

THE EFFECTS OF SELF-ESTEEM ON ADOLESCENT DAYDREAMING

Thesis for the Degree of M. A. MICHIGAN STATE UNIVERSITY KAREN L. CLUTE 1969 THESIS



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ABSTRACT

THE EFFECTS OF SELF-ESTEEM ON ADOLESCENT DAYDREAMING

By

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According to Fenichel,

. . There are two types of fantasy: creative fantasy, which prepares some later action, and daydreaming fantasy, the refuge for wishes that cannot be fulfilled. . . . (Fenichel, 1945, p. 50)

Whenever reality becomes unpleasant, more pictorial daydream substitutes are sought. (Fenichel, 1945, p. 51)

This implies that the person with lowered self-esteem, for whom reality is unpleasant, is likely to have non-reality oriented daydreams while the person with high self-esteem is likely to experience reality oriented daydreams.

The purpose of this study was to demonstrate that differences in adolescents' self-esteem are correlated with daydream fantasies, i.e. that low self-esteem leads to reality distorted daydreams while high self-esteem maintains reality oriented daydreams. The testing instruments were Coopersmith's test of self-esteem, and two measures developed by the author: a daydream questionnaire, and a sentence completion test of self-esteem. The last two of these are comprised of four subscales: physical appearance, school life, relations with boys, and relations with friends. The Daydream Questionnaire ascertained what aspects of life a teenager changes in her daydreams and hence provides a measure of reality orientation of the individual's daydreams. The Sentence Completion Test, Daydream Questionnaire, and the Coopersmith test were administered to seventh and eighth grade girls in DeWitt, Michigan, and seventh grade girls in Williamsport, Pennsylvania.

The hypothesized relationships between self-esteem and reality orientation of daydreams were confirmed for the DeWitt sample but not the Williamsport. The results were significant for the Coopersmith esteem test, but not the Sentence Completion Test. The thesis explores possible explanations for differences between the two samples.

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THE EFFECTS OF SELF-ESTEEM ON

ADOLESCENT DAYDREAMING

By Karen L. Clute

A THESIS

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iii

TABLE OF CONTENTS

																							Page
LIST OF	TAI	BLE	ES	٠	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	v
LIST OF	API	PEN	1D]	[CI	ES	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	vi
INTRODU	CTI	ON	•	•	•	٠	•	٠	•	٠	•	•	•	•	•	•	•	•	٠	٠	٠	•	1
METHOD	••	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	9
RESULTS	•	•	•	•	•	•	•	•	٠	•	•	•	•	•	•	•	•	•	•	•	•	•	14
DISCUSS	ION	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	19
SUMMARY	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	25
BIBLIOGI	RAPI	ΗY	•	•	•	•	•	٠	•	•	•	•	•	•	•	•	•	•	•	•	•	•	27
APPENDIC	CES	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	29

.

LIST OF TABLES

Table		Page
1.	Correlations between the Self-Esteem Inven- tory and the total Daydream Questionnaire score for Williamsport and DeWitt samples .	14
2.	Correlations between the Sentence Completion Test and the total Daydream Questionnaire score for Williamsport and DeWitt samples .	15
3.	Correlation coefficients for the DeWitt Daydream subscales and the Coopersmith Self-Esteem Inventory	16
4.	T-tests between DeWitt and Williamsport samples on the Sentence Completion Test, Self-Esteem Inventory, and Daydream Questionnaire full scale and subscale scores	17
5.	Correlation coefficients for DeWitt and Williamsport samples between measures of daydreaming and self-esteem	18
6.	Lie scale scores of DeWitt and Williamsport groups	21

LIST OF APPENDICES

Appendix	ĸ	Page
A.	TEST OF SELF-ESTEEM	29
в.	SENTENCE COMPLETION TEST	33
с.	GRADUATE STUDENT QUESTIONNAIRE	35
D.	SELF-ESTEEM INVENTORY	37
E.	DAYDREAM QUESTIONNAIRE	41
F.	LIST OF ABBREVIATIONS	45
G.	RAW DATA	46

INTRODUCTION

The purpose of this study is to demonstrate that differences in adolescents' self-esteem are correlated with daydream fantasies. The daydream serves a different function depending on whether the dreamer has high or low self-esteem. For the adolescent with high self-esteem, daydreams function as problem solving techniques. For the adolescent with low self-esteem, daydreams function to idealize the self, or as wishfulfilling fantasies, or as a method for gaining self-knowledge or acceptance by fancied role playing and depicting oneself in a variety of physical and/or personality transformations.

According to Fenichel, "There are two types of fantasy: creative fantasy, which prepares some later action, and daydreaming fantasy, the refuge for wishes that cannot be fulfilled. . . ." (Fenichel, 1945, p. 50.) "If the ego is weak or tired or asleep or without confidence in its own ability and desirous of a receptive type of mastery, then the pictorial type of thinking becomes more attractive than objective intelligence. . . . Whenever reality becomes unpleasant, more pictorial daydream substitutes are sought." (Fenichel, 1945, p. 51) This implies that the person with lowered self-concept or

self-esteem is likely to daydream. What about the individual with high self-esteem? Does he not daydream? It is hypothesized that the person with lowered self-esteem is likely to experience fanciful, wishfulfilling daydreams in which reality is distorted or changed. This is in keeping with Fenichel's ideas. However, it is also possible that the high-esteem person does daydream and his daydreams are reality oriented and problem solving, which involves little reality distortion or change. [Singer found that 96% of his sample of college students daydream Therefore, it is assumed that all adoles-(Singer, 1966). cents daydream to a considerable extent.] Using high school students, Rosenberg (1965) found of low self-esteem adolescents 59% were high in daydreaming frequency and only 13% were high in daydream frequency who were also high in self-esteem. Hence, the evolution of the general hypotheses of this study: low self-esteem leads to reality distorted daydreams while high self-esteem meaintains reality oriented daydreams.

