DOCUMENT RESUME

ABSTRACT
          This study tested 60 children, 5 to 8 years old, on
a variety of mental, moral, social, creative and cognitive tasks to
determine the interrelatedness of those variables and their
relationships to the intellectual process of decentration. The
subjects were observed while attending a summer program prior to
entering grades one through three. Observers rated each pupil on
specific behaviors associated with egocentricity and decentration, as
well as for positive-negative affect and verbal-nonverbal behavior.
Identifying the underlying structure of the interrelationships of the
decentering, verbal, and positive in addition to the remaining 27
variables was accomplished through a factor analysis. The decentering
measures resulted in large loadings; verbal and positive variables
loaded heavily on conformity. Results define and stress the
decentering factor as an independent variable having very little
interaction on the remaining cognitive variables. It appears that
neither cognitive nor social variables are prominently involved with
decentering; however, stage by stage comparisons show that this is a
finding peculiar to the level of development assessed. While this
study affords no assessment of the dividing line between egocentric
and decentering behavior, it provides baseline data from which other
studies may be carried out. Observation form included. (WY)

DECENTRATION IN CHILDREN:
ITS GENERALITY AND CORRELATES

Gail S. Scott
University of Florida

Jean Piaget (1960, 1967, 1969) in numerous writings has suggested that
his intellectual theory of decentration is the underlying basis of ego-
centrism. That is, that objectivity increases to the extent that the child
learns to attend to other cues or information (e.g. another person's spatial
position, his needs as a listener, his role, etc.) rather than centering
attention only on his own viewpoint.

The construct of decentration is crucial as a descriptive and explana-
tory concept in Piaget's theory of the child's construction of reality:
"The important point is that...the child of seven years begins to be liber-
ated from his social and intellectual egocentricity or centration and
becomes capable of new coordinations which will be of great importance in
the development of intelligence and affectivity." (Piaget, 1967, p. 41)

The importance of the construct within the theory is largely based upon
its generality as an intellectual tendency. Consequently, the generality
takes two forms: a response tendency occurring across the ontogenetic span
from infancy through adolescence, and occurring across diverse content
areas. Further, Piaget (1952) states that ego-centrism expresses the idea
that the progress of knowledge never proceeded by a mere addition of items
or of new levels, as if richer knowledge were only a complement of the earlier
meager one: it requires also a perpetual reformulation of previous points
of view by a process which moves backwards as well as forward, continually
correcting both the initial systematic errors and those arising along the
way. This corrective process seems to obey a well-defined developmental
law, the law of decentration.

It is somewhat surprising to find a relatively small number of studies
focused on the concept of egocentrism decentration, considering the import-
ance of the concept in Piaget's theory and the frequency with which the

the concept is used as an explanatory factor in related studies. The re-
lationship between the process of egocentrism-decentration and social func-
tioning has been investigated, almost exclusively by Feffer and his coworkers
(1959, 1960, 1966). Cowan (1966) investigated egocentrism-decentering in
relation to social communication and Bobroft (1966) and Neale (1966) have
attempted a comparison of the degree of egocentrism in certain pathological
groups and matched samples from a normal population. They, in agreement
with all the above authors, feel that the waning process of egocentrism
to decentration is a highly individualistic process and is positively
correlated with the social, emotional, perceptual and peer group experiences.
Neale also stressed the effect of siblings on the maturational process of
decentration. This effect has not been considered in the present study.

Elkind (1967) defines the process of egocentrism as a lack of differ-
entiation in subject-object interaction. Decentration therefore would occur
when differentiation preferences begin appearing in the interaction center-
ing around subjects and objects.

The major empirical support for the process of egocentrism-decentration
as a general process is Piaget's finding that in testing different groups
of children in diverse content areas there is a rather substantial waning
of egocentrism at 7 · 8 years of age.

The primary focus of the present study is to test the same group of
children, ranging in age from 5 to 8, on a variety of mental, moral, social,
creative and cognitive tasks to determine the interrelatedness of the
variables and their relationships with the intelligence and the intellectual
process of decentration behavior and its relationship to cognitive, creative
and socialization variables.

METHOD

Subjects

The subjects in this study consisted of 60 children, ages 5 through 8, attending P. K. Yonge summer program and entering grades first through third.

Instrument

The observation form, (figure 1), consists of specific behavioral categories of behavior based on Piaget's view of the development of thought from egocentrism to centering or decentering. That is, from being unable to see others as separate from self, unable to realize that things may look different to others, toward a recognition of the above, the use of reasoning and a concern for others. Egocentric behavior items are the indented numbers while the decentering behavioral items are the numbers furthest to the left margin. The items on the reverse side of the observation schedule, verbal and non-verbal, positive and negative were also checked during the time sample observation.

