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ABSTRACT
                Items from Peirs-Harris and Coopersmith self-concept
tests were evaluated against independent measures on three
self-constructs, idealized, empathic, and worth. Construct
measurements were obtained with the semantic differential and D
statistic. Ratings were obtained from 381 children, grades 4-6. For
each test, item ratings and construct measures were subjected to
factor analysis. In each instance, six factors were extracted, but
only one was designated by the construct measures. Multiple
regressions were run between items and construct measures. Multiple
correlations were small. These findings raise substantial doubt about
the construct and predictive validity of the Peirs-Harris and
Coopersmith tests. (Author)

DO SELF CONCEPT TESTS TEST SELF CONCEPT? AN EVALUATION OF THE

VALIDITY OF ITEMS ON THE PIERS HARRIS AND COOPERSMITH MEASURES

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Self concept along with achievement is currently viewed as an expected output of educational programs. To evaluate self concept 12 states currently use self concept tests as part of their state-wide assessment programs. Self concept tests have also been used in a number of educational research studies (e.g. Bachman, 1969; Coopersmith, 1967; Rosenberg, 1965; and Lekarczyk and Hill, 1968).

More than 200 self concept measures have been reported in the literature (Buros, 1972; and Robinson and Shaver, 1969). For the most part these measures have not been validated against independent measures on theoretical constructs of self concept, (Wylie, 1961; Crowne and Stephens, 1961). At least three such constructs of self concept have been treated. These are: 1) the actualized or idealized self (Maslow, 1954; Rogers, 1951); 2) the empathic or looking glass self (Cooley, 1922; Mead, 1934); and 3) attitudes toward the self or self worth (e.g. Coopersmith, 1967; Rosenberg, 1965). Before basing educational and research policies on measures made with these self concept tests it is important to see which if any of the general theoretical constructs of self concept these tests measure.

There were two purposes in the present study. The first was to see if items on two self concept tests for children in grades

4-6, the Piers Harris (PH) self concept and the Coopersmith Self
Esteem (CSE) tests had construct validity. Assessments on these
two tests and independent measures of three theoretical constructs,
the idealized self, the empathic self and self worth were obtained
from a sampling of children in grades 4-6. These were subjected to
factor analysis to see which items, if any, were correlated with
these three construct criteria. The second purpose was to see if
items selected on the basis of the factor analysis results would
have predictive validity. Multiple regression analysis were made
with selected items against the three criteria and these estimations
were used to provide evidence on predictive validity for items
selected from the two tests.

Background

One of the earliest views of self concept was that the self is
a discrimination between concepts of me or not me. Wylie (1961) in
reviewing the self concept literature defined self concept as the
individual who is known to himself. Three major constructs of self
concept have been presented in the literature: 1) the idealized self
(Rogers, 1951; Maslow, 1954); 2) the empathic self (Cooley, 1922;
Mead, 1934); and 3) self worth (e.g. Coopersmith, 1967; Rosenberg,
1965). Two terms, self esteem and self concept have been used some-
what interchangeably in the literature. In this paper we will refer
to self esteem as the self worth aspect of self concept.

Some writers have proposed a tendency to self actualize or to
idealize the self which represents one construct of self concept.
Rogers (1951) stated that the self is "an organized configuration
of self perceptions" about an actualized or idealized self "of which
the individual is aware." Maslow (1954) proposed that an individual

organized his needs in a heirarchy on the basis of greater or

lesser priority for the purpose of satisfying his idealized or

actualized self image.

Other writers have proposed a human interaction concept, the

looking glass or empathic self which provides a second construct

of self concept. Cooley (1922) proposed that the self concept is

a "looking glass self," a group of ideas drawn from social inter-

course about how another individual views that person such that

"the mind cherishes it as its own." Mead (1934) described this

looking glass self as "a generalized other in which the unity of

the self is achieved."

A third construct of self concept which has emerged in the

measurement literature is that self concept is an individual's self

evaluation. Coopersmith (1967) developed a measure of self esteem

for children in grades 4-6 which was based on the notion that self

concept was an evaluative attitude towards ones self as an object.

According to Coopersmith, the child acquires through self evaluation

a general estimate of his self worth which holds true for years.

Robsenberg (1965) described self concept as the feeling of self

worth in which positive or negative attitudes toward the self are

involved. According to Rosenberg, the individual may consider

himself superior to others or respect himself for what he is as

worthwhile.

While these three constructs have existed in the literature for

some time, measurement efforts with the possible exceptions of

Rogers and Dymond (1954), Coopersmith (1967), and Rosenberg (1965),

have seemingly paid little attention to their existence. For the

most part, these measures including those we have mentioned have

not been subjected to substantive construct or predictive valida-

tion but have been widely applied to gather data on individual

self concept.

