CREATIVE POTENTIAL, MAKE-BELIEVE PLAY,

FAMILY ENVIRONMENT, AND CHILD REARING ATTITUDES

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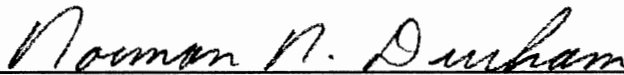the requirements for
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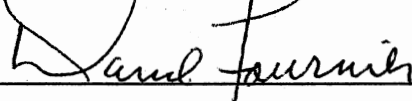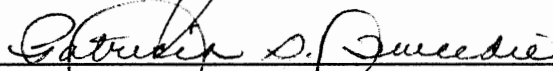MASTER OF SCIENCES
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Abstract

This experiment was conducted to determine if there is a relationship among children's make-believe play, children's creative potentials, parental styles of child rearing. The subjects were 27 children with a mean age of 56.29 months. The children were tested individually using the Multidimensional Stimulus Fluency Measure to assess creative potential. Teachers rated the Make-Believe of each child and the parents completed questionnaires assessing a variety of family variables (PARI and FES). The results indicated a significant relationship between two PARI variables (authoritarian, and democratic), and originality. No significant relationships aomong other variables were found.

Creative Potential, Make-Believe play,

Family Environment, and Child Rearing Attitudes

Creativity in young children is exhibited when children generate behaviors in everyday life activities which are out of the ordinary in order to help solve problems in a variety of social settings. At the basis of creative potential is the development of divergent thinking (Guilford, 1967), and more specifically ideational fluency which refers to the number of responses provided to a given stimuli.

There is evidence that divergent thinking may be enhanced by fantasy play. Within the literature on play, the amount of time children spend on pretense games has been accorded a significant role in children's lives especially during early years (Rubin, Fein & Vandenburg, 1983). It is believed that the children who engage in pretense activities more often, develop more creativity than children who spend less time on fantasy play (Liberman, 1977; Singer, 1973; Smilansky, 1968). According to Dansky (1980) only those children who engaged in make-believe play during free play developed associative fluency. Li (1978) found that children in an adult directed make-believe play performed better than a free-play group in naming different uses of an object. Pepler and Ross (1981), in studying effects of play on convergent and divergent problem solving, found that the children who were given opportunity to play with divergent materials were more imaginative in their responses to

divergent problems and gave more unique responses to
divergent-thinking tasks than children who had convergent
play or non-play experiences. Make-believe play is probably
a determinant of divergent production which is a fundamental
human operation, so it clearly has links to what later
emerges as creativity (Singer, 1973).

The factors which encourage a child to engage in make-
believe play, would appear to be important to study
psychological characteristics of parents in relation to the
children's play environments and decisions regarding this
area of development are of crucial importance. The parents'
concreteness and abstractness would appear to have an impact
on the children's personalities as they grow up. Bishop and
Chance (1971) hypothesized that parents who differ in
concreteness and abstractness in their cognitive structure
and functioning will differ on some critical variables in
their attitudes toward their children's play and in the home
play environment that is provided. Open-mindedness,
adaptability, unorthodoxy, low authoritarianism, the ability
to consider other points of view, and the ability to grant a
certain amount of autonomy to the child are some of the
important parental characteristics which are likely to
have an impact on their children's playfulness and play
environment (Bishop and Chance 1971). Dewing and Taft (1973)
in studying parents of creative children, found that mothers
of creative children have more equalitarian, less
authoritarian attitudes and allow the children more contact

with influences outside the home. These parents also allow the children greater independence. Thus it appears that parenting style may be an important factor related to the use of make-believe play and thus influence creative potential.

In looking at the possibilities of how much children's cognitive abilities could be affected by different factors, it seems crucial at this point to investigate the relationship between parental childrearing attitudes and their children's make-believe games as well as finding out if those children who engage in make-believe play also have enhanced creative potentials.