Data Collection

Two additional observers[1] were selected and trained by the author to assist in the data collection. The training period began with an extensive orientation of the observers to the purposes of the research project in general, and to the observational guide in particular. Once this orientation was completed, the formal training of the observers in the use of the guide began. This was accomplished through simulated research situations with children other than those who were to be used for the data collection.

---

[1] The two additional observers were University of Florida Educational Graduate Students, Linda Spiegler and Kathren Luther.

TEACHER _____

CLASS _____ GRADE _____

OBSERVER _____

CYCLE _____

DATE _____ TIME _____

OBSERVATION LOCATION _____

1. Argues without factual or logical justification

2. Insists he is right when evidence contradicts him.

3. Argues or supports his position with factual or logical justification.

4. Asks for explanation (logical, factual, rule, authority.)

5. Supports with justification: authority, custom or rule.

6. Makes statement which takes his own view as universal.

7. Deals with motivation (asks for, imputes it to others, supports his position with it).

7a. Imputes motivation to non-animate objects.

8. Indicates awareness of consequences of an action

9. Attempts to re-define rules to suit self.

10. Uses or follows rules.

11. Checks results by applying a standard, examines materials.

12. Focuses on irrelevant factors, cues.

13. Attempts to be sure he is communicating

14. Expresses concern for the feeling of another

15. Talks without attempting to communicate

16. Role-plays another, pretends to be another in absence of other.

17. Makes evaluative, specific remarks about the work of others.

18. Repeats a motor act for action itself, not as a means to an end beyond the action.

19. Makes "feeling" statement about own feelings.

20. Withdrawn (ignores others).

21. Shy, timid (watches others).

22. Being near, following.

23. Seeks reassurance, support.

24. Uses play object as itself.

25. Pretends play object is something else.

Negative Affect

Verbal
- Teases
- Threatens
- Says "no" etc.
- Commands or demands
- Makes remark
- Finds fault
- Makes someone "feel small"
- Laughs
- Tattles
- Cries
- Blames
- Starts fight
- Other

Non-Verbal
- Hits
- Interferes
- Threatens
- Takes prop. of another
- Damages prop. of others
- Pushes or pulls
- Hol's
- Hurts someone with something
- Frowns, pouts
- Picks at child
- Uncooperative, resistant
- Other

Positive Affect

Verbal
- Says "thank you"
- Praises another
- Chooses another
- Defends another
- Agrees with another
- Asks permission in friendly manner
- Offers to compromise, share, coop.
- Enthusiastic, happy
- Other

Non-Verbal
- Smiles, laughs with another
- Pats, fondles, hugs another
- Pats, fondles, hugs toy or doll
- Leans close to another
- Does something for someone
- Helpful, shares
- Chooses another
- Sympathetic
- Agreeable, cooperative
- Enthusiastic, happy
- Other

This approach was most efficient in that it provided field experience for the observers but also provided data to estimate the reliability of the observation guide.

Procedure

Each observer randomly selected 1/3 of each class population to observe using the time sample observation method on a one to one ratio for two cycles. This meant that the student was observed for one minute and then the information was recorded for one minute. Each master sheet contained four children with five one minute observations. After cycle one was completed (all subjects were observed for five minutes) the children's names were rotated among the observers and cycle two continued on the same basis. At completion of both cycles, each child had been observed a total of ten minutes. An example of a completed observation form can be seen in figure 1.

Scoring

Each child's recorded score which was extracted from the total ten minutes of observational time was analyzed through the use of a ratio analysis. The form is as follows:

$$\text{Decentering Variable} = \frac{\text{the number of times the child decentered}}{\text{total number of times the child centered and decentered}}$$

$$\text{Verbal Variable} = \frac{\text{the number of times the child verbalized}}{\text{the total number of verbal and nonverbal behavioral items checked}}$$

$$\text{Positive Variable} = \frac{\text{The number of verbal and nonverbal affective behaviors observed}}{\text{The total number of positive and negative behavioral items checked}}$$

Thus, the highest possible score the child could attain for each ratio would be 1.00.

RESULTS

Identifying the underlying structure of the interrelationships of the decentering, verbal, and positive in addition to the remaining 27 variables was accomplished through a factor analysis. The decentering measures all resulted in large loadings. Two of the variables, verbal and positive, load heavily on the conformity factor.

Other variables with moderate loadings on this factor are concept I (.35), figure flexibility (.3) and the demographic variables of sex (.43) and race (.37).

Decentering, the third variable, loads heavily (.81) on the decentering factor. Other variable loadings related to this variable are class inclusion (.36) and negative loading of concepts I and II.

