with extremely punitive story endings. It is felt that the death wish story is more anxiety arousing because it pertains to a child's ambivalence toward his parent and is in stronger opposition to our societal mores than the other two transgressions.

Sex differences in guilt. There have been very few studies pertaining to sex differences in the severity of guilt. Kohlberg referred to data of Rau's, reported in Sears et al., 1965, in which there were fifty child-rearing practices which were significantly correlated with two measures of conscience. The amazing finding was that the significant correlations between the child-rearing practices and measures of guilt were in opposite directions for both sexes. Rau also reported that the pre-school girls showed greater emotional upset and used confession more than boys in deviation situations.

In Blum's study the Blacky Test was administered to college

students. Blum interpreted his results as indicating "that females probably possess stronger guilt, whereas males are more concerned with fear of external harm" (1945, pp. 48 and 49).

Aronfreed (1961) was interested in determining if transgression behavior in sixth graders is internally or externally motivated. Aronfreed's results indicated that twenty-five percent of the subjects showed no evidence of self-criticism. In eighty percent of the story endings, however, confession, apology or reparation were present. So Aronfreed concluded that "self-criticism is not a prerequisite of internalized responses to transgressions and that such responses frequently take a form of being externally oriented" (p. 231). Girls in particular had a tendency to display their moral reactions and seemed more dependent on external initiation of moral responses.

In Terman's study (which was reported in Kohlberg, 1963), girls were more influenced by the external situation than boys in expressing guilt. In this study of gifted children girls scored higher than the boys on five of seven character tests based on verbalized knowledge of moral standards. On performance tests of honesty, where the subject's actions were unknown to others, girls scored significantly lower on actual performance than the boys.

Confession. Traditionally confession has been considered a manifestation of guilt and thus an index of conscience development. Horowitz (1956) maintains that confession is motivated by feelings of guilt. In an unpublished article Rebelsky suggested that confession may be motivated by additional motives such as tension relief, affiliation, absolution, expediency and manipulation of others. Kohlberg

summarized the position of Aronfreed in these words: "self-blaming responses, confession, restitution, and other reactions to transgressions are anxiety-reducing instrumental responses, rather than pain-inducing 'expressions of guilt'" (Kohlberg, 1963, p. 286).

Rebelsky, Allinsmith, and Grinder (1961) utilized projective story completions and a behavioral test of temptation to study confessional behavior in 138 sixth graders. Confession was defined as "the revelation in words by the hero that he had committed the transgression. The operational definition thus excluded situations in which the hero never confessed but behaved so oddly that others were able to infer that he had transgressed. It included what others have termed 'admission' i.e., acknowledgment after being suspected, interrogated, or accused" (p. 4). Confession was frequently used by sixth graders in this study. The results showed that: (1) girls use confession more than boys and (2) confession is used more by non-cheaters than by cheaters on the temptation test. The authors suggested that girls may have used confession more than boys because (1) confession may be more congruent with the affiliative, dependent role of women in our society, (2) girls may be able to use language for social persuasion better than boys, and (3) girls may not have been equally interested in the story completions and the temptation task and thus were able to choose an "easy" response without becoming involved emotionally.

Evaluation

Since the theoretical associations between anxiety, guilt, and

confession have not been experimentally tested, it is of utmost importance to subject our inferences and theory to scientific verification.

THE PROBLEM AND HYPOTHESES

The purpose of this study is to investigate the relationships between anxiety and guilt in junior high school girls. Particular attention is also given to studying guilt and anxiety in relationship to confession and achievement. Also sex differences in anxiety, guilt, and confession are analyzed.*

Statement of Hypotheses

Hypothesis I. There is a significant positive correlation between degree of manifest anxiety and severity of guilt.**

Hypothesis II. There is a higher positive correlation between manifest anxiety and severity of guilt about death wishes than anxiety and guilt about either violation of maternal commands or theft.

Hypothesis III. There is a curvilinear relationship between achievement and anxiety.

Hypothesis IV. There is a curvilinear relationship between guilt and achievement.

Hypothesis V. There is a positive correlation between degree of manifest anxiety and amount of confession.

* Sex differences on these variables are possible by utilizing the data on junior high school boys from the same school as reported in Charlene Adams's thesis, Manifest Anxiety, Severity of Guilt, and Scholastic Achievement in Children, 1964.

** Hypotheses I through V are identical with the hypotheses of Adams, 1964.

METHOD

Subjects

The subjects for this study were sixty-six girls and eighty-one boys from the seventh and eighth grades in Bath, Michigan. Twelve girls and thirteen boys were excluded from the study because one of their parents was missing from the home due to death, separation, or divorce. Originally it was planned to eliminate subjects if their age varied more than one year from the median for their grade or if their lie scores on the Children's Manifest Anxiety Scale were higher than nine. None of the subjects were excluded because of the age restriction as our assumption that the quality of verbal expression would vary with age proved untenable. None of the subjects had a lie score above nine. Therefore, none of the subjects were excluded because of the lie score restriction.