One measure of self concept in children is the Piers Harris

(PH) self concept test (Piers and Harris, 1964). The PH test is an

80 item scale comprised of items selected from an item pool based

on Jersild's categories of statements children make about what they

like or dislike about themselves. .Piers and Harris obtained ratings

on a two point scale, with like me or unlike me for response

choices, from 457, 6th graders. These ratings were subjected to

principal components factor analysis, a questionable procedure given

the dichotomous scale and the use of Pearson correlation coefficients,

and 10 factors, 6 identifiable, were extracted. The six identifiable

factors and their designative items leave one with the uncomfortable

feeling that these items have little to do with the three general

constructs of self concept, the idealized self, empathic self, and

self worth. These factors were: general and academic status,

behavior, anxiety, popularity, physical appearance, and happiness

and satisfaction.

Piers and Harris (1964) reported a somewhat quasi effort to

validate their scale in which they showed that a small sampling of

institutionalized retardates scored lower on their self concept test

than did a non institutionalized sample of public school children.

Such institutionalized samples as these retarded children as opposed

to non institutionalized groups of children will likely differ on

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almost any attribute one selects to measure and hence, this study shows little about the validity of the PH test. Parenthetically, one might question whether the retarded sample of children fully understood what the task they were asked to do was, and Piers and Harris provide no evidence on this matter, even through it seems critical to their use of this group for purposes of a validity test.

A second measure of self concept in children is the Coopersmith Self Esteem (CSE) test (Coopersmith, 1967). The CSE is a 50 item scale with an additional 8 lie scale items. Coopersmith provided substantial evidence that his measure discriminated in expected ways between individuals who were quiet or outspoken, sensitive or insensitive, self conscious or not self conscious and creative or non creative. He also provided evidence that his measure discriminated between social classes, religious groupings and parents of differing characteristics. While such evidence is indicative of face validity, other attributes such as anomie, behavioral maladjustment and leadership may account equally as well as self concept for the discriminations found.

Coopersmith did not subject his items to factor analysis but Richmond and White (1971) did. They obtained responses on the dichotomous scale used by Coopersmith, like me vs. unlike me, from 204 children in grades 5 and 6. This factor analysis like that on the PH scale was questionable due to the use of Pearson correlations with dichotomous response data. Five factors, one of which was a lie scale factor, were extracted which did not seem indicative of any of the three general theoretical constructs, of self concept. The four non lie scale factors were: parental approval, rejection

by authority, self rejection, and social and self acceptance.
Subsequently, the present author subjected responses on the
Coopersmith items from 300, 6th graders to a factor analysis using
joint probabilities as input rather than correlations. Only one
factor was found, a generalized self worth factor. Thus, there is
some disagreement on what the CSE does measure and substantial
question on its construct validity.

Richmond and White (1971) also gathered responses from their
sample of 204 children on a 12 item semantic differential. Using
cannonical correlation the authors apparently hoped to validate the
CSE factors against semantic differential factors on self concept
ratings. The semantic differential items were not particularly
well chosen, some items were not rateable in terms of degree, others
were not true opposites, and some likely resulted in physical rather
than affective judgments. Richmond and White isolated three semantic
differential factors, evaluation, potency and activity and attempted
to predict these from the five CSE factors with cannonical
correlation. The results of this analysis showed that the CSE
factors correlated more highly with the semantic differential
activity factor than with the other factors. This was a surprising
finding since the CSE was designed to measure individual self evalu-
ations, and also in the light of the author's own findings of a
general self worth factor. This result may be explained in part by
the fact that the lie scale factor explained almost as much of the
variance in the semantic differential factors as did the other four
factors. Given the poor selection of semantic differential items,
and the predictive efficacy of the lie scale factor, it is likely
that the semantic differential ratings were more indicative of
randomized responding than of meaningful responses.

The important point of the Richmond and White study is not so much their failure to properly use the semantic differential, as it was that they had a good idea in using the semantic differential as a criterion measure. About the same time as Richmond and White were carrying out their study, Lynch, Cochrane and Schacter (1972) were completing work on a Children's form of the Semantic Differential, in which items were selected which children use in giving connotative judgments. In a second paper on the D statistic, Lynch (1972) showed how the children's semantic differential may be applied with the use of the D statistic to obtain measures of the idealized and empathic self, and how the sum score on items belonging to the evaluative dimension of meaning will provide a measure of attitudes toward the self or self worth. Thus, the children's semantic differential provided a methodological means of obtaining independent measures on the three theoretical constructs of self concept presented in the literature. The present study was made to determine the relationships if any between items on the PH and CSE tests and semantic differential measures on the three constructs of self concept.