The term daydreaming encompasses varied mental activities. Visual imagery, wishing, exploration of the future via trial runs (Singer, 1966), problem-solving meditation, and aesthetic or poetic imaginings (Singer and McCraven, 1961) are some of these mental activities. An operational definition is presented by J. L. Singer and J. S. Antrobus, i.e. daydreaming is a "reported train of

thought that may occur as a shift of attention away from an ongoing task of the external perceptual situation." (Singer and Antrobus, 1963, p. 188)

In 1961, Jerome L. Singer published the first of a series of articles on daydreaming which utilize his General Daydream Questionnaire (GDQ). Singer and Schonbar (1961) administered a battery of tests to graduate students to test the hypothesis that closer identification with a mother figure is related to introspective tendencies, because mothers represent inhibition of impulses into action more than overt active fathers. Hence, more women than men daydream. General support for the hypothesis was found through significant correlations in the predicted directions (Singer and Schonbar, 1961). Daydreaming has been related to eye movements (Singer, Antrobus, Antrobus, 1964); anxiety and repression scores (Wagman, 1965); and information processing (Singer, Antrobus, and Greenberg, 1966). Singer and McCraven (1961) reported no differences in daydreaming frequency due to sex, marital status, or number of siblings. They found that daydreaming frequency was higher for people reared in the city than in the suburb; daydreaming was more common in Negroes and Jews than in Anglo-Saxons; and daydreaming decreases with age in adulthood, the maximum frequency between eighteen and twentynine years (Singer and McCraven, 1961).

Singer (1966) lists seven variables that may precipitate a high frequency of adolescent daydreaming. These are: the continuation of the child's self-made fantasy play, multiple adult role possibilities which are assimilated into the new-found capacity for internalized play, differentiation in interests and activities, skill in shifting from external to internal channels of perception, differentiated external stimuli, unlimited free time, contact with reality making possible complex associative combinations and fantasy aspirations, and degree to which reality contact or actual performance is sufficiently related to the daydream to sustain its recurrence without arousing pain (Singer, 1966).

Using the interview technique, Douvan and Adelson (1966) extracted some information about daydreaming from a sample of adolescents. Reluctance to indulge in fantasy required to envision characteristics they would like to change in themselves was interpreted as avoidance of fantasy by the boys (Douvan and Adelson, 1966). "To all questions that require fantasy production, girls give more responses than boys. They seem more familiar with the fantasy world and apparently find the path from reality to fantasy a well-worn, easy route." (Douvan and Adelson, 1966, p. 45) Boys dream about future, goal, job-oriented plans in line with reality planning while girls daydream about marriage and physical attractiveness, but not

expressing any realistic desires to work toward these goals (Douvan and Adelson, 1966).

To conclude that girls daydream more than boys is perhaps premature. However, it does seem safe to conclude that adolescent girls are more willing to relate their fantasy experiences to a female experimenter than boys are. (Douvan and Adelson's interviewer was a middle-aged woman.) Coupled with Singer's findings concerning identification with the mother figure and daydreaming, it was decided to simplify this experimental design by using only female subjects.

The research in self-concept or self-esteem has been quite extensive, adolescent self-esteem being one phase of that research. Stanley Coopersmith (1967) developed a fifty-eight item test of self-esteem, the Self-Esteem Inventory (SEI), (Appendix D) designed for fifth and sixth grade youngsters. It was found that self-confidence and trust in one's convictions are related to self-esteem (Coppersmith, 1967). After analysis of social and religious status, Coopersmith (1967, p. 86) concluded that the "psychological bases of esteem are more dependent on close, personal relationships and the immediate environment than upon material benefits or prestige rankings in the community at large." Areas such as school work are related to self-esteem. Perkins and Shanon (1965) also related the SEI to intellectual and achievement measures. Rosen

and Ross (1968) found a positive relation between satisfaction with body image and satisfaction with self-concept. Self-esteem is related to neat, attractive appearance, friendly, demur manner, and quiet good humor if these attributes of popular girls can be said to denote high self-esteem (Frazier and Lisonbee, 1960). Frazier and Lisonbee (1960) found that adolescents are concerned with their body and facial appearance. Taking all of these findings into consideration, a sentence completion test of self-esteem was developed utilizing sentence stems dealing with areas of social importance to adolescents, i.e. school life, physical appearance, relationships with boys, and relationships with friends. This self-esteem test then becomes the independent variable in an effort to quantify the relationship between self-esteem and daydreaming, i.e. that low self-esteem leads to reality distorted daydreams while high self-esteem maintains reality oriented daydreams.

Hypotheses to be Tested

The testing instruments are Coopersmith's test of self-esteem, a daydream questionnaire, and a sentence completion test of self-esteem. The last two of these consist of four subscales: physical appearance, school life, relations with boys, and relations with friends. These tests were designed to test the following hypotheses.

- Subjects scoring low in self-esteem on the Coopersmith test and sentence completion test will change the characteristics of their personal life more often in their daydreams than subjects scoring high in selfesteem.
 - a. Subjects scoring low in self-esteem in school life via the subtest on the sentence completion test (Appendix B) will change the characteristics of their school situation more often in their daydreams than subjects scoring high in school life self-esteem.
 - b. Subjects scoring low in self-esteem in physical appearance via the appropriate subtest of the sentence completion test will change their physical characteristics more often in their daydreams than subjects scoring high in physical appearance self-esteem.
 - c. Subjects scoring low in self-esteem in relations with boys via the appropriate subtest of the sentence completion test will picture their relations with boys as changed in their daydreams more often than subjects scoring high in self-esteem in relation with boys.
 - d. Subjects scoring low in self-esteem in relations with friends via the appropriate subtest of the

sentence completion test will picture their relations with friends as changed in their daydreams more often than subjects scoring high in selfesteem in relations with friends.

- 2. The scores of the self-esteem subtest and matching daydream subtest will correlate more often than the score of the self-esteem subtest with any other daydream situation.
- 3. The DeWitt and Williamsport samples will not differ significantly on the scores of the sentence completion test of self-esteem, the self-esteem inventory, or the daydream questionnaire.

METHOD

Subjects

The subjects were early adolescent girls, 43 in the seventh grade and 24 in the eighth grade, ranging in age from 11 to 14 years. Thirty-nine girls were tested in DeWitt, Michigan, on December 12, 1968 and January 16, 1969. (Test-retest reliability was done only on the DeWitt sample.) Thirty-five girls were tested in Williamsport, Pennsylvania, on December 19, 1968. Ten Williamsport inventories were incomplete and hence discarded. Due to absences, and the incomplete inventory, test-retest reliability was calculated for 33 DeWitt girls. However, nine girls took the test only once and these inventories were added to the group of 33. Hence the final data analysis used 42 DeWitt and 25 Williamsport girls.