Method

Subjects

The subjects consisted of preschoolers attending a University Child Development Laboratory and their parents. Two all-day programs, were used, resulting in a sample of 16 boys and 11 girls (mean age = 56.29 months, S.D.= 6.94).

Instruments

Ideational fluency. The Multi-dimensional Stimulus Fluency Measure (MSFM), (Moran, Milgram, Sawyer, &Fu, 1983) was used to test ideational fluency in children. This test consists of three measures: Instances, Pattern Meanings, and Unusual Uses. For each task, a sample item is provided to ensure the child understands the procedure of the test. The child is then asked to name all the things that he or she could think of to fit the particular task. Originality scores on the MSFM were used as the measure of creative

potential. The reliability and validity of the MSFM has been established as well as scoring protocols and normative data from research with over 300 preschool children (Godwin, 1984; Moore & Sawyers, 1987). See Appendix B for more detail.

Parental attitude questionnaire. A version of Parental Attitude Research Instrument (Emmerich, 1969; Schaefer & Bell, 1958; Zuckerman, 1959) was filled out by parents of the preschoolers participating in the study. Questions for both fathers and mothers were identical except for one section in which the questions are the same in terms of context but are stated differently. In this study the mother's responses were used when both parents answered the questionnaire since this method provided the most complete data set. The Parental Attitude Research Instrument (PARI) has been one of the most widely used measures of parenting style and has been demonstrated to have adequate reliability established through internal consistency and test-retest measures (see Appendix C).

Make-Believe play questionnaire. The Make-believe play questionnaire was designed by the researcher for this study. The questions were carefully made up using questions related to make-believe play from the Leiberman's playfulness scale (1977). Other questions were devised through interviews with child development specialists. Teachers rated the frequency of each child's imaginative, and make-believe play (see Appendix E). Ratings of both lead teacher and coteacher were collected to assess reliability, and in subsequent analyses

the ratings of lead teacher was used as the primary score.

    <u>Family Environment Scale</u>. A revised form of the Family Environment Scale (FES) is used to measure the social-environment attributes of the families (Moos, 1974). Four of the ten FES subscales which consist of nine true-false items were filled out by parents of the preschoolers participating in the study. The expressiveness scale assesses the extent to which family members are encouraged to act openly and to express their feelings directly; the conflict scale measures the amount of openly expressed anger, aggression, and conflict among family members; the achievement orientation scale measures the extent to which activities (such as school and work) are cast into an achievement-oriented or competitive framework; and the control scale assesses the extent to which set rules and procedures are used to run family life. (See Appendix D).

<u>Procedure</u>

    The parent inventory, and the family environment scales were given to parents to be filled out at home. Each child was administered the measure of Ideational Fluency (MSFM) individually in a small room separate from the classroom and relatively free from external stimuli. To ensure confidentiality, the children's or parent's names are not attached to the answer forms, rather response sheets are number-coded. The teacher task questionnaire on make-believe play was filled out by lead teachers, and by coteachers in each classroom.

Results

The major focus of this study was the relationship of familial variables (PARI and FES) to children's creativity (Make-Believe play and MSFM). Since the Make-believe play questionnaire was assembled by the researcher, validity and reliability analysis were conducted. The instrument demonstrated a high intertask reliability among the six questions. Interitem correlations ranged from .66 to .99. On the other hand, the interrater reliability, (i.e., correlation between the lead teacher and coteacher ratings) was very low, r=.33. Due to the nature of this study further analyses will report data for the teacher's perception of make-believe play scale but the reader needs to recognize serious concern about the instrument reliability.

None of the correlations between the familial and creativity measures were significant (see Table 1). Multiple regression showed a significant relationship between two PARI variables (authoritarian and democratic), and originality (R^2=.25, and P<.03). Additional multiple regression analyses between make-believe, originality and FES variables were nonsignificant. Make-believe play was also not related to originality. Analyses were computed both across classrooms and within classroom. The within classroom analyses for the make-believe play variables were conducted based on the low interrater reliability, so we could not assume commonality of construct across classrooms.

