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ABSTRACT

An instrument to measure various aspects of children's character, including self-esteem, altruism, and integrity or responsibility was developed. The 48-item test was given to 111 4- and 5-year-old Hawaiian children. Test reliability and factor structures were determined. The three factors are discussed. Further development is continuing; additional items are being written to measure other aspects of social and moral development. Data are also being collected from children representing other ethnic groups and geographic locations. (ST)

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EXPLORATORY WORK ON AN OBJECTIVE-PROJECTIVE TEST  
OF FACTORS OF MORAL DEVELOPMENT IN YOUNG CHILDREN

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At last year's meeting of the American Psychological Association, a rather detailed summary of the work of the University of Hawaii Center for Research in Early Childhood Education on an instrument to assess young children's motivation to achieve in school was presented (Adkins, 1972). The original test, which provides what may be regarded as an objective-projective measure, was called Gumpgookies. Many persons, particularly Bonnie L. Ballif, have collaborated in its development. It requires choice between two types of alternative behavior portrayed in illustrations and verbal descriptions. Gumpgookies, which are imaginary creatures portrayed in rather amorphous, amoeba-like fashion, are depicted as behaving in ways intended to reflect differences in motivation to achieve. The subject is told that he has his own gumpgookie that likes what he likes and does what he does. In each item, the examiner describes each of two gumpgookies in turn and the child indicates which is his. The form of the test which has been most widely used contains 75 items and is administered individually to pre-school children. With a different format, it could also be administered to groups of children in grades 1 to 3.

Problems arising from the tendency of children to answer in terms of a response set when they are unsure of the correct response have been described elsewhere (Adkins & Ballif, 1972). The prominent sets are related to either the position of the alternatives or to the order in

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which they are presented. Such sets can be controlled as far as total score is concerned and, by suitable revisions after factorization, for separate factor scores as well. But the factors obtained by ordinary techniques from the original test will be obfuscated by response sets. This difficulty was overcome by partialling out from the item inter-correlation matrix scores on response sets, by a program developed by Horst (1972). Such a procedure permitted identification of five factors that corresponded reasonably well to the hypothesized constituents of motivation when very large  $N$ 's were used.

Last year's paper also mentioned very briefly some preliminary work on a new test in the affective domain, with a revised format that capitalizes on many things learned through the experience with Gumpgookies (Adkins, 1972). Eighty items were selected from 100 originally constructed with a view to measuring aspects of character other than motivation, particularly some that may be termed moral development. An attempt was made to include items that would test what this author calls warranted self-esteem, certain aspects of altruism, and integrity or responsibility.

Parenthetically, it may be noted that knowledge of moral concepts of course is no guarantee of moral behavior. But lack of such knowledge can lead to no more than an even chance of moral behavior, and espousal of immoral concepts seems likely to be associated with immoral behavior.

In order to rule out a possible influence of picture preference on a child's response, identical illustrations were used. In the first form, each item was presented in a booklet of laminated 5" x 8" cards, and the items were assembled into two sets of 40 each, administered two

weeks apart to 92 children four to five years of age. The K-R 20 for the total score for the 80 items was .82. The correlation between the two sets, which had not been assembled to meet rigorous criteria of comparability or equivalence, was .69.

Despite the small N, the intercorrelations with response-set scores partialled out were factored to three, four, five, and seven factors. Original interpretations were based upon three factors and five factors induced from examining all of these solutions. From the 80 items, 48 were selected on the basis of the three-factor solution. The wording of several items was revised slightly. These were assembled in a new format that had six items on each page of an 8½" x 11" booklet, with colored borders boxing in each item. The format was painstakingly developed with respect to position of correct answer, order of presentation of the correct alternative, and so on. The child marks each figure of his choice. If desired, the examiner can simultaneously record the responses on a separate answer sheet. Although it was not certain that this way of presenting items would prove suitable for preschool children, it worked better than had been hoped.

The revised test was then given to 111 four- and five-year-old children. Although the principal purpose of this tryout was to test the new format, the reaction of the examiners to it was so favorable that it was decided to analyze the data despite the relatively small N. Again, response-set scores were partialled out of the item intercorrelation matrix and solutions for three, four, and five factors were obtained. These solutions were compared with corresponding solutions for just the selected 48 items when they were embedded in

the 80 items originally factored for 92 cases. The order of the items and hence also their contexts had been changed, the answer position and primacy versus recency of presentation of the keyed answer were altered for many of the items, the wording of several had been revised, and the illustrations differed. This, then, was an acid test, especially in view of the recognizably small  $N$ 's for this type of comparison.

First perhaps should be mentioned that the K-R 20 for the total 48-item test was .76; the values for the three exact factor scores were .68, .54, and .57; and the values for the three response-set scores were .45, .49, and .39.

It would be good to be able to report that all of the factors matched closely across the two samples. But the test was too severe for such a finding. There was, however, good correspondence for an altruistic factor, which covers both sharing and helping. Items high on this factor involve helping others when one can do something better than they can, helping the teacher with cleanup, waiting for one's turn versus wanting it first, helping to pick up paper from the school-room floor, giving one of its two cookies to a friend, looking for another chair rather than sitting in the only one left, believing that two can play with one toy rather than wanting to play with it first. The general integrity factor was less well confirmed, although corresponding results for certain items in the three-factor solutions are suggestive: studies when supposed to versus plays, tries to do its work itself versus getting its brother to do it; helps its mother versus hides, tells its mother when it is leaving home.

Hints of two different self-confidence factors keep cropping up in various solutions but have not yet been confirmed. One seems to be warranted self-confidence and the other unwarranted self-confidence--unwarranted to the extent that the individual will lie to maintain it. For example, on one factor--not a confirmed one--the items involve building one's own house of blocks versus wanting help; doing as much as one can do versus only what one has to do; knowing what is right to do; but also saying one's book is at school when he lost it and saying one did not break a cup when he did.

Indeed, what may be referred to as "honesty" items will make a fascinating separate study. Nine of the 48 items in the second test involved honesty. The four with difficulty values below .50 called for saying a lost book is lost rather than at school, saying that someone else painted a picture when someone else had painted it, saying that someone helped build a house when someone had helped, and saying that one is sorry he broke a cup when he had. The honesty items with difficulty values above .50 involved returning a lost toy to its owner, not stealing to obtain money, returning money when paid for work one had not done, paying lunch money when no-one asked for it, and leaving money on a table versus taking it. Apparently preschool children find it very difficult to admit that they have transgressed but preponderantly endorse honest behavior, at least that concerned with money and property, when there is no personal reference or confession of wrongdoing. This conclusion, as of now, is limited to the Hawaii samples.

Interestingly, the first four items above, those requiring admission of guilt, have negative loadings on the first principal axis, while the

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last five have substantial positive loadings on it. Paul Horst has argued persuasively that negative loadings on the first principal axis mean that the scoring key is wrong and even that the key should be reversed. It seems more reasonable, however, to view the key as correct in these instances and to regard the experience or perhaps lack of maturity of the majority of the children in the sample as responsible. It does seem indefensible to assign a positive score to a dishonest answer on a character test.

A start has been made on development of additional items to get at other aspects of social and moral development. At the same time, it is recognized that data on many more cases, scattered ethnically and geographically, are needed on all items before claims to definitive answers can be justified.

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