Independent Variable

As previously listed, the hypotheses to be tested depend on four subscales of a twenty-one item sentence completion test of self-esteem, the SCT. Originally, ninety-one sentence completion stems were developed using topics relevant to adolescent girls (Appendix A). The ninety-one items were reduced to twenty-one by a criteria

of .37 or greater point biserial correlation with the total score on the test (Appendix B). A correlation of .367 is significant at the .05 level (Guilford, 1954).

The four subscales were devised by inspection of the SCT. In order to verify the experimenter's division of the twenty-one items, a questionnaire was given to seven women graduate students in psychology to obtain their division of the SCT into the same four categories (Appendix C). The results are: school life (Item No. 2, 3, 4, 8, 11, 14, 16) chosen by six out of seven students; physical appearance (Item No. 1, 12, 17, 21) chosen by all seven students; relations with boys (Items No. 5, 7, 15, 20) chosen by five out of seven students; and relations with friends (Items No. 6, 9, 10, 13, 18, 19) chosen by six out of seven students. The SCT is scored for each subscale and the total test by assigning a positive answer three points, a neutral answer two points, a negative answer one point, and a blank no points and then summing over all items in the particular subscale. An interrater reliability coefficient of .91 was determined on the Sentence Completion Test on the first administration to the Michigan sample. The test-retest reliability coefficient is .559.

In the battery of tests given to the subjects was included S. Coopersmith's self-esteem inventory, SEI (Appendix D). This test contains fifty-eight items. The

subject checks "Like me" or "Unlike me" for each sentence which comprises the test. The SEI was included to provide a measure of concurrent validity for the Sentence Completion Test. The score is the number of items checked "Like Me" which are considered indicative of low self-esteem. High self-esteem items were No. 2, 4, 10, 11, 14, 18, 21, 23, 24, 28, 29, 32, 36, 45, 57. Low self-esteem items are No. 1, 3, 7, 8, 9, 15, 16, 17, 22, 25, 30, 31, 35, 37, 38, 39, 42, 43, 44, 46, 49, 50, 51, 52, 53, 58. Items No. 5, 6, 12, 13, 19, 20, 33, 34, 40, 41, 47, 48, 54, 55 were excluded because they make up the parent and lie subscales of the SEI. The test-retest reliability coefficient for the SEI is .78 (for the Michigan sample).

Dependent Variable

The last test in the battery, the DDQ, was a daydream questionnaire (Appendix E). The questionnaire is fifteen items in length, the first three are concerned with amount of time spent daydreaming and whether the subject is pictured in her daydreams. The other twelve items are a measure of which aspects of the adolescent's life she pictures as the same or changed in her daydreams. These items also divide into the same four subscale categories of the Sentence Completion Test. Hence, a correspondence can be drawn between a particular self-esteem subscale and daydream subscale. There are thirteen adjective dimensions (Items No. 10, 13, 15) for school life; ten adjective

dimensions (Items No. 4, 5, 6, 7, 8, 9) for physical appearance; twelve adjective dimensions (Item No. 12) for relations with boys; and twelve adjective dimensions (Items No. 11, 14) for relations with friends. The score is the number of dimensions checked as the same for each subscale and for the full scale. The test-retest reliability coefficient is .643.

Procedure

- To develop the Sentence Completion Test, ninety-one subject stems of sentences were created while keeping in mind the activities and ideas considered important to a seventh grade girl.
- 2. The ninety-one items were administered, scored, and submitted to the MSU Scoring Office for an item analysis. A point biserial correlation coefficient of .37 or greater was the selection criteria for final items of the Sentence Completion Test.
- 3. In order to ascertain the validity of dividing the Sentence Completion Test into four subscales, graduate students were given a short questionnaire, in which they divided the Sentence Completion Test items into four subscales.
- 4. The Daydream Questionnaire was developed to ascertain in an easily comprehensible fashion what aspects of life are seen as changed in the adolescent's daydreams.

- 5. The Sentence Completion Test, Daydream Questionnaire, and the Self-Esteem Inventory were administered to thirty-nine seventh and eighth grade girls in DeWitt, Michigan, and thirty-five seventh grade girls in Williamsport, Pennsylvania. The battery was administered twice within five weeks to the DeWitt girls as a measure of test reliability.
- 6. Statistical tests were run to determine differences between the DeWitt and Williamsport groups. Data analysis consisted of a series of correlational tests, relating high and low self-esteem subscale scores with their corresponding daydream subscale scores.

RESULTS

The hypothesized relationships between self-esteem and reality orientation of daydreams is confirmed for the DeWitt sample but not the Williamsport sample if the Coopersmith esteem test, not the sentence completion esteem test, served as the independent variable. As shown in Table 1, the correlation between the Coopersmith esteem test and the Daydream Questionnaire is significant for the DeWitt group.

Table 1.--Correlations between the Self-Esteem Inventory and the total Daydream Questionnaire score for Williamsport and DeWitt samples.

Group	Correlation Coefficient
DeWitt	0.34*
Williamsport	-0.05

*p < .05

Although the Coopersmith test is more reliable than the Sentence Completion Test, the two self-esteem tests are correlated at 0.49. Hence, results similar to those of Table 1 are expected using the Sentence Completion Test. However as shown in Table 2, there is little correlation between the Sentence Completion Test and the Daydream Questionnaire. (The correlation for the combined sample was not computed due to the insignificance of the individual sample correlations.)

Table 2.--Correlations between the Sentence Completion Test and the total Daydream Questionnaire score for Williamsport and DeWitt samples.

Group	Correlation Coefficient
DeWitt	-0.02
Williamsport	-0.09

Because the DeWitt Coopersmith self-esteem and total daydream correlation is significant, correlations for the Coopersmith test with the four subscales of the Daydream Questionnaire were calculated for the DeWitt sample. Table 3 contains these coefficients.

The research design, as originally planned, stated that the DeWitt and Williamsport samples would be analyzed as one group since the two groups were expected to have similar scores on the Sentence Completion Test, Self-Esteem Inventory, and the Daydream Questionnaire. As a check, tests of significance were run between the DeWitt and Williamsport samples on all full scale and subscale scores.

Scale	Group	Correlation Coefficient			
SEI x PDDQ	DeWitt Wmpt	0.24 -0.10			
SEI x BDDQ	DeWitt Wmpt	0.37* -0.01			
SEI x FDDQ	DeWitt Wmpt	0.41** 0.00			
SEI x SDDQ	DeWitt Wmpt	0.05 -0.08			

Table 3.--Correlation coefficients for the DeWitt daydream subscales and the Coopersmith Self-Esteem Inventory.