Insert Table 1 about here

Discussion

The results obtained in this study show, a significant relationship between selected parenting variables (authoritarian, and democratic parenting styles) and originality. However, the data also shows nonsignificant relationships were found among children's creativity, the amount of make-believe play they engage in, and the home environment of the child.

Concerns regarding the teacher's perception of Make-believe play scale are evident. The Make-believe play scale did not correlate to MSFM scores. The interitem reliability on Make-Believe indicated that all items measure something consistent with other items, but interrater reliabilities suggest that what this scale measures may be idiosyncratic to the individual performing the rating. Since overall ratings indicate that there are some problems with the Make-Believe play scale, perhaps observation of children's make-believe play would be a more accurate indication of children's fantasy play. Thus the following discussion will focus on the relationship of the ideational fluency scores.

According to Baumrind (1967), authoritarian parents are those who are always in control, make the rules, and impose them upon the child, and often use severe physical punishment. Democratic parenting, on the other hand, uses reasoning in guiding the child. Thus low authoritarian and

low democratic parenting would appear to be a combination of less control, less firm punishment, less reasoning, and somewhat less independence granting. These seem to be similar to the characteristics of permissive parenting (e.g. little guidance, few demands and responsibilities placed upon the child). Perhaps our finding of significant relationship of low authoritarian and low democratic parenting styles to higher originality is in fact an indication of a link between permissive parenting and originality at preschool age.

Bishop and Chance (1971) found a positive relationship between creative children and their mothers' conceptual abstractness. They refer to the expression, "conceptual abstractness", as openmindedness, adaptability, unorthodoxy, low authoritarianism, the ability to entertain multiple viewpoints, and the ability to grant certain amount of autonomy to the child. The findings of Bishop and Chance seems to be consistent with those of the present study.

Most of the literature which supports the relationship between home environment and children's creativity used samples of elementary school children and adults. This appears to be among the first studies to demonstrate this relationship with preschool age children. The work of several investigators and theorists (Guilford, 1967; Mednick, 1962; Moran, Sawyers, Fu, Milgram, 1984) certainly provide support for the results of this study, yet several other studies (Fu, Moran, Sawyers, & Milgram, 1983; Gafford, 1988; Ryan, 1984) have failed to demonstrate relationships between

parental variables and preschool children's originality. Whereas some of the previous studies used only correlational analysis, the use of regression in this study may have served to uncover significant relationships within these particular parental variables. Replications of these findings is needed to provide greater confidence in the data. As we study creativity in relation to parental variables we are confronted with difficulties in measuring both constructs. Perhaps the inability to obtain a better picture of these relationships lies in the vagaries of our instruments. We may be in the situation that confidence in our data will only be obtained on children's true creative potentials with a combination of more relaxed atmosphere during testing period, observation of children's day to day free play behavior, and observation of parent-child interactions in their natural home environment.

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Table 1

Correlations between familial and creativity measures.

| | Creativity | |
Familial variables	Originality	Make-believe
PARI		
Authoritarian	-0.21	-0.06
Hostility	-0.05	-0.15
Democratic	-0.30	0.04
FES		
Expressiveness	-0.22	-0.22
Conflict	0.07	-0.24
Achievement Orientation	0.04	-0.02
Control	0.26	-0.10

Appendix A

Literature Review

Creative Potential, Make-Believe play,

Family Environment, and Child Rearing Attitudes

<u>Creativity, Family Environment, and Child Rearing Attitudes</u>

One of the problems currently facing society today involves identifying, nurturing, and utilizing highly creative talent (Bishop & Chance, 1971). Creativity has been defined as the products and behaviors which are unusual, high quality, and socially useful (Moran, Sawyers, Fu, & Milgram, 1983). In applying this definition to young children, creative behavior is exhibited when children generate behaviors in every day life activities which are out of the ordinary in order to help solve problems in the social setting.