Methods and Procedures

The testing materials in this study included 50 items from the CSE and 80 items from the PH self concept measures. Eight lie scale items from the CSE were not included in this testing. For purposes of the present study ratings were obtained on a five point rather than a two point scale as that used by Coopersmith and Piers and Harris. It seemed that children would not have a ceiling effect with the five point scale and the results would be more amenable to parametric correlation and factor analytic procedures. The response

choices were very true of me, only a bit true f me, inbetween, only a bit false of me, very false of me.

Ratings were also obtained on 18 items of the Children's Semantic Differential (Lynch, Cochrane and Schachter, 1972), on a five point scale. Ratings were obtained on three concepts. These were: 1) "How I feel about myself"; 2) "How I would like to be"; 3) "How other children feel about me." Ratings obtained on the concept "How I feel about myself" were subjected to a Principal Components factor analysis with Varimax Rotation and six items comprising the evaluative factor were summed to form a measure of self worth. The D statistic (Mahalanobis, 1936 and Lynch, 1972) was used to compute two of the construct measures. The D between "How I feel about myself" and "How I would like to be" provided the criterion for the idealized self. The D between "How I feel about myself" and "How other children feel about me" provided the criterion for the empathic self.

Ratings on all measures were obtained from 381 children selected as a quota sampling from 9 urban and suburban Boston schools in grades 4-6. They were distributed by grade and sex as follows: 160 in grade 4, 115 in grade 5, and 106 in grade 6; 190 males and 191 females. An estimate was made on socio-economic-status (SES) from individually reported occupations of the major family income producer, and the frequencies for SES levels were: 103 upper, 233 middle, and 45 lower SES children.

Testing was administered in classroom settings on a group basis with testing time ranging from 20 to 50 minutes for each child. Five children did not complete their testing and their data was not included

in this analysis. Testing was administered by 30 graduate students in a research design course at Northeastern University.

Ratings on all measures were scored 1-5 with scorings reversed for items worded in a negative manner. Ratings on the semantic differential were subjected to a preliminary analysis yielding the two D statistic and self worth measures for each subject. The ratings on the 50 CSE and 80 PH items were subjected to separate factor analyses using the Principal Components factor analysis and Varimax Rotation. The three criteria were included in each factor analysis. The factor analyses were made for two reasons: 1) to see which items of the PH and CSE tests will load substantially with the three criteria, thus providing some evidence on the construct validity of these two measures; 2) to select items from the 130 total items on the CSE and PH measures for multiple regression analysis. By means of regression analyses we hoped to obtain an indication of the predictive validity of selected items from these measures.

Results and Discussion

Six identifiable factors were isolated in each of the two factor analysis. The items designative of each factor, these with factor loadings greater than .40, and their factor loadings on the factors designated are shown for the PH test in Table 1 and the CSE in Table 2.

The factor analysis of the Piers Harris items and the three criteria yielded six identifiable factors. These were labeled: anxiety, leadership, discipline, general self concept, social self acceptance and phyiscal appearance. Aside from the general self concept factor, these factors and their designative items were

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essentially similar to those found by Pier and Harris (1964), lending support to the credence of the Piers and Harris study, but not to the construct validity of their test.

--Table 1 About Here--

The factor analysis of the Coopersmith Self Esteem items and the three criteria yielded six identifiable factors. These were labeled: parental acceptance, stability, social self acceptance, meaningfulness, personal dissatisfcation and general self concept. These factors differed considerably from the factors isolated by Richmond and White (1971) and the single self worth factor found by this author. The items designative of factors in those two studies were split, amongst different factors in the present study. This difference between present and previous research may be attributed in part to the use of a five point scale in the present study as compared to the use of a two point scale in prior research. The five point scale may have resulted in a more differentiated set of factors. As was the case for the factors isolated for the PH scale, aside from the general self concept factor, these factors do not provide evidence on the construct validity of the CSE test.

--Table 2 About Here--

In both factor analyses, the three criteria loaded on one single factor, that which was labeled general self concept. Of the 130 PH and CSE items studied, only one, showed a factor loading greater than .40 on the general self concept factor, and this is certainly no more than one should expect by chance. The remaining factors, with the possible exception of the social self acceptance factor seem tangential at best to self concept. That is, they seem to represent

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more the consequences than the constructs of self concept. Many of the test items on the CSE and PH tests seem somewhat reminiscent of items one might expect to find on anomie, levels of aspiration, leadership and behavioral maladjustment scales and the inclusion of such items may be attributable to the test constructors familiarity with such scales. Inasmuch as only one of the CSE and PH items loads greater than .40 with the criteria and since the other factors look more like consequences than constructs of self concept, the findings of this study raise substantial doubt about the validity of the PH and CSE tests as measures of self concept. Whatever these scales are measuring, it is certainly not in the mainstream of what is considered to be self concept.