*p < .05

Table 4 summarizes these findings. (Appendix F contains a list of abbreviations.)

For all daydream scales, the DeWitt mean is higher than the Williamsport mean. Since the two groups differed significantly on the total Daydream Questionnaire, friend subscale of the Daydream Questionnaire, and the school life subscale of the Daydream Questionnaire, the data was not pooled. Consequently, correlations between measures of self-esteem (sentence completion) and daydream change were calculated separately for each group. Analysis was done with 42 subjects in the DeWitt sample and 25 in the Williamsport sample. Table 5 lists the correlation (productmoment) coefficients between the Sentence Completion Test

Scale	Group	Mean	SD	t
TSCT	DeWitt Wmpt	49.19 48.60	7.24 7.79	0.31
PSCT	DeWitt Wmpt	9.90 9.44	1.66 0.21	1.01
BSCT	DeWitt Wmpt	8.16 8.28	2.15 2.63	-0.19
FSCT	DeWitt Wmpt	16.11 16.48	2.76 3.48	-0.46
SSCT	DeWitt Wmpt	15.00 14.40	3.00 2.29	0.85
SEI	DeWitt Wmpt	28.02 24.56	5.65 5.93	2.31*
TDDQ	DeWitt Wmpt	22.47 15.68	11.01 11.89	2.28*
PDDQ	DeWitt Wmpt	5.30 4.32	2.85 2.86	1.34
BDDQ	DeWitt Wmpt	4.76 3.40	3.60 3.75	1.40
FDDQ	DeWitt Wmpt	5.54 3.36	3.60 3.56	2.37*
SDDQ	DeWitt Wmpt	6.85 4.60	3.74 3.55	2.42*

Table 4.--T-tests between DeWitt and Williamsport samples on the Sentence Completion Test, Self-Esteem Inventory, and Daydream Questionnaire full scale and subscale scores.

*p < .05, 2-tailed

and the Daydream Questionnaire subscale scores for both groups, the DeWitt coefficient above the Williamsport. (Appendix G contains the raw data.)

Table 5.--Correlation coefficients for DeWitt and Williamsport samples between measures of daydreaming and self-esteem.

	TDDQ	PDDQ	BDDQ	FDDQ	SDDQ
TSCT	-0.02	0.03	0.04	0.00	-0.12
	-0.09	0.02	-0.13	-0.09	-0.10
PSCT	-0.02	0.05	-0.04	-0.05	-0.02
	-0.05	-0.03	0.03	-0.11	-0.07
BSCT	0.05 -0.12	0.00	0.07 -0.05	0.03	0.04 -0.15
FSCT	-0.12	0.08	-0.07	-0.12	-0.23
	-0.13	-0.04	-0.21	-0.11	-0.06
SSCT	0.04	-0.04	0.13	0.12	-0.10
	0.06	0.29	-0.11	0.10	-0.01

Each subscale of the Sentence Completion Test and the Daydream Questionnaire may not be reliable and their interdependence is undetermined. Hence, the correlations in Table 5 cannot be expected to be significantly high. These correlations do not offer evidence for the acceptance of the subordinate hypotheses under Hypothesis 1.

DISCUSSION

This study partially supported the hypothesis that low self-esteem is related to reality-distorted daydreams while high self-esteem is related to reality-oriented daydreams in one sample of junior high school children, namely for the DeWitt sample using the Self-Esteem Inventory and Daydream Questionnaire. It was found that self-esteem, measured by the Coopersmith test, is significantly correlated with realistic daydreams, measured by the daydream versus real life discrepancy on the Daydream Questionnaire. This is true for the total daydream score as well as the subscales dealing with relations with boys and relations with friends. The relationship held only for the DeWitt sample. However, when the Sentence Completion Test was used as a measure of self-esteem, no significant correlations were found between any self-esteem scale and any daydream scale.

This was unexpected especially since the Sentence Completion Test and the Coopersmith test are correlated at .49, a significant correlation. However, the two scales differ in several important respects. The testretest reliability of the Coopersmith test is higher than the Sentence Completion Test. The Coopersmith test

contains more than twice the number of items in the sentence test. By the nature of the items, it is likely that the Coopersmith test scores are less influenced by social desirability and response set formation than the sentence test scores. Also, the Sentence Completion Test contains words that are unfamiliar to seventh and eighth graders. In short, although the Coopersmith test and the Sentence Completion Test are measuring some common dimension, namely self-concept, the Coopersmith test is a superior scale by virtue of its length, reliability, and scores that are independent of social desirability and response set formation.

Another unexpected finding is the difference in daydream and self-esteem scores of the DeWitt and Williamsport groups. These differences are significant on the Coopersmith test, total daydream score, friend daydream score, and school life daydream score but not on the Sentence Completion Test. The Sentence Completion Test is not sensitive to the differences between these groups. The reason for this lack of sensitivity may be that socially desirable answers are equally easy to produce for both groups on the Sentence Completion Test.

The question still remains why these groups differ on the other scales. First, the DeWitt girls scored significantly higher in self-esteem on the Coopersmith test than the Williamsport girls. From personal observation while administering the inventory, the DeWitt girls seemed

happier, more friendly toward this stranger, and more relaxed with their teacher. The Williamsport girls were less spontaneous toward me, and more controlled by and afraid of their teacher judging by the lack of warm conversation between teacher and student. In other words, the school setting is more threatening and unpleasant for the Williamsport group. Consequently, their lie scale would be higher than the DeWitt group and their self-esteem lower due to the unpleasant, nonsupportive atmosphere of the Williamsport setting. The difference on the Coopersmith test lie scale approaches significance (see Table 6). Also from the general appearance of the two groups, the DeWitt group seemed higher in socio-economic status than the Williamsport group. One could postulate that offspring from families with large incomes are more secure, happier, and hence more self-confident than offspring from families with small incomes. However, Coopersmith (1967) found that self-esteem is independent of socio-economic status, but varies with certain family factors. Family or parental influences were not specifically tapped in this study.

Table 6.--Lie scale scores of DeWitt and Williamsport groups.