Bishop and Chance (1971) suggest that there are five major aspects of the creativity problem: (1) the creative act; (2) the current environment in which creative acts occur; (3) the biological and psychological characteristics necessary for potential creativity of person; (4) the educational and developmental factors affecting the potential creativity of people; and (5) the characteristics of training agents that affect training environment and consequently the potential creativity of persons exposed to that environment. The present review looks at the relationship among some of the creativity problems mentioned above. Specifically, the characteristics of training agents and the environment provided by them that promote potential creativity in the child.

It seems that the parents who are secure, disinhibited, and are not concerned about social impressions tend to have more creative children. According to Dreyer and Wells (1966) parents of creative preschool children were not concerned about their place in the community. Also Getzel and Jackson (1961) reported that mothers of more creative students were less preoccupied with status and seemed less concerned about their security in general. Higher occupational autonomy of the father was also related to higher creativity of the child (Weisberg, & Springer, 1961). Thus higher social class tend to be associated with higher creativity. The concern about making a favorable impression was less characteristic of mothers with more creative sons than of mothers with less creative sons (Domino, 1969). Also mothers of high creative girls were likely than mothers of less creative girls to be older and better educated than their husbands, thus less concerned about social demands and more willing to depart from social norms (Dewing, & Taft, 1973).

Creative professionals in Mackinnon's (1962) study recalled that when they were very young their parents had respect for them as individuals, showed confidence in them and granted then responsibilities and opportunities to make decisions. Also Halpin, Payne, & Ellett (1973), found that academically and artistically talented boys with creative personalities reported that their parents were less strict and critical of them and allowed greater freedom than did the parents of less creative boys.

The literature in creativity suggests that highly creative persons apparently grow up in families in which individual divergence of attitudes and behavior is sanctioned. Weisburg and Springer (1961), found that the characteristic family pattern of highly creative elementary school children was not overly close. Such families showed little clinging to each other for support, little stress on conformity to parental values, and open and not always calm expression of strong feeling. Mackinnon (1962) also reported that the parents of high creative adults had extraordinary respect for the child and a confidence in his ability to do what was appropriate; they granted the child freedom to explore and to make decisions for himself. Silverberg (1971) noted a curvilinear relationship between school age children's creativity and perceptions of their father's acceptance; creative children reported their fathers to be less accepting of them, but on the other hand children who scored at the very top on creative fluency perceived their fathers as highly accepting.

Datta, and Parloff (1967) found the high maternal hostility was negatively associated with creativity of sons. Also Ellinger (1965) reported that the frequency of coercive, physical punishment was inversely related to the creativity of school age children. Low creativity in children is also associated with parental authoritarianism, control, restrictiveness, and domination. Dewing and Taft (1973) found that mothers of high creative girls were less rejecting

of outside influences in their child rearing attitudes than were mothers of low creative girls. Weisberg and Springer (1961) also found that parental domination, stress placed on school performance, demands for children to conform to parental values, and maternal compulsiveness were all negatively related to children's creativity.

Parents act as primary training agents and have control over the child's play environment, in terms of the toys they provide for the child, the time they allow the child to engage in free play, the amount of freedom they give to the choice of the child's play, and finally how much freedom and authority they give the child in decision making and every day life. According to Yawkey and Trostle (1983) the object world of the young child is fundamental to creative thinking and imagination. Through the interaction between the child and objects, creative thought evolves, develops and can be sustained and enhanced. There are four categories of applications of objects by children, Yawkey and Trostle continue, that adults can provide creativity-stimulating cues: exploring with objects which involves the child's examination of objects and their properties and what he can do with it. The second category of using objects to serve creativity is repetition. It is recognized by the child's repetitive movements or actions during the exploration phase. Adults can motivate the child by using objects for repetition. Third category which is the replicative uses of objects for creativity, involves the child's construction of

reality elements while using play materials and their objects. Adults role is to provide additional supplies encourage and motivate the child's replicative attempts. Transformation is the fourth category of application of objets which expands the youngster's role with objects by extending their functions towards more advanced and abstract levels of creative thinking. The parents' concreteness and abstractness also has a tremendous impact on the children's personality. Bishop and Chance (1971) hypothesized that parents who differ in concreteness and abstractness in their cognitive structure and functioning will differ on some critical variables such as open-mindedness, flexibility, and nonauthoritarianism in their attitudes toward their children's play and in the home play environment that is provided.