Instruments

A. Anxiety was measured by the Children's Manifest Anxiety Scale (CMAS), which is the children's adaptation of the Taylor Manifest Anxiety Scale (1953). As the TMAS, the CMAS is intended to measure the child's general and chronic state of anxiety rather than anxiety in transitory and specific situations. The CMAS consists of a forty-two item, true-false anxiety scale and an eleven item lie scale.

Hypothesis VI. Girls will score significantly higher than the boys on a measure of manifest anxiety.

Hypothesis VII. Girls will score significantly higher than the boys on a measure of guilt.

Hypothesis VIII. Girls will score significantly higher than the boys on a measure of confession.

In 1956 Castaneda, McCandless, and Palermo presented the original normative data based on the performances of fourth, fifth, and sixth grade children. After one week, the test-retest reliabilities for the anxiety and lie scales were .90 and .70, respectively. Levitt (1957) published reliabilities of .85 to .95 for the anxiety scale and .60 to .70 for the lie scale. Ruebush (1963, p. 475) declared that "the CMAS has been found to be internally consistent and reliable." Normative data pertaining to junior high children has been presented by Keller (1962).

Lunneborg (1963) reported correlations of .76 between the CMAS and the Test Anxiety Scale for Children and .73 between the CMAS and the General Anxiety Scale for Children. Emotionally disturbed children also score significantly higher than normal children (Rosenblum and Callahan, 1961 and Lipman, 1960).

B. Severity of guilt was measured by the story completion technique developed by Allinsmith (1954) and adapted to measure guilt in girls by Rabin and Recht* (1963). Only the stories dealing with guilt following transgression were used in this study. Allinsmith included in each story stem "(a) a secret violation of a common moral teaching (b) by a given act (c) expressing a stated or evident motive (d) directed at a specified category or person, and (e) in a defined situation" (Miller and Swanson, 1960, pp. 144 and 145). The six stories administered (three for the boys and three for the girls) and

* Unpublished study

the scoring system are reproduced in Appendices B and C, respectively.

C. In Appendix D is the questionnaire which was administered after the anxiety and guilt measures. The questionnaire was designed to obtain information pertaining to the subject's age, race, religion, father's education and occupation, and the presence or absence of either parent in the home. Because specific hypotheses were not offered concerning these variables and because the questionnaire responses were inadequate for meaningful analysis, the data from the questionnaire has not been formally utilized.

Procedure

The group administration of the anxiety scale, guilt stories, and questionnaire required approximately one hour. The seventh and eighth grade students were tested on different days. On both occasions the tests were administered to the boys and girls in separate rooms by an administrator of the opposite sex. Every subject was given a test booklet containing the three guilt stories and anxiety scale in random order followed by the questionnaire. The anxiety scale and three randomized guilt stories were alternatively placed in the first position to randomize the effects of fatigue and order of presentation. The subjects were asked not to write their names on the anxiety scale and guilt stories. However, anonymity was not maintained for all the subjects as some prematurely discovered that their names were required on the questionnaire. Since we were unable to utilize previously administered achievement tests, the California Achievement Test's Arithmetic Fundamentals and Total Reading batteries were given to all the

subjects (Tiegs and Clark, 1957).

Every subject received the following scores: (a) CMAS anxiety and lie scores, (b) guilt scores on the death wish, theft, and disobedience story completions, (c) total guilt score which is the sum of the three guilt scores, (d) confession score which is the total confessional endings on all three guilt stories, and (e) an arithmetic and reading achievement score.

Following Allinsmith's criterion for recognizing guilt, a guilt scoring system was devised (Appendix C). Severity of guilt was rated as being high, medium or low. Interrater reliability* (Pearson r) was satisfactorily established on a representative sample of each guilt story for both sexes.** In the review of the literature discussion Rebelsky, Allinsmith, and Grinder's (1961) operational definition was presented. From this operational definition a three point scale of confession was devised. Absence of confession, forced confession and voluntary were scored zero, one, and two, respectively.

Correlation coefficients were used to test the first, second, and fifth hypotheses (Walker and Lev, 1953). The third and fourth hypotheses were tested by computing correlation ratios (Guilford, 1956). Hypotheses six, seven, and eight were evaluated by using a t -test of the differences between the two means assuming heterogeneity of variance. A linear transformation was also performed on the raw lie and confession scores (Guilford, 1956).

* Mrs. Charlene Adams and the writer rated the guilt endings which were used to compute the interrater reliability.

** See Table 1.

RESULTS

Prior to discussing the results pertaining to the eight hypotheses, it is necessary to present additional data concerning the subjects and also the interrater reliability of the guilt judgments.

General Statements

Originally the seventh and eighth grade girls were to be combined into a total sample of girls. In analyzing the data, however, it was found that the seventh grade girls scored significantly higher than the eighth grade girls on the anxiety scale. Therefore, all the hypotheses were evaluated as pertaining to the seventh, eighth, and total grade samples of girls. In Appendix E the means and standard deviations by grades are presented for anxiety, guilt severity, achievement , and confession.

As indicated previously, interrater reliability was established for each guilt story for both sexes. In Table 1 the reliabilities are presented. The reliabilities range from .74 for disobedience, .84 for theft, and .93 for death wishes.