Group	Mean	SD	t
DeWitt	1.71	1.13	1.47*
Wmpt	2.12	1.03	

p < .10, l-tailed

Second, the DeWitt sample scored significantly higher than the Williamsport sample on the total, friends, and school life aspects of the Daydream Questionnaire, i.e. the DeWitt girls' daydreams are more reality-oriented than the Williamsport girls' daydreams. The two cities differ in population. DeWitt is a rural community while Williamsport is a small city. Singer reported higher daydream frequency among urban than rural people (Singer and McCraven, 1961). Assuming that Singer's finding holds for these two groups, one could speculate that because urban life influences the amount of time spent daydreaming it also influences the dreamer's daydream content. Perhaps the state of anomie, normlessness or feelings of insignificance often associated with city life, would arouse fanciful daydreams, via the wishfulfilling hypothesis of Fenichel, while rural life with its emphasis on daily work, local activities, and a friendly atmosphere would stimulate reality-oriented daydreams. The same line of reasoning can also be applied to self-esteem, in that the urban dweller, who feels lost or insignificant, would tend to have low self-esteem while the rural person, who is involved in local activities and knows intimately most of the local people, would tend to have high self-esteem, hence the difference found on the Coopersmith test.

Inspection of Tables 3 and 4 reveals that the correlations between SEI and DDQ are always larger for the

DeWitt sample than Williamsport sample. In fact for the Williamsport sample, the SEI was not related to the DDQ. Hence there must be another variable interacting with self-esteem and daydream change that reverses or negates the hypothesized relationship for the Williamsport but not DeWitt sample. It could be that, for moderate amounts of daydreaming, the hypothesized relationship holds, but does not hold for excessively high daydream frequencies. It could also be that excessive amounts of low self-esteem or high reality distorted daydreams also destroys the hypothesized relationship. For example, adolescents, regardless of self-esteem, may daydream excessively which would accentuate the reality orientation of the daydream thus destroying the relationship between self-esteem and In other words, one could postulate a daydream change. nonlinear relationship among daydream frequency, daydream content, and self-esteem. Hence, daydream frequency is an important variable, not accounted for in this research. Questions No. 1 and 3 on the DDQ are relevant to this issue, but the answers given are too vague to be analyzed.

Despite the nonsignificant correlations between the Sentence Completion Test and the Daydream Questionnaire, the correlations between the Total score of the DDQ, Score on the relations with friends subscale of the DDQ, Score on the school life subscale of the DDQ and the Coopersmith esteem test are significant for the DeWitt sample. This

supports the original hypotheses except that self-esteem subscales were not available for the Coopersmith test. Future research, utilizing a design similar to this but with an improved test of self-esteem and using frequency as another independent variable, would confirm these hypotheses without qualification. For the present, this study helps to clarify the relationship between daydreaming and self-esteem and the different functions daydreaming may serve i.e., whether daydreaming is wishfulfilling fantasy or problem-solving, trial run, realistic meditation.

That daydreams are either realistic or unrealistic depending on the dreamer's self-esteem can be accepted as the normal circumstance for the adolescent. Gross discrepancies from this relationship could be of clinical significance. For example, an adolescent with low selfesteem who does not daydream or has realistic daydreams may be defending against inferiority feelings instead of allowing them some expression in daydreaming. On the other hand, areas of emotional conflict might be depicted in the daydreams of a high self-esteem adolescent whose daydreams are fanciful, not realistic. Thus, daydreaming can help a therapist or client focus on areas of emotional conflict depending on where the subject falls on the self-esteem continuum.

SUMMARY

According to Fenichel,

. . . There are two types of fantasy: creative fantasy, which prepares some later action, and daydreaming fantasy, the refuge for wishes that cannot be fulfilled. . . . (Fenichel, 1945, p. 50)

Whenever reality becomes unpleasant, more pictorial daydream substitutes are sought. (Fenichel, 1945, p. 51)

This implies that the person with lowered self-esteem, for whom reality is unpleasant, is likely to have non-reality oriented daydreams while the person with high self-esteem is likely to experience reality oriented daydreams.

The purpose of this study was to demonstrate that differences in adolescents' self-esteem are correlated with daydream fantasies, i.e. that low self-esteem leads to reality distorted daydreams while high self-esteem maintains reality oriented daydreams. The testing instruments were Coopersmith's test of self-esteem, and two measures developed by the author: a daydream questionnaire, and a sentence completion test of self-esteem. The last two of these are comprised of four subscales: physical appearance, school life, relations with boys, and relations with friends. The Daydream Questionnaire ascertained what aspects of life a teenager changes in her daydreams and

hence provides a measure of reality orientation of the individual's daydreams. The Sentence Completion Test, Daydream Questionnaire, and the Coopersmith test were administered to seventh and eighth grade girls in DeWitt, Michigan, and seventh grade girls in Williamsport, Pennsylvania.

The hypothesized relationships between self-esteem and reality orientation of daydreams were confirmed for the DeWitt sample but not the Williamsport. The results were significant for the Coopersmith esteem test, but not the Sentence Completion Test. The thesis explores possible explanations for differences between the two samples.

REFERENCES

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REFERENCES

- Coopersmith, S. The antecedents of self-esteem. San Francisco, Calif.: W. H. Freeman & Company, 1967.
- Douvan, E. and Adelson, J. The adolescent experience. / New York: John Wiley & Sons, 1966.
- Fenichel, O. The psychoanalytic theory of neurosis. New York: W. W. Norton & Company, 1945.
- Frazier, A. and Lisonbee, L. K. Adolescent concerns with /
 physique, in The adolescent: a book of readings.
 Seidman, J. M. ed. New York: Holt, Rinehart,
 & Winston, Incorporated, 1960.
- Guilford, J. P. <u>Psychometric methods</u>. New York: McGraw-~ Hill Book Company, 1954.
- Perkins, C. W. and Shannon, D. T. Three techniques for obtaining self-perceptions in preadolescent boys. Journal of Personality and Social Psychology, 1965, 2, 443-447.
- Rosen, G. M. and Ross, A. O. Relationship of body image to self-concept. Journal of Consulting and Clinical Psychology, 1968, 32, 100.
- Rosenberg, M. Society and the adolescent self-image. New / Jersey: Princeton University Press, 1965.
- Singer, J. L. <u>Daydreaming: an introduction to the experi-</u> <u>mental study of inner experience</u>. New York: Random House, 1966.
- Singer, J. L. and Antrobus, J. S. A factor-analytic study of daydreaming and conceptually-related cognitive and personality variables. <u>Perceptual and Motor</u> Skills, 1963, <u>17</u>, 187-209.
- Singer, J. L., Antrobus, J. S. and Antrobus, J. S. Eye movements accompanying daydreaming, visual imagery, and thought suppression. Journal of Abnormal and Social Psychology, 1964, 69, 244-252.