Thirty-seven items from the CSE and PH measures were selected for purposes of predictive validational study with multiple regression. These 37 items included items which showed factor loadings of .20 or greater with the general self concept and those with correlations with the construct measures of $r = .20$ or above. Separate multiple regressions were made against each criterion with the 37 items. After the first set of regression analyses, those items with beta weighting whose t test values were less than 1 were dropped, and those items with beta weightings whose t test values were greater than one on each criteria were retained for subsequent analysis. By means of this procedure 7 items were selected for regression on the measure of the empathic self, 7 for regression on the measure of idealized self and 11 for regression on the measure of self worth. Five of these items were used in more than one regression analysis. Separate regression analyses were made using this selection

of items on the three criteria. Table 3 shows the results of these analyses.

--Table 3 About Here--

Seven predictor items showed a multiple correlation R = .54 with the idealized self measure, accounting for 25 percent of the construct measure variance. Seven predictor items showed a multiple correlation R = .49 with the measure of the empathic self accounting for 24 percent of the construct measure variance. Eleven predictor items showed a multiple correlation R. = .60 with the measure of self worth accounting for 36 percent of the construct measure variance.

The items used in the final regression analysis represent a best set of predictor items in terms of the selection made in the factor analysis and the first multiple regression analyses. Given the relatively small explanation of variance with the large number of predictors, there seems to be little support for the predictive validity of these items. For instance, it took as many as 11 items to account for a low percentage, 36 percent, of the variance in self worth, and 7 items each to explain 25 percent and 24 percent of the variance in idealized and empathic self. If these tests are measuring self concept at all, it would seem that at least some of the best items would be better predictors of one or more of the theoretical constructs of self concept.

In addition, the items which were the best predictors of the three constructs in some instances were ambigouous in their content description of the constructs. Items indicative of physical appearance, succe and having many friends were the best estimators of the idealized self, but it is unclear why they should be from the

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items themselves. Items which indicated that family and friends liked the child fall in the realm of empathy but an item such as not thinking bad thoughts which is a good predictor of empathy seems clearly not fitting on this construct.

The set of items isolated in the regression analysis seem to provide a good starting point for the development of a better self concept scale, one in which we know what the items measure and that the items measure general constructs of self concept. The items resulting in the final regression analysis need to be rewritten and redefined to sharpen their definitions of each of the constructs in a way that will show clearly from the items why they are predictors of one of these three theoretical constructs.

Conclusions and Implications

The results of the factor analyses and multiple regression analyses in the present study raise substantial doubt about both the construct and predictive validity of the PH and CSE measures of self concept. Only one out of the 130 items on these two test loaded substantially with the construct measures. Further the best set of item predictors accounted for a relatively small proportion of the variance in the construct measures. Thus, this evidence provides substantial support for critiques of these measures made by Wylie (1961) and by Crowne and Stephens (1961).

We were somewhat worried that children in the present study may have become fatigued in the lengthy task, in that there were 184 items in all to complete. However, we discussed this with the children, who said they enjoyed completing the tests and that it was a good break from their usual classroom experience.

The results of the regression analyses provides a useful starting point for the development of a self concept test which will have construct validity. We have just completed an exploratory study in which we have attempted to sharpen these items and relate them directly to the three general self concept constructs in a language that children use. We obtained ratings from 150 children in grades 1-6 on 40 new items and the 20 used in the final regression analysis shown in Table 3. A factor analysis on these new items yielded three factors, one for each of the criteria, and items designative of each factor. Subsequent regression analyses made against the three criteria showed multiple correlations of $R = .63$ with 8 items on the idealized self, $R = .82$ with 8 items on self worth and $R = .53$ with 8 items on the empathic self. These results are promising in that they show a dramatic improvement on predictions from the study reported in this paper.

One may question the fact that the three criteria clustered together on one factor in each of the two factor analyses in the present study. However, the results of the more recently completed study show that given a sufficiently well defined set of items, the three criteria will emerge on separate factors, with items designative of each. In the present study, there were likely so few items which correlated sufficiently high with these three criteria that the criteria were independent in large part of the PH and CSE items. In effect the items correlated more highly with each other than with the criteria, and this is not a satisfactory state of affairs for a measure's validity. Until better self concept measures are developed, both researchers and policy makers will do well to avoid making policy decisions on at least the two self concept measures we have studied as well as perhaps other available self concept measures.