Anxiety versus Total Guilt, Guilt by Story, Confession

Although Hypothesis I was confirmed, analysis of Table 2 indicates that Hypotheses II and III were not confirmed. Within the seventh grade samples of girls strong relationships exist between

Table 1. Interrater reliability of guilt stories

Story	r	n (male and female)
Disobedience	.74	32
Theft	.84	31
Death Wishes	.93	30

Table 2. Pearson coefficients of correlation: guilt vs. anxiety, guilt by story vs. anxiety, confession vs. anxiety in sample of girls

Hypothesis	Class N	7th 23	8th 31	Total 54
I. Guilt vs. Anxiety		.26	.33*	.24*
II. Disobedience vs. Anxiety		.72**	.11	.24*
Theft vs. Anxiety		.70**	.42**	.50**
Death Wishes vs. Anxiety		-.28	.27	-.05
V. Confession vs. Anxiety		.07	.19	.12

* Significant at .05 Confidence Level

** Significant at .01 Confidence Level

anxiety and guilt over disobedience and theft. For both grades the relationship between anxiety and guilt over theft is the strongest, which strongly negates Hypothesis II. In Appendix F the associations between anxiety and the indices of guilt for the smaller sample of girls with only one parent residing at home are presented.

Achievement vs. Anxiety and Guilt

Reference to Table 3 indicates that significant negative relationships were found between both anxiety and guilt and the measure of achievement. Only the correlation between achievement and anxiety, however, was significant for the eighth grade. Both Eta and Pearson product-moment correlation coefficients were analyzed. The product-moment correlations were computed (Table 3) because Lewis's F test for linearity of regression indicated that the relationships were linear. In Appendix F Eta correlations and Lewis's F tests are tabulated. Neither hypothesis three or four has been confirmed even though significant negative relationships were obtained.

Table 3. Pearson coefficients of correlation: arithmetic achievement vs. anxiety, reading achievement vs. anxiety, arithmetic achievement vs. guilt, and reading achievement vs. guilt in sample of girls.

Hypotheses III and IV	Class	7th	8th	Total
Arithmetic Achievement vs. Anxiety		-.23*	-.12	-.23*
Reading Achievement vs. Anxiety		-.30**	-.33*	-.38**
Arithmetic Achievement vs. Guilt		-.25*	-.22	-.25*
Reading Achievement vs. Guilt		-.30*	-.23	-.31*

* Significant at .05 Confidence Level

** Significant at .01 Confidence Level

Sex Differences in Anxiety, Guilt, and Confession

As indicated in Table 4 the seventh grade girls scored significantly higher on the CMAS than the seventh grade boys, but not on the guilt or confession indices except on the theft story. On the other hand the eighth grade girls scored significantly higher on the guilt and confession indices but not on the anxiety scale in comparison with the eighth grade boys. The data thus confirm hypotheses six, seven, and eight.

Table 4. T test of differences between sexes on measures of anxiety, guilt, and confession. On all the indices girls obtained higher mean scores than the boys.

	7th Grade		8th Grade		Combined	
	t	p	t	p	t	p
<hr/>						
Hypothesis VI.						
Anxiety	3.04	$p < .005$	.28	ns	2.35	$p < .025$
<hr/>						
Hypothesis VII.						
Total Guilt	1.41	ns	4.97	$p < .0005$	4.57	$p < .0005$
Disobedience	.88	ns	2.61	$p < .01$	2.67	$p < .01$
Theft	2.71	$p < .01$	3.23	$p < .005$	4.60	$p < .0005$
Death Wish	.31	ns	3.14	$p < .005$	2.27	$p < .025$
<hr/>						
Hypothesis VIII.						
Confession	1.07	ns	3.86	$p < .0005$	2.27	$p < .005$
<hr/>						

Additional Data

Lunneborg (1964) has recently published her findings which indicate that the CMAS lie scale measures social desirability. Although formal hypotheses were not made pertaining to the lie scale

and social desirability in relation to the other variables in this study, the lie scale was inter-correlated with the other variables. In Appendix F the matrix of correlations is presented. As indicated in this table, associations between the lie scale and anxiety, guilt, confession, and achievement in arithmetic were not significant. Two negative correlations between reading achievement and the lie scale are significant and thus replicate the findings of Lunneborg (1964). Since both the anxiety and lie scale are predominantly weighted for the affirmative responses, the lack of correlation between anxiety and lie scales indicates that a response bias was not operating.

Table 5. Story intercorrelations

X	Y	7th Grade	8th Grade	Combined
Disobedience vs. Death Wish		-.14	.14	.05
Theft vs. Death Wish		-.27	.08	.08
Disobedience vs. Theft		.79*	.17	.32*

* Significant at .01 Confidence Level

Although hypotheses were not stated pertaining to the guilt story intercorrelations, the association between the three guilt stories was explored. The data in Table 5 indicates that only the correlation between guilt over disobeying and stealing is significant.

DISCUSSION

Before discussing the results pertaining to the hypotheses of this study, the variables of anxiety, social desirability, and guilt are compared with previous research findings. In addition, possible explanations for the grade differences in anxiety are presented.