- Singer, J. L., Antrobus, J. S. and Greenberg, S. Studies in the stream of consciousness: experimental enhancement and suppression of spontaneous cognitive processes. <u>Perceptual and Motor Skills</u>, 1966, <u>23</u>, 399-417.
- Singer, J. L. and McCraven, V. G. Some characteristics of adult daydreaming. Journal of Psychology, 1961, 51, 151-164.
- Singer, J. L. and Schonbar, R. A. Correlates of daydreaming: a dimension of self-awareness. Journal of Consulting Psychology, 1961, 25, 1-6.
- Wagman, M. Daydreaming frequency and some personality measures. Journal of Consulting Psychology, 1965, 29, 395.
- Wheeler, D. K. Popularity among adolescents in western Australia and in the United State of America. <u>School</u> <u>Review</u>, 1961, 69, 67-81.

APPENDICES

APPENDIX A

TEST OF SELF-ESTEEM

Directions: This questionnaire provides an opportunity for you to express your personal opinions and feelings concerning certain areas of home and school life. The items are structured so that you can complete the sentence with a word or phrase that best illustrates your real feelings about the subject. The items should be filled in frankly and honestly. Although the questionnaire is fairly long, each item can be answered quickly, spending approximately the same amount of time on each item.

1.	My hair
2.	Feelings of inferiority
3.	My height
4.	Applying cosmetics
5.	Selfishness is
6.	My success in school
7.	Liking this school
8.	Concerning optimism and pessimism I
9.	Happiness at home
10.	I can be as becoming as
11.	My family and I
12.	The lives of most people from my town
13.	I worry
14.	My home town provides me

15.	The atmosphere of my school
16.	People avoid me
17.	Sometimes I am pretty and
18.	The teachers and students make our school
19.	Getting a date
20.	Talents and special abilities
21.	The time I spend in hand care
22.	Around boys I
23.	My health
24.	Looking in the mirror brings feelings of
25.	Being alone makes me
26.	My fears influence
27.	As a friend and companion I rate
28.	My relationship with boys is
29.	My figure is
30.	My personality
31.	Boys think I am
32.	The people in my town
33.	My complexion
34.	Joking is one pastime that I
35.	My grades and study habits are
36.	My grooming habits
37.	My general appearance is
38.	Getting along with classmates is
39.	Other girls seek my friendship
40.	My usefulness to others is

41. My neighbors think our town_____ 42. Making friends 43. Influencing people_____ 44. My manners 45. Making good decisions 46. My clothes are usually_____ 47. I dress 48. Love and marriage 49. Entertainment in my town is _____ 50. The clubs and organizations of my town 51. My weight is_____ 52. My hair looks_____ 53. My clothes usually fit_____ 54. The social life in my town is _____ 55. People accept my ideas_____ 56. My work in school and club activities 57. Courtesy is one topic I 58. With other girls I_____ 59. My sensitivity to criticism is 60. When I think of my home town, I 61. Solving personal problems can be_____ 62. On neatness I score 63. Stimulation from my home town 64. When someone says "how pretty you look," I_____ 65. Generally my home town

66. My facial features are_____

67.	The inhabitants of my town
68.	My home life is
69.	Picnics, parties, and movies dates
70.	Someone commenting on my figure makes me
71.	My temper
72.	My chances of getting married are
73.	Our school
74.	Initiating and finishing projects
75.	People consider my feelings
76.	Presenting a neat appearance is
77.	Essentially my face is
78.	My influence on fellow club members is
79.	My sense of humor
80.	Controlling my temper
81.	What others think about me
82.	My dates
83.	The atmosphere of my town
84.	When someone comments on my appearance, I
85.	In my home town finding things to do
86.	My family
87.	On attractiveness I rate
88.	When I look in the mirror, I see a girl who is
89.	Our school activities
90.	Working with others on a committee, I
91.	My home town

APPENDIX B

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SENTENCE COMPLETION TEST

Dire	ections:	This questionnaire provides an opportunity for you to express your personal opinions and feelings concerning several areas of adolescent life. The items are structured so that you can complete the sentence with a word or phrase that best illustrates your real feelings about the subject. Please answer each item quickly, spending approxi- mately the same amount of time on each item.
1.	Applying	cosmetics is
2.	My succes	s in school
3.	The atmos	phere of my school
4.	The teach	ers and students make our school
5.	Getting a	a date
6.	As a frie	end and companion I rate
7.	My relati	onship with boys is
8.	My grades	and study habits are
9.	Other gir	ls seek my friendship
10.	My useful	ness to others is
11.	Making go	ood decisions
12.	My clothe	es are usually
13.	People ac	ccept my ideas
14.	My work i	n school and club activities
15.	Picnics,	parties, and movie dates
16.	Initiatir	ng and finishing projects

17.	Presenting a neat appearance
18.	My influence on fellow club members
19.	What others think of me
20.	My dates
21.	When I look in the mirror, I see a girl who is

APPENDIX C

GRADUATE STUDENT QUESTIONNAIRE

Directions: I have constructed a sentence completion test of self-esteem given to seventh and eighth grade girls. The twenty-one items on the following page comprise the test. However, to separate the twenty-one items into four subtests, I need your help. Please place each item number of the self-esteem test on a line following the specific subtest category at the bottom of the following page. Remember, this test was designed to be administered to adolescent girls. Thank-you.

1. Applying cosmetics is _____

2. My success in school_____

3. The atmosphere of my school

4. The teachers and students make our school

5. Getting a date

6. As a friend and companion I rate

7. My relationship with boys is

8. My grades and study habits are

9. Other girls seek my friendship

10. My usefulness to others is

11. Making good decisions_____

12. My clothes are usually_____

13. People accept my ideas

14. My work in school and club activities_____

15. Picnics, parties, and movie dates
<pre>16. Initiating and finishing projects</pre>
17. Presenting a neat appearance
18. My influence on fellow club members
19. What others think of me
20. My dates
21. When I look in the mirror, I see a girl who is
Please separate the above twenty-one items into the follow- ing four categories by placing the item number on the appropriate line below.
a. School life
b. Physical appearance
c. Relations with boys
d. Relations with friends

APPENDIX D

SELF-ESTEEM INVENTORY

Please mark each statement in the following way: If the statement describes how you usually feel, put a check in the "Like Me" column. If the statement does not describe how you usually feel, put a check in the column. "Unlike Me." There are no right or wrong answers. Like Me Unlike Me 1. I spend a lot of time daydreaming. 2. I'm pretty sure of myself. 3. I often wish I were someone else. 4. I'm easy to like. 5. My parents and I have a lot of fun together. 6. I never worry about anything. 7. I find it very hard to talk in front of the class. 8. I wish I were younger. 9. There are lots of things about myself I'd change if I could. 10. I can make up my mind without too much trouble. 11. I'm a lot of fun to be with. 12. I get upset easily at home.