Parents might foster the development of creativity in their children to the extent that they have respect for then as individual, have confidence in their abilities, allow them to have or give them responsibilities, and expect them to do well. Williams (1982) proposed that caregivers should trust children in making decisions and having choices, to do what is reasonable in a reasonable way. Williams developed a series of suggestions both for parents at home and teachers at school to help in developing more highly functioning creative individuals for later life. These suggestions include, self-resourcefulness of the home and school environment, respect and emotional support should be given to

children for their ideas, attitudes and feelings, allow for comfortable regression in growth patterns,and freedom to make decision and having choices to do what is reasonable in a responsible way. For these reasons it is natural to investigate the home environment which to varying degrees is universal to almost all children.

Family Environment, Parental Child-Rearing Attitudes, and Make-Believe Play

Psychological characteristics of parents in relation to the children's play environments and decisions regarding this area of development are of crucial importance. Characteristics such as low compulsivity, low dominance, high acceptance of regression, high independence-granting, and low authoritarianism have positive effects on children's creativity (Dreyer & Wells, 1966; Maw & Maw, 1966; Weisberg & Springer, 1961).

Psychoanalytic theory views prtend play as a mechanism whereby children can cope with specific sources of real-life tension such as parental punishment, and aggression (Peller, 1952; Waelder, 1933). In considering this view the relation between such sources and the content of play have been studied. In one study, preschool children exposed to a frustrating experience and allowed to play immediately thereafter showed an increase in the aggressive content of their play (Bach, 1945).Another study demonstrated that hospitalized children prefer to play with anxiety-relevant toys (Gilmore, 1966).

The tendency of individual difference to engage in pretend play seems to be related to child-rearing factors and amenable to modification by training (Singer, 1973). One child-rearing factor which might facilitate or restrict behavior is when pretend episodes occur in the home they are more likely to be initiated by the child than the mother, and although the mother may acknowledge the pretense or offer a verbal suggestion, she rarely joins or extends it (Dunn, & Wooding, 1977). In Dunn and Wooding's study, the mother participated in less than one-third of the pretend play intervals recorded. Of the mother-child interchanges recorded in a laboratory study of 12-24-month-old children, only 8% involved pretense (Hay, 1979). Thus, parents may monitor and perhaps selectively encourage or discourage pretense behavior, but there is little evidence to support the claim that parents as a rule teach or model pretense for their children, or that such parental activity is related to the development of pretense as a more general dimension of individual difference. Another factor, is related to the parent-child attachment. In a study by Matas, Arend, and sroufe (1978), children who were securely attached at 18 months showed higher levels of pretend play at 24 months than did children who were obedient or ambivalent at 18 months. Also according to Passman (1977), the presence of a symbolic substitute for the mother has a comparable effect on stress reduction in learning and play situations. Additional evidence for the influence of child-rearing factors on

pretense comes from studies suggesting that children whose parents use physical punishment as a disciplinary method or who come from homes in which there is marital discord are likely to show low levels of imaginativeness in their play (Hetherington, Cox, & Cox 1979; Marshall, 1961). Children who have considerable contact with parents, especially fathers; little sibling contact and have parents who encourage conversation and varied experiences are more likely to engage in pretend play (Manosevitz, Prentice, & Wilson, 1973; Marshall, 1961; Singer, 1973).