General Considerations

Validity for the present study is indicated by the comparability of findings on anxiety, social desirability, and guilt with the reported norms of the standardization studies.

Anxiety. In this study the mean of the anxiety scores on the CMAS was 15.15 for the boys and 17.85 for the girls. In Castaneda, McCandless, and Palermo's normative study, the means were 15.87 and 18.44 for (fourth, fifth, and sixth grade) boys and girls, respectively (1956). Keller (1962) reported means of 15.5 for boys and 17.4 for girls in junior high school.

Lie. The mean lie score for the girls in this study was 2.85. This also compares favorably with the mean lie scale score of 2.50 reported by Keller. The insignificant relationship between anxiety as measured by the CMAS and social desirability as measured by the lie scale is in agreement with studies of Castaneda, McCandless, and Palermo (1956) and Keller and Rowley (1961).

Guilt. As indicated previously the interrater reliabilities were .74 for the disobedience story, .84 for the theft story, and .93 for the death wish story. These reliabilities were established on a random sample of stories for both boys and girls. These high reliabilities lend some support for the validity of the scoring system.

Except for the correlation between guilt over disobedience and theft in the seventh grade girls, none of the guilt intercorrelations reached a level of significance. The presence of considerable intra-individual variability in guilt expression has also been reported by Hartshorne and May (reported in Ruebush, 1963), Wallerstein and Wyle (1947), and Allinsmith (1954). Both Miller and Swanson (1960) and Bandura and Walters (1964) speak of a series of guilts learned in different learning situations rather than of a unitary, internalized, moral agent such as conscience. The high positive correlation between the theft and disobedience guilt stories in the seventh grade sample of girls indicates that for this more anxious group of girls, guilt in these two areas is highly related.

Grade Differences in Anxiety. Two possible explanations for the elevated anxiety scores in the seventh grade girls are (1) that the transition for elementary school to junior high school is an anxiety-arousing situation and/or (2) that associated with puberty is an increase in anxiety. Without further experimentation it is impossible to determine if anxieties resulting from promotion to junior high school or puberty were operative. At the present time the pubescent anxiety hypothesis also appears to be relevant to the

discussion of the hypothesized sex differences in guilt and confession.

Morgan, Sutton-Smith, and Rosenberg (1960) also reported marked variability between two grades of girls on the CMAS. Fifth and sixth grade girls obtained means of 20.8 and 16.9, respectively. In this study the seventh grade girls have a mean of 19.74 and the eighth grade girls have a mean of 16.45. In interpreting their unexpected findings, they stated:

It is well known that a marked preadolescent growth spurt occurs in the two years preceding puberty in girls. It is possible that girls, when first experiencing these changes, react with greater than normal sensitivity on the CMAS . . . Since boys do not reach their peak growth spurt until approximately 13 or 14 years, they would not be affected by this developmental phenomenon during grades four, five, and six, and their scores could be expected to remain more stable (1960, p. 517).

It may be that the elevation of CMAS scores is reflecting an increase in anxiety related to puberty in the seventh grade sample of girls. By the time girls reach the eighth grade they may be better adjusted to the physical and psychological changes associated with puberty and thus their anxiety level is lower on the CMAS. Support for the puberty-anxiety hypothesis is provided by the facts that the girls in the present study were approximately two years older and two years advanced in school than the girls in Morgan's et al. study. Although significant grade differences were not found for the boys in this study, the eighth grade boys did score considerably higher than the seventh grade boys. Such a trend appears consistent with later pubescent development in boys.

Results Relative to Predictions

Anxiety versus Total Guilt, Guilt by Stories, and Confession.

In general, the hypothesized positive relationship between anxiety and guilt has been confirmed in the sample of girls. In the seventh grade anxiety and guilt over disobedience and theft are highly correlated. Within the eighth grade group there also is a high correlation between anxiety and the theft story.

The higher correlation between anxiety and guilt over theft rather than between anxiety and guilt over a death wish may be due to the fact that the transgression is against a non-family member and thus may arouse greater fear of external detection and punishment. Aronfreed (1961) and Terman (1936) both have emphasized the external sensitivity and orientation of girls' moral responses. It thus appears that there is a stronger relationship between anxiety and statements reflecting guilt in situations susceptible to external detection and disapproval.

Obviously the higher positive correlation between anxiety and guilt over theft indicates that hypothesis two was not confirmed. Of particular interest is the negative relationship between anxiety and guilt over a death wish in the seventh grade girls. Similar results occurred in the study of Allinsmith (1954). Commenting on Allinsmith's results, Miller and Swanson (1960) stated:

Among boys who have experienced the greatest number of conditions likely to lead to high guilt, fewer subjects express high guilt than among subjects who have been subjected to an intermediate amount of pressure. This finding seems consistent with the formulation that the most guilt-ridden boys were more inclined to inhibit their feelings than were boys with an intermediate amount of guilt (pp. 156 and 157).

Adams (1964) also theorized that the significant negative association between anxiety and guilt obtained among boys from the same school classrooms as the girls in this study indicates that the most anxious boys were inhibiting (repression or suppression) expression of their guilt feelings. The findings of Adams and of this writer suggest that in junior high school boys anxiety and expression of guilt are negatively related while in the sample of girls anxiety and the expression of guilt are positively related, although under high anxiety-arousing conditions, even the girls tend to inhibit their expressions of guilt.