		Like Me	Unlike	Me
13.	I always do the right thing.			
14.	I'm proud of my school work.			
15.	Someone always has to tell me what to do.			
16.	It takes me a long time to get used to anything new.			
17.	I'm often sorry for the things I do.			
18.	I'm popular with kids my own age.			
19.	My parents usually consider my feelings.			
20.	I'm never unhappy.			
21.	I'm doing the best work that I can.			
22.	I give in very easily.			
23.	I can usually take care of myself.			
24.	I'm pretty happy.			
25.	I would rather play with children younger than me.			
26.	My parents expect too much of me.			
27.	I like everyone I know.			
28.	I like to be called on in class.			
29.	I understand myself.			
30.	It's pretty tough to be me.			
31.	Things are all mixed up in my life.	<u></u>		
32.	Kids usually follow my ideas.			
33.	No one pays much attention to me at home.			
34.	I never get scolded.			

		Like Me	Unlike Me
35.	I'm not doing as well in school as I'd like to.		
36.	I can make up my mind and stick to it.		
37.	I really don't like being a girl.		
38.	I have a low opinion of myself.		
39.	I don't like to be with other people.		
40.	There are many times when I'd like to leave home.		
41.	I'm never shy.		
42.	I often feel ashamed of myself.		
43.	I often feel upset in school.		
44.	I'm not as nice looking as most people.		
45.	If I have something to say, I usually say it.		
46.	Kids pick on me very often.		
47.	My parents understand me.		
48.	I always tell the truth.		
49.	My teacher makes me feel I'm not good enough.		
50.	I don't care what happens to me.		
51.	I'm a failure.		
52.	I get upset easily when I'm scolded.		
53.	Most people are better liked than I am.		
54.	I usually feel as if my parents are pushing me.		

	Like Me	Unlike Me
55. I always know what to say to people.		
56. I often get discouraged in school.		
57. Things usually don't bother me.	, <u></u>	
58. I can't be depended on.		

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APPENDIX E

DAYDREAM QUESTIONNAIRE

Directions: The following questions compare your real life with your daydream life to investigate which characteristics of your real life are changed in your daydreams. The questions refer to a whole daydream or specific parts that are appropriate for the question. Circle one adjective or phrase on each line under each question that describes the relation between your life and your daydreams. For example, one question might be:

> Does your home environment change in your daydreams? Answers: 1.a.Richer....b.Same..c.Poorer 2.a.Uglier home....b.Same..c.Prettier home 3.a.Dull activities..b.Same..c.Exciting activities

If your home environment does not change at all in your daydreams, circle all the "same." If you picture yourself in an uglier home, doing exciting activities, and richer, you should circle those answers. Be sure to circle one phrase on each line.

Age _____ Grade ____

1. How much time do you spend daydreaming?

2. Is time spent daydreaming increasing or decreasing in past years?

Increasing Decreasing

- 3. How often do you picture yourself in your daydreams? Seldom.....Never.....Most times
- 4. Compared to your present age, how old are you in your daydreams?

a.l.Older.....2.Same.....3.Younger

5. Is your general appearance different in your daydreams than in real life?

a.l.Sloppier.....2.Same.....3.Heavier

- 6. Does your style of dress change in your daydreams? a.l.High fashion...2.Same.....3.Less stylish
- 7. Does the appearance of your face change in your daydreams?

a.l.Homelier.....2.Same.....3.Prettier

- b.l.Better complexion.....2.Same....3.Worse complexion
- 8. Has your figure changed in your daydreams?

a.l.Thinner.....2.Same.....3.Heavier

- b.l.Taller.....2.Same.....3.Shorter
- c.l.Worse complexion.....2.Same.....3.Better complexion
- 9. Do your grooming habits change in your daydreams? a.l.More make-up...2.Same....3.Less make-up
 - b.l.Less hair care.2.Same....3.More hair care

10. Does your school work change in your daydreams?

- a.l.Worse study habits.....2.Same.....3.Better study habits
- b.1.Better grades..2.Same....3.Worse grades
- c.l.Discouraged....2.Same.....3.Encouraged
- 11. Do your relations with friends change in your daydream? a.l.Less fun.....2.Same.....3.More fun b.l.More friendly..2.Same.....3.Less friendly c.l.Less admired...2.Same.....3.More admired

d.l.More affectionate.2.Same....3.Less affectionate

- e.l.Less popular.....2.Same.....3.More popular
- f.l.More frank.....2.Same....3.Less frank
- g.l.Less sincere.....2.Same.....3.More sincere
- 12. Have your relationships with boys changed in your daydreams?

a.l.More dates.....2.Same.....3.Fewer dates b.l.Less friendly.....2.Same.....3.More friendly c.l.More affectionate.2.Same.....3.Less affectionate d.l.More confident....2.Same.....3.Less confident e.l.Given attention...2.Same.....3.Not given attention f.l.More fun.....2.Same....3.Less fun g.l.Less fearful.....2.Same.....3.More fearful h.l.Less courteous....2.Same.....3.More courteous i.l.More comfortable..2.Same.....3.Less comfortable j.l.Less respected....2.Same.....3.More respected k.l.More sincere.....2.Same.....3.Less sincere i.l.Boring dates.....2.Same.....3.Exciting dates 13. Do your club activities change during daydreaming? a.l.More activities...2.Same....3.Less activities b.l.Fewer offices.....2.Same.....3.More offices c.l.More cooperative..2.Same.....3.Less cooperative d.l.More useful.....2.Same....3.Less useful 14. Does your personality change in your daydreams? a.1.More understanding2.Same....3.Less understanding b.l.Less confident....2.Same.....3.More confident

c.l.More loving.....2.Same....3.Less loving d.l.More talented....2.Same....3.Less talented e.l.More glamorous...2.Same....3.Less glamorous 15. Does your school life change in daydreams? a.l.Different building.....2.Same b.l.Same.....2.Different teachers c.l.Same.....2.Different classmates d.l.Boring classes...2.Same....3.Interesting classes e.l.Boring activities.2.Same.....3.Interesting activities