There are three styles of parenting according to Baumrind (1967): authoritarian, permissive, and authoritative. Authoritarian parents are those who are always in control, and those who make the rules solely, and impose them upon the child. Often severe physical punishment is faced by the children who do not follow the rules. These children are often unhappy and socially less competent than their peers, withdrawn and lack in initiative. Permissive parents are ones who give little or no guidance to their children. The children's behaviors, desires, and impulses are not judged in any way. This type of parent does not induce the child to follow them. Few demands and responsibilities are placed upon the child. The children of permissive parents are characterized by lack of maturity in the sense of impulse control and self reliance. They also lack independence, and social responsibility. The authoritative parenting style (Baumrind, 1967) uses reasoning

and rational in guiding the child. This type of parent explains to the child the reason for decisions and values self-willed and self guided behavior. When there is disagreement, the authoritative parent governs with firmness. Such a parent views the child as an individual with ideas and values. The children raised in an authoritative environment show more competence, and independence than their peers.

Based on their study of parental conceptual systems, home play environment, and potential creativity in children, Bishop and Chance (1971) propose that the parents should show flexibility in their daily routine to cope with the great amount of spontaneity that is characteristic of playfulness. Flexibility and non-authoritarianism are also helpful in accepting the alternate uses and procedures that children often adopt in their games and play. Bishop and Chance conclude that the open-mindedness, adaptability, unorthodoxy, low authoritarianism, ability to entertain multiple viewpoints, and ability to grant a certain amount of autonomy to the child are some of the important characteristics of the parents who are likely to have an impact on their children's playfulness and play environment.

According to Yawkey, and Hrncir (1982), the adult caregiver can provide opportunities for the child to develop his creative potential and to act out sensory impressions in dramatic play, such as, provide a model of playfulness, the use of playful gestures, communicative use of imagery actions, arrangement of the environment and use of the space

and selection of play materials. Thus children who do not have the opportunities for relaxed play environment or a chance to practice and role play some of the every day events would not demonstrate comparable levels of creativity.

Creativity and Make-Believe Play

Play has been recognized as a self-initiated and personal activity in which has no clear final objective, and involves the player totally in the "event of the moment" (Cecil, Gray, Thornburg, & Ispa (1985). According to Cecil et al. play seems to enable the child to examine all kinds of previously irrelevant details because of less focus on a prescribed objective or product, and this personal spontaneous immersion in the moment encourages a process of cognitive creation. Pretense, on the other hand, is when young children begin to use object substitution. A variety of terms (e.g. imaginative play, make-believe play, fantasy play, and dramatic play) have been used to refer to this type of play behavior. Although these terms may reflect slightly different judgments of either its value or focus, they tend to be used interchangeably (Fein, 1981). According to an interpretation of psychoanalytic theory, pretense is primarily a vehicle which permits children to vent feelings that cannot be expressed in real life (Levin, & Turgeon, 1957). Behavioral thorists adhering to this position posit a similarity-inhibition continuum such that fantasy is inhibited to the degree that the play setting contains features drawn from real life. According to a cognitive-

developmental position, pretense primarily reflects the child's symbolic maturity (Piaget, 1962; Vygotsky, 1967)). Investigators adhering to this position posit a similarity-facilitation-inhibition continuum such that in children whose representational abilities are limited, play is enhanced as the play setting resembles real life, whereas in more mature children the relation may be reserved (Vygotsky, 1967; Singer, 1973; Watson, & Fischer, 1977). Switsky, Haywood, and Isett (1974) in doing a study on exploration, curiosity, and play in young children found that moderately complex random shapes which look like objects facilitate play in two year olds. Young children tend to use objects that are good exemplars of given referents. This dependency on such exemplars appears to lead preschool age children to employ particular objects selectively as designative (e.g. spoonlike objects to serve as spoons), where as older children appear to be less tied to perceived similarities between the pretense objects and the objects that they signify (Copple, Cocking, & Matthews, 1980).

There has been great emphasis that the amount of time children engage in pretense activities, plays a significant role in children's lives. Thus, pretense has been viewed as partially responsible for the development of a plathora of skills such as, self-concept (Mead, 1934), self-confidence, and self-regulation (Singer, 1973), to alleviate boredom (Ellis, 1973), and to promote the exploration of multiple object uses (Hutt, 1979).