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Table 1

FACTOR ANALYSIS OF PIERS HARRIS ITEMS AND THREE CRITERIA

Factor I, Anxiety

I get nervous when the teacher calls on me	- .69
I am nervous	- .68
I get worried when we have tests in school	- .58
I worry a lot	- .48
I am shy	- .46
Percent of common variance	6.01

Factor II, Leadership

I am a leader in games and sports	- .68
I am popular with boys	- .63
I am an important member of my class	- .48
When I grow up, I will be an important person	- .41
Percent of common variance	5.56

Factor III, Discipline

I behave badly at home	- .68
I do many bad things	- .63
I cause trouble to my family	- .58
I often get into trouble	- .45
Percent of common variance	6.27

Factor IV, General Self Concept

D_I	.73
D_E	.65
SW	- .68
In games and sports I watch instead of play	- .44
Percent of common variance	6.12

Factor V, Social Self Acceptance

I like being the way I am	.65
I am cheerful	.63
I am unhappy	.63
I am lucky	.55
I sleep well at night	.45
I have many friends	.45
Percent of common variance	7.74

Factor VI, Physical Appearance

I have nice hair	.75
I have pretty eyes	.69
I am good looking	.69
I have a pleasant face	.59
Percent of common variance	6.37

Table 2

FACTOR ANALYSIS OF COOPERSMITH SELF ESTEEM AND THREE CRITERIA

Factor I, Parental Acceptance

I usually feel as if my parents are pushing me	− .72
My parents expect too much of me	− .63
There are many times when I'd like to leave home	− .62
No one pays much attention to me at home	− .61
Things are all mixed up in my life	− .47
My parents understand me	− .47
I don't care what happens to me	− .42
Percent of common variance	11.25

Factor II, Stability

I can make up my mind and stick to it	.77
I can make up my mind without too much trouble	.61
I'm proud of my schoolwork	.42
I have a low opinion of myself	.40
Percent of common variance	4.96

Factor III, Social Self Acceptance

I'm pretty sure of myself	− .51
I'm easy to like	− .46
Percent of common variance	4.15

Factor IV, Meaningfulness

I'm often sorry for the things I do	− .69
My parents usually consider my feelings	− .38
My parents and I have a lot of fun together	− .31
Percent of common variance	4.17

Factor V, Personal Disatisfaction

I wish I were younger	− .77
I find it hard to talk in front of the class	− .31
I would rather play with children younger than me	− .28
Percent of common variance	4.28

Factor VI, General Self Concept

D_I	.84
D_E	.73
SW	− .74
Percent of common variance	5.90

Table 3

MULTIPLE REGRESSION ANALYSES OF SELECTED ITEMS ON THE THREE CRITERIA

Test Item	Source	Correlation	Beta Weight	t Value
Idealized Self				
I am strong	PH	− .30	− .35	−3.87***
I am good looking	PH	− .33	− .27	−2.99***
I'm a failure*	CSE	− .18	+ .23	2.33**
I have pretty eyes	PH	− .24	− .17	−2.12**
I am good in my schoolwork	PH	− .22	− .18	−2.00**
I have many friends	PH	− .28	− .14	−1.73
I don't care what happens to me*	CSE	− .20	− .13	−1.68
Empathic Self				
My classmates make fun of me*	PH	− .35	− .31	−4.13***
I think bad thoughts*	PH	− .04	+ .18	2.50**
Kids usually follow my ideas	CSE	− .17	− .16	−2.21**
My family is disappointed with me*	PH	− .20	− .18	−2.05**
Kids pick on me very often*	CSE	− .30	− .16	−2.05**
I am often sad*	PH	− .24	− .14	−2.00**
I would rather play with children younger than me*	CSE	− .19	− .15	−1.92
Self Worth				
I am a happy person	PH	.34	.10	3.19***
I usually feel as if my parents are pushing me*	CSE	.33	.07	2.91***
I am strong	PH	.27	.08	2.90***
It is usually my fault when something goes wrong*	PH	.26	.08	2.86***
My family is disappointed with me*	PH	.29	.08	2.76***
I have many friends	PH	.36	.07	2.63**
In games and sports I watch instead of play*	PH	.29	.06	2.62**
I am often sad*	PH	.27	.06	2.34**
I am good looking	PH	.23	.06	2.13**
I'm not as nice looking as most people*	CSE	.14	.05	2.02**
Kids pick on me very often*	CSE	.30	.05	1.80

* These items were reversed in scoring
** $p < .05$
*** $p < .01$