The fifth hypothesis of a positive correlation between anxiety and confession was not confirmed. In analyzing the data it was obvious that confession was rarely utilized in the death wish and disobedience stories. Thus the infrequent use of confession in two of the stories and the predominance of confessional endings to the theft story suggests that frequency of confession depends more on the situation variables than the anxiety level of the subject. The unconfirmed relationship between anxiety and confession in contrast to the confirmed association between anxiety and guilt may be due to the fact that confession is only one of many possible expressions of guilt or instrumental responses available to reduce anxiety.

Achievement versus Anxiety and Guilt. The predicted curvilinear relationships between both anxiety and guilt with two measures of scholastic achievement was not confirmed as the associations between the stated variables were linear and negatively related. This unpredicted finding of negative relationships between anxiety and both

arithmetic and reading achievement parallels similar results published by Lunneborg (1964), Reese (1961), Keller and Rowley (1961), Broen (1959), McCandless and Castaneda (1956), and Kerrick (1955).

It is also significant that guilt and both measures of achievement are negatively related in the seventh grade sample of girls. Thus both high anxiety and high guilt seem to impede academic achievement and probably also reflect levels of self-esteem.

Sex Differences in Anxiety, Guilt, and Confession

On the CMAS the seventh grade girls scored significantly higher than the seventh grade boys. As indicated previously the eighth grade girls scored significantly lower than the seventh grade girls on the anxiety measure, while the eighth grade boys scored slightly higher than the seventh grade boys on the same anxiety scale. As discussed previously, these sex and grade differences on the CMAS may be influenced by puberty and its associated anxieties.

Significant sex differences on all the measures of guilt and confession are primarily attributable to the sex differences present in the eighth graders. The only significant sex difference in the seventh grade occurred in response to the theft story, on which the girls scored higher than the boys. Although the eighth grade girls consistently used more expressions of guilt and confession than the eighth grade boys, the differences in expression of guilt and confession are attributable to the infrequent use of these responses to transgressions by the boys. In comparison with both classes of girls and the seventh grade boys, the eighth grade boys were very reluctant to use confession, reparation, and other traditional indications of

guilt following transgression of moral codes. A possible explanation of the inhibition of moral responses in the eighth grade boys is that increased anxiety concerning puberty and masculine role identification is associated with the inhibition of behavior which is perceived as being incongruent with masculinity. Being anxious about their masculine identification, it may be that these boys strive to act in masculine ways and avoid all behavior associated with femininity and pre-puberty. In accordance with this viewpoint, Rebelsky et al. (1961) have written, "It may be that confession, reparation, and emotional upset following transgression of moral standards are more appropriate to the women's feminine role" (p. 5). In this study, therefore, one might expect that these boys would avoid the type of behavior which would result in high guilt and confession scores.

In several recent articles behavior such as confession, reparation, and emotional upset following transgression have been conceptualized as being instigated to obtain gratification of needs rather than as behavior motivated by a punitive superego. Bandura and Walters have written: "A child may learn to make self-critical statements as an effective way of forestalling or reducing aversive stimulation in the form of parental punishments and thus acquire a habit of employing self-critical statements as a means of controlling the behavior of others" (1963, p. 186). Bandura and Walters have also written: "It may be more profitable to consider such kinds of responses as self-punishment, apology, restitution, and confession... in terms of their functional utility to the individual, rather than

in terms of classes or stages of morality" (p. 187). Aronfreed (1961) concluded on the basis of his research findings, "self-evaluation is not a prerequisite of internalized responses to transgressions and that such responses frequently take a form of being externally oriented" (p. 231). In conclusion, the sex differences in guilt and confession in this study reflect the inhibition of responses of a moral nature within the eighth grade sample of boys. It has been suggested that moral responses may be inhibited because they are anxiety-arousing and non-instrumental for pubescent boys concerned about their masculine adequacy and image.

SUMMARY AND CONCLUSIONS

The purpose of this study was to examine the relationships between manifest anxiety, severity of guilt, confession, and scholastic achievement in junior high school girls. In addition, (utilizing the findings of Adams's thesis (1964) pertaining to the boys from the same school) sex differences on the same variables were studied.

The subjects of this study consisted of fifty-four girls and sixty-eight boys from the seventh and eighth grade in Bath, Michigan. The instruments administered were the Children's Manifest Anxiety Scale; three story completions measuring guilt and confession; a questionnaire pertaining to familial, occupational, religious, and educational status of the home; and the California Total Reading and Arithmetic Fundamentals subtests on the California Achievement Test.

The following hypotheses were investigated:

Hypothesis I. There is a significant positive correlation between degree of manifest anxiety and severity of guilt.

Hypothesis II. There is a higher positive correlation between manifest anxiety and severity of guilt about death wishes than between anxiety and guilt about violation of maternal commands or theft.

Hypothesis III. There is a curvilinear relationship between

anxiety and scholastic achievement.