Each of the decentering variables was analyzed by analysis of variance across each of the demographic variables. The results proved significant findings for the decentering variable with age (F - 2.86 at p .05) and grade (F · 7.06 at p .01). The verbal variable resulted in a finding with race (F - 3.20 at p.05).

Post hoc analysis revealed significant t test results concerning the decentering ratio with age and grade. Considering age, the t tests showed significant differences between groups 1 and 4 (one being the children entering first grade and four represents the children entering fourth grade), at the .05 level, groups 2 and 3 at the .05 level and groups 2 and 4 at the .01 level of significance.

For grade, the decentering variable also shows significant F ratio (7.06) at .01 level of significance. Post hoc analysis of this ratio shows significant differences between groups 1 and 3 and also 2 and 3.

Significant correlations were found when verbal was compared to positive behavior (-.66) and decentering with positive (-.35) at the .05 level.

DISCUSSION

The findings of this study lend themselves to several hypothesis concern-
ing the intellectual process of decentration in relation to the socialization
and cognitive factors.

The decentering variable loaded heavily (.5])and essentially defines
the decentering factor. Its association with the duration in school would
support the basic principle that the longer the child participates in the
classroom experiences, the more opportunities he has encountered which would
promote decentering type behaviors. Since the variable concepts I and II
load negatively in relation to the decentering variable and not significantly
with regard to other cognitive measures, there is further evidence for con-
sidering that this factor is an independent variable and has very little
interaction on the remaining cognitive variables. This might be accounted
for if most of the children in this study were still characteristically in
the preparational stage of mental growth. The children do not seem to have
the characteristic trait of mental representation which is an essential
"vertabrae" to the process of decentration. The t tests and correlation re-
sults provide data which indicates that verbal fluency, among other variables,
is beginning to effect and mature the process of decentration but also in
comparison with the other variables, further demonstrates the uniqueness and
individuality of the decentration variable. The author feels that this point
deserves further analysis which would direct itself to an across stage com-
parison. One of the necessities would be to increase the total number of
each sub-group at the various grade levels in order to possibly avoid a
statistical "floor effect."

The interaction of the verbal and positive variables in relation to the
conformity factor substantiates previous research in that it shows females

engaging in positive and verbal behaviors. The fact that the behavior

pattern of the female is more verbal and positive from infancy on has been

substantiated by Bayley (1965), Moss and Kagan (1964) and Lally (1968).

Neither cognitive behavior nor socialization interact significantly

with the decentering categories. This further stresses the individuality

of the child's actual internalization of the decentration process. In

summary, the decentering task measures appear to offer evidence for an

independent function during this age range for females, while some social

behavior results appeared related (verbal with positive correlation at -.66),

these do not appear to be reflecting the decentering variable. Thus neither

cognitive nor social variables are prominently involved with our measure of

decentering. Stage by stage comparisons show that this is a finding peculiar

to the level of developmental assessment.

The present study affords no independent assessment of the dividing

line between egocentric and decentering behavior. Hopefully the present study

provides some baseline data from which other studies may be carried out.

Bayley, N. Research in child development: A longitudinal perspective.
    Merrill-Palmer Quarterly, 1965, 2, 183-208.

Bobroff, A. The stage. of maturation in socialized thinking and in the ego
    development of to groups of children. Child Development, 1960, 31,
    321-338.

Cowan, P. Cognitive egocentrism and social interaction in children.
    Published abstracts of paper read at American Psychological Association
    meeting, New York, Sept. 1966.

Elkind, D. Egocentrism in adolescence. Child Development, 1967, 38, 1025-
    1034.

Feffer, M. H. The cognitive implications of role taking behavior. Journal
    of Personality, 1959, 27, 152-168.

Feffer, M. H. & Suchotliff, L. Decentering implications of social inter-
    actions. Journal of Personality and Social Psychology, 1966, 4, 415-422.

Lally, J. A study of the scores of trained and untrained environmentally
    deprived infants on the "Griffiths Mental Development Scale."
    Doctoral dissertation, University of Florida, 1968.

Moss, H. & Kagan, J. Report on personality consistency and change from the
    Fels Longitudinal study. Vila Humana, 1964, 7, 127-138.

Neale, J. M. Egocentrism in institutionalized and non-institutionaliz d
    children. Child Development, 1966, 37, 97-102.

Piaget, J. The origins of intelligence in children. New York: International
    Universities Press, 1952.

Piaget, J. The construction of reality in the child. New York: Basic
    Books, 1954.

Piaget, Jean The psychology of intelligence. Paterson, N. J.: Littlefield,
    Adams and Co., 1960.

Piaget, J. Six psychological studies. New York: Basic Books 1967.

Piaget, J., and Inhelder, B. The psychology of the child. New York:
    Basic Books, 1969.