APPENDIX F

LIST OF ABBREVIATIONS

- BDDQ Score on the relations with boys subscale of the DDQ
- BSCT Score on the relations with boys subscale of the SCT
- 3. DDQ · Daydream Questionnaire
- FDDQ Score on the relations with friends subscale of the DDQ
- 5. FSCT Score on the relations with friends subscale of the SCT
- 6. GDQ General Daydream Questionnaire
- 7. PDDQ Score on the physical appearance subscale of the DDQ
- 8. PSCT Score on the physical appearance subscale of the SCT
- 9. SCT Sentence Completion Test
- 10. SEI Self-Esteem Inventory
- 11. SDDQ Score on the school life subscale of the DDQ
- 12. SSCT Score on the school life subscale of the SCT
- 13. TDDQ Total score of the DDQ
- 14. TSCT Total score of the SCT
- 15. Wmpt Williamsport

APPENDIX G

RAW DATA

Subject	TDDQ	PDDQ	BDDQ	FDDQ	SDDQ	SEI	TSCT	PSCT	BSCT	PSCT	SSCT
1	22	5	5	5	7	20	46	9	6	15	16
2	10	6	0	3	1	33	56	12	11	17	16
3	12	2	2	4	4	34	54	11	7	20	16
4	35	0	12	11	12	25	40	8	6	11	15
5	20	2	7	6	5	28	30	7	5	9	9
6	43	8	12	10	13	37	55	9	12	17	17
7	12	2	2	2	6	23	52	12	8	15	17
8	0	0	0	0	0	34	52	11	7	16	18
9	14	7	1	1	5	25	49	11	6	17	15
10	19	3	5	7	4	25	38	7	5	11	15
11	22	4	5	6	7	29	53	9	8	18	18
12	7	1	2	1	3	24	53	10	9	18	16
13	23	4	4	7	8	29	43	9	8	13	13
14	29	7	7	6	9	30	60	12	10	20	18
15	31	4	9	12	6	33	59	12	11	19	17
16	16	1	7	5	3	26	52	11	8	16	17
17	8	3	0	2	3	20	50	8	8	19	15
18	43	7	12	12	12	30	55	12	9	16	18

Subject	TDDQ	PDDQ	BDDQ	FDDQ	SDDQ	SEI	TSCT	PSCT	BSCT	FSCT	SSCT
19	27	4	5	7	11	27	50	10	12	19	9
20	25	7	10	6	2	29	55	10	9	19	17
21	20	6	8	4	2	26	43	10	10	16	7
22	39	10	10	9	10	38	51	10	6	17	18
23	40	9	10	10	11	27	44	6	9	17	12
24	24	4	5	5	10	26	51	11	11	15	14
25	34	10	4	7	13	34	50	12	8	17	13
26	27	10	3	6	8	30	50	10	8	17	15
27	36	6	9	10	11	33	51	10	7	16	18
28	21	5	0	3	13	30	42	10	5	14	13
29	15	4	2	3	6	25	60	12	11	20	17
30	27	7	3	7	10	22	47	10	9	14	14
31	26	8	0	11	7	27	47	9	7	16	15
32	28	10	4	4	10	25	42	9	5	14	14
33	30 -	. 5	9.	10	6	38	55	11	10	17	17
34	34	9	9	9	7	37	53	11	8	17	17
35	27	8	5	6	8	18	45	8	9	15	13
36	9	4	0	0	5	25	62	11	12	21	18
37	11	5	0	1	5	16	27	6	5	11	5
38 _.	4	2	0	0	2	24	48	7	10	16	15
39	11	3	4	0	4	21	46	11	6	14	15
40	27	8	1	5	13	21	46	11	10	12	13
41	4	4	0	0	0	36	58	11	8	21	18

Subject	: TDDQ	PDDQ	BDDQ	FDDQ	SDDQ	SEI	TSCT	PSCT	BSCT	FSCT	SSCT
42 Mean	32 22.47	9 5.30	7	10 5.54	6 6.85	37 28.02	46 49.19	10 9.90	4 8.14	15 16.11	17 15.00
SD	11.01	2.85	3.60	3.60	3.74	5.65	7.24	1.66	2.15	2.76	3.00
43	46	10	12	12	12	31	52	8	10	17	17
44	5	1	2	1	1	21	46	11	5	17	13
45	1	1	0	0	0	31	58	11	12	20	15
46	39	10	12	9	8	16	44	10	6	15	13
47	26	8	8	4	6	25	48	11	8	15	14
48	7	4	0	0	3	23	48	7	12	16	13
49	14	4	0	1	9	26	50	12	8	17	13
50	4	0	0	2	2	24	47	9	4	19	15
51	26	7	6	6	7	24	51	10	7	18	16
52	6	5	0	0	1	14	48	9	9	13	17
53	5	2	1	0	2	33	57	9	12	20	16
54	22	7	5	6	4	36	52	10	11	18	13
55	12	7	0	1	4	18	46	7	3	18	18
56	17	3	4	8	2	33	53	10	10	16	17
57	21	3	7	5	6	14	36	7	6	13	10
58	1	1	0	0	0	27	54	11	11	19	13
59	13	4	1	4	4	25	55	8	9	20	18
60	4	0	1	0	3	24	52	11	10	18	13
61	17	8	0	3	6	25	5 5	11	7	20	17
62	24	4	4	6	10	20	43	6	6	18	13
63	34	5	9	9	11	23	38	9	7	10	12

Subject	TDDQ	PDDQ	BDDQ	FDDQ	SDDQ	SEI	TSCT	PSCT	BSCT	FSCT	SSCT
64	3	2	0	0	1	19	21	4	4	4	4
65	15	3	3	0	9	30	56	12	11	18	15
66	8	3	5	0	0	32	53	12	10	17	14
67	22	6	5	7	4	20	52	11	9	16	16
Mean	15.68	4.32	3.40	3.36	4.60	24.56	48.60	9.44	8.28	16.48	14.40
SD	11.89	2.86	3.75	3.56	3.55	5.93	3 7.79	0.2	L 2.6	3 3.4	8 2.29

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