Hypothesis IV. There is a curvilinear relationship between guilt and scholastic achievement.

Hypothesis V. There is a positive correlation between degree of manifest anxiety and amount of confession.

Hypothesis VI. Girls will score significantly higher than boys on a measure of guilt.

Hypothesis VII. Girls will score significantly higher than boys on a measure of guilt.

Hypothesis VIII. Girls will score significantly higher than boys on a measure of confession.

Results of the statistical analyses indicated that anxiety and guilt were positively and significantly related. The association between anxiety and guilt appeared strongest in the seventh grade sample of girls and on the story completion stem measuring guilt over theft. Thus hypothesis two was not confirmed. The hypothesized association between anxiety and confession was also rejected. Although neither anxiety or guilt was curvilinearly related to either arithmetic or reading achievement, significant negative relationships were obtained between the variables in the seventh grade group of girls. Thus both guilt and anxiety appear to be detrimental to scholastic achievement.

The only sex differences in anxiety were obtained in the seventh grade as the girls scored higher on the CMAS. Although the eighth grade boys scored significantly lower than the girls on all indices of guilt and confession, significant sex differences in guilt and

confession were not found for the seventh graders. Additional analyses indicated that the seventh grade girls scored significantly higher than the eighth grade girls on the anxiety scale. It is conjectured that anxiety associated with puberty resulted in elevated anxiety scores on the CMAS by the seventh grade girls and in inhibition of guilt and confession expression by the eighth grade boys.

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APPENDICES

APPENDIX A

Children's Manifest Anxiety Scale

Read each question carefully. Put a circle around the word Yes if you think it is true about you. Put a circle around the word No if you think it is not true about you.

- Yes No It is hard for me to keep my mind on anything.
- Yes No I get nervous when someone watches me work.
- Yes No I feel I have to be my best in everything.
- Yes No I blush easily.
- Yes No I like everyone I know.
- Yes No I notice my heart beats very fast sometimes.
- Yes No At times I feel like shouting.
- Yes No I wish I could be very far from here.
- Yes No Others seem to do things easier than I can.
- Yes No I would rather win than lose in a game.
- Yes No I am secretly afraid of a lot of things.
- Yes No I feel that others do not like the way I do things.
- Yes No I feel alone even when there are people around me.
- Yes No I have trouble making up my mind.
- Yes No I get nervous when things do not go the right way for me.
- Yes No I worry most of the time.
- Yes No I am always kind.
- Yes No I worry about what my parents will say to me.
- Yes No I often have trouble getting my breath.
- Yes No I get angry easily.
- Yes No I always have good manners.
- Yes No My hands feel sweaty.

Yes No I have to go to the toilet more than most people.

Yes No Other children are happier than I.

Yes No I worry about what other people think about me.

Yes No I have trouble swallowing.

Yes No I have worried about things that did not really make any difference later.

Yes No My feelings get easily hurt.

Yes No I worry about doing the right thing.

Yes No It is hard for me to go to sleep at night.

Yes No I worry about how well I am doing in schools.

Yes No I am always nice to everyone.

Yes No My feelings are hurt easily when I am scolded.

Yes No I tell the truth every single time.

Yes No I often get lonesome when I am with people.

Yes No I feel someone will tell me I do things the wrong way.

Yes No I am afraid of the dark.

Yes No It is hard for me to keep my mind on my school work.

Yes No I never get angry.

Yes No I often feel sick in my stomach.

Yes No I worry when I go to bed at night.

Yes No I often do things I wish I had never done.

Yes No I get headaches.

Yes No I often worry about what could happen to my parents.

Yes No I never say things I shouldn't.

Yes No I get tired easily.

Yes No It is good to get high grades in school.

Yes No I have bad dreams.

Yes No I am nervous.

Yes No I never lie.

Yes No I often worry about something bad happening to me.

APPENDIX B

Instructions and Guilt Stories

1. Instructions: We're interested in finding out what girls (boys) your age are like. In each of the booklets that you have are some questions to answer yes or no, three stories, and a form to fill out at the end. Do not turn any page and go on until you are through with it. The three stories you are to finish where they leave off. This is not an English class. Don't worry about spelling. There are no right or wrong answers: you can say anything you want in the stories and use any language you want. Just finish the stories, telling what happens and how it comes out, and what the people in your story are thinking and feeling. No one here at school will see your stories--I'll take them back with me to the University. It is very important that you answer every question completely. Do not leave any out. Raise your hand if you have a question.

2. Stories for the girls

a. Disobedience

One day Sally's mother goes visiting a friend of hers in another town. At noon just after her lunch Sally phones her mother and talks with her. She tells her to be a good girl and says she will be home at suppertime. Now Sally is all alone with nothing to do. She thinks of the boxes in the top of her mother's closet. She has told her never to take down the boxes. She knows that her mother won't be home till suppertime. Sally climbs up and takes down the boxes.

b. Theft

Marcia's friends have formed a social club. They promised Marcia she could be a member if she could get the special pin. Marcia saved all the money she could. At last she had \$10.00 saved up to get a really nice pin. When she arrives at the jewelry store, she sees the sales-clerk going down the stairs to the cellar of the store. The clerk does not see Marcia. Marcia decides to look at the pins herself before calling the clerk. She finds just the one she wants. Then she reaches for her money. It is gone. She realizes that she has lost it on the way down town. Marcia feels awful. She looks around. There is nobody in the store or near it outside. The clerk is still in the cellar. It occurs to Marcia that she can take the pin unnoticed and she hides the pin in her coat pocket. She walks out of the store. No one sees her leave.

c. Death Wish

Helen likes her music teacher. The other day the music teacher promised her privately that Helen could sing a solo number in the special music program at school on Friday. When the chorus meets for final practice, the music teacher doesn't say anything to Helen about singing the song. Helen is afraid that she has forgotten or changed her mind. She keeps thinking to herself over and over again: "The teacher isn't going to keep her promise. I hope she doesn't even make the music program. I wish she'd drop dead!" When Helen arrives at school on Friday, she hears that the music teacher has just been in an accident and has been taken to the hospital. Everyone is worried. The music program is about to begin. Helen sees from

the program that she is scheduled to sing.

3. Stories for Boys

a. Disobedience

One day Ted's mother goes visiting a friend of hers in another town. At noon just after his lunch Ted phones his mother and talks to her. She tells him to be a good boy and says that she will be home at suppertime. Now Ted is all alone with nothing to do. He thinks of the boxes in the top of his mother's closet. She has told him never to take down the boxes. He knows that his mother won't be home till suppertime. Ted clumbs up and takes down the boxes.

b. Theft

Bill's friends have formed a baseball team. They promised Bill he could be their catcher if he could get a catcher's mitt. Bill saved all the money he could. At last he had \$10.00 saved up to get a really good glove. When he arrives at the sports store, he sees the clerk going down to the cellar of the store. The clerk does not see Bill. Bill decides to look at the catcher's gloves himself before calling the clerk. He finds just the one he wants. Then he reaches for his money. It is gone. He realizes that he has lost it on the way down town. Bill feels awful. He looks around. There is nobody in the store or near it outside. The clerk is still in the cellar. It occurs to Bill that the mitt would just fit under the bulge in his jacket. He hides the mitt under his jacket and walks out of the store. No one sees him leave.

c. Death Wish

Dave likes his baseball coach. The other day the coach promised him privately that Dave could pitch in the big game on Saturday. When the team meets for final practice, the coach doesn't say anything to Dave about pitching. Dave is afraid that he has forgotten or changed his mind. He keeps thinking to himself over and over again: "The coach isn't going to keep his promise. I hope he doesn't even make it to the game. I wish he'd drop dead!" When Dave arrives at the game on Saturday afternoon, he hears that the coach has just been in an accident and has been taken to the hospital. Everyone is worried. The game is about to begin. Dave sees from the scoreboard that he is scheduled to pitch.

APPENDIX C

Story Completion Scoring

Story 1 - Disobedience

Story 2 - Theft

Story 3 - Death Wish

Level I

A. No doubt and/or unimpaired performance

Story 3 - no mention of worrying about the coach and no difficulty in pitching

B. Blatant missing of the point

Story 3 - statements as "don't judge a guy by the way he acts"

C. Verbalizations of discomfort (sorry, worried, or feeling bad)

Story 1 - sorry opened boxes and saw presents

Story 2 - afraid of being seen

Story 3 - worried about the coach and accident

Level II

A. Distortion - moderate

1. Situational (as doubts and/or performance decrement)

Story 3 - pitching poorly

2. Behavioral (as going to hospital after game)

B. Involuntary confession

Story 2 - parents ask child how she bought the pin when she left her money at home

C. Externalization - mild

1. moderate punishment

Story 1 - spanked and sent to bed

Story 2 - having to work after school to pay for pin

2. Getting caught

Story 1 - mother returns early

D. Special cases

1. Story 1

Good deed - as child catches robbers after opening boxes

Gift for someone other than hero in the boxes

Forgetting to replace boxes

2. Story 2

Finding money and returning glove without either type of confession

3. Story 3

Intent to do well for coach's sake

Verbalizations of discomfort involving cause and effect (feelings of blame)

Level III

A. Distortion - severe

1. Situational (as doubts and/or performance decrement)

Story 3 - inability to sing or pitch

2. Behavioral

Story 1 - does not take boxes down

Story 2 - does not steal pin or glove

Story 3 - goes to hospital before game

B. Voluntary confession (special cases in story 2 below)

1. Returns glove or pin and confesses

2. Finds money, returns glove, and confesses

C. Externalization - severe

1. Severe punishment by others - sent to jail

2. Injury to hero or others

Story 1 - falling down well or TNT in boxes

3. Courting punishment

Story 2 - returning to continue to steal until caught

D. Moralizing - statements about what hero should or should not do, what is right and wrong

E. Special case in story 3 - upset and intends to do well for coach's sake

If there is a question:

1. A series of Level II responses with one questionable Level III response, score level III.
2. When responses of two levels are present, score higher.

APPENDIX D
Questionnaire

Fill out the following list of questions completely. Check one answer where there are blanks. Raise your hand if you have a question.