Most of the interest in pretense play involves the assumption that it makes a contribution to children's development or functioning beyond its value to clinicians and psychologists as an assessment tool. Perhaps pretend play in early childhood provides the basis of imaginative thinking or fantasy functions in later life (Klinger, 1971), or it may provide the basis for social retuals, drama, and other collective symbolic activities (Fein, 1981).

The characteristics of children involved in play are similar to those that have been attributed to being involved in the creative process. It has been suggested that the child who is truly playful and spends a great deal of time playing develops cognitive and behavioral processes that enhance his or her creative potential (Bishop & Chance, 1971). Lieberman (1977), Singer (1973), and Smilansky (1968) all agree with the notion that the development of creative and flexible thinking is one of the by-products of pretense play. The reasons underlying this claim is the assumption that the processes and functions involved in play (e. g. functional pleasure, fantasy, imagination, novel events, ideas and sometimes a variety of actions that often have no apparent ties to reality) are similar to those that have been attributed to the creative process.

Pretend play has been identified with aspects of creative thinking that involve broad attention deployment and ideational productivity (Dansky, 1980). Several studies have demonstrated that children given the opportunity to play with

objects generate more uses for these objects (Dansky, &

Silverman, 1973). According to Singer (1979), individuals

differ in their ability to create alternative, imagined

environments that serve to cope with cognitive, social, and

affective demands. Moore, Evertson, & Brophy, (1974),

reported that children who engage in high levels of solitary

goal-oriented activity and children who play with objects in

a pretend fashion do better when asked to solve problems

involving these objects. The effects of divergent production

is especially apparent when the play condition is arranged to

produce a high level of pretense (Dansky, 1980). These

findings are consistent with Sutton-Smith's (1975) theory

that pretense invoves a set for divergent or transformational

thinking. Creative potential could be conceptualized as

synonymous with ideational fluency, thus, ideational fluency

has been the primary focus of research attention in

creativity for the past 15 years. Kogan (1980) states that

ideational fluency is the number of responses given by a

stimulus in a divergent-thinking task (e.g. "tell me all the

things you can use a paper for"). Based on Wallach and

Kogan's (1965) procedures in the assessment of associative

processes, Moran, Sawyers, Fu, and Milgram (1983) did a study

in measuring creativity in young children using three tasks

of ideational fluency (unusual uses, instances, and three

dimensional pattern meanings). In the uses tasks the

children are asked to name all the things they can think of

for an object presented to them. The instances task asks the

children to name all the things which have a similar feature. In the patterns tasks children look at the object and manipulate it and then tell what the object could be. These researchers (Sawyers, Tegano, & Moran, 1987) also address Ward's concern about the criterion of creativity in young children by suggesting that at this age we are assessing creative potential rather than creativity, and thus ideational fluency scores are an appropriate criterion measure.

There has been a great emphasis about the importance of creativity and that we should foster creativity in our children (Wallach & Kogan, 1965). According to Singer (1973), make-believe play is probably one of the influences on divergent production which is a fundamental human operation, so it clearly has links to what later emerges as creativity . Pepler and Ross (1981) found that children who had divergent play experiences were more imaginative in their responses to divergent problems, giving more unique responses to divergent thinking tasks than children who had convergent play or nonplay experiences. Recently Moran, Sawyers, and Tegano (1987) have proposed a model which emphasizes the importance of contextual variables. Moran, Sawyers, and Moore (in press), for example, investigated the effects of structured or unstructured instructions as well as materials on creativity scores of preschool children. The results indicate that flexibility scores are significantly higher with structured materials compared to unstructured materials,

especially provided with structured instructions. Structured materials also decrease fluency and originality scores. Another study done by Pulaski (1970) on play and toy structure indicates that structured toys decreased theme changes in pretend play, and in general structured materials led to less flexibility in thinking. According to Dansky (1980), free play enhanced associative fluency but only for those players who actually engaged in make-believe. Lack of structure in free-play situations does not necessarily enhance associative fluency but it can be enhanced by symbolic play. The amount of time children spend in pretense activities, can enhance their development of concentration, attention span, and a reflective mode of thought (Singer, 