1. Name _____
2. Male () Female ()
3. Age _____
4. Birthdate _____
Month Day Year
5. Race: White () Negro ()
6. Are both your parents living? Yes () No ()
7. Your parents are:
() Married and together () Divorced
() Separated () Other _____
8. Religion
() Protestant () Jewish
() Catholic () No preference
9. How often do you attend church?
() Every week () Once a month or less
() Twice a month () Never
10. Where does your father work?

11. What does he do there?

12. What was the highest grade in school that your father reached or degree he received?

APPENDIX E

Means and Standard Deviations:

Anxiety, Guilt, Achievement

Female Subjects

Variable	Mean	Standard Deviation	n
1. Anxiety			
Combined grades	17.85	6.22	54
7th	19.74	6.54	23
8th	16.45	5.61	31
2. Lie Scale			
Combined grades	2.85	1.96	54
7th	3.26	2.33	23
8th	2.55	1.88	31
3. Guilt			
Combined grades	7.52	1.20	54
7th	7.30	1.26	23
8th	7.68	1.18	31
4. Stories			
a. Disobedience			
Combined grades	2.41	.58	54
7th	2.39	.35	23
8th	2.42	.71	31
b. Theft			
Combined grades	2.76	.42	54
7th	2.70	.44	23
8th	2.81	.35	31
c. Death Wish			
Combined grades	2.35	.80	54
7th	2.22	.87	23
8th	2.45	.71	31
5. Achievement			
a. Reading			
Combined grades	37.88	25.81	54
7th	40.91	26.00	23
8th	35.65	25.31	31
b. Arithmetic			
Combined grades	42.70	28.57	54
7th	44.08	26.47	23
8th	41.67	30.05	31
6. Confession			
Combined grades	5.40	2.09	54
7th	5.26	1.87	23
8th	5.52	2.24	31

Male Subjects

Variable	Mean	Standard Deviation	n
1. Anxiety			
Combined grades	15.15	6.41	68
7th	14.12	7.06	32
8th	16.06	5.61	36
2. Guilt			
Combined grades	6.34	2.50	68
7th	6.78	1.49	32
8th	5.94	1.74	36
3. Stories			
a. Disobedience			
Combined grades	2.10	.07	68
7th	2.25	.08	32
8th	1.97	.07	36
b. Theft			
Combined grades	2.24	.08	68
7th	2.34	.07	32
8th	2.14	.09	36
c. Death Wish			
Combined grades	2.00	.09	68
7th	2.21	.09	32
8th	1.83	.08	36
4. Achievement* (percentile ranks)			
7th	42.38	23.45	32
8th	41.06	29.15	36
5. Confession			
Combined grades	4.22	1.35	68
7th	4.72	1.32	32
8th	3.78	1.24	36

*Achievement percentile is the average of the Arithmetic Fundamentals and Total Reading percentile ranks.

APPENDIX F

Table 6. Pearson correlation coefficients: Anxiety versus guilt for small sample of girls with only one parent residing at home (n = 12)

Variables	r	p
Anxiety vs. Total Guilt	.20	ns
Anxiety vs. Death Wish	-.11	ns
Anxiety vs. Disobedience	.49	p .05
Anxiety vs. Theft	.03	ns

Table 7. Correlation ratios (Eta) and Lewis's test of linearity: Anxiety vs. arithmetic achievement, anxiety vs. reading achievement, guilt vs. arithmetic achievement, and guilt vs. reading achievement

Hypothesis	N=54 girls	Eta r	F test of Linearity	p
III. Anxiety vs. Arithmetic Achievement		$r_{xy}=.60$	2.61	ns
		$r_{yx}=.45$	2.99	ns
Anxiety vs. Reading Achievement		$r_{xy}=.47$	.57	ns
		$r_{yx}=.44$	1.00	ns
IV. Guilt vs. Arithmetic Achievement		$r_{xy}=.48$	1.24	ns
		$r_{yx}=.31$	.59	ns
Guilt vs. Reading Achievement		$r_{xy}=.46$	.86	ns
		$r_{yx}=.54$	4.71	ns

Table 8. Pearson correlation coefficients: Lie scale versus anxiety, total guilt, guilt by story, achievement, and confession for the total sample of girls.

Lie Scale vs.	7th		8th		Combined	
	r	p	r	p	r	p
Anxiety	.055	ns	.009	ns	.073	ns
Total Guilt	.165	ns	.050	ns	.074	ns
Theft	-.218	ns	.229	ns	-.002	ns
Death Wish	.257	ns	-.137	ns	.042	ns
Disobedience	.215	ns	.094	ns	.110	ns
Arithmetic Achievement	-.263	ns	-.152	ns	-.186	ns
Reading Achievement	-.178	ns	-.320	p < .05	-.232	p < .05
Confession	.078	ns	.105	ns	.099	ns

Table 9. T test of differences between means of seventh and eighth grade boys and between means of seventh and eighth grade girls on the CMAS.

Anxiety Differences between grades	t	p
7th grade girls higher than 8th grade girls	1.95	p < .05
8th grade boys higher than 7th grade boys	1.24	p < .10 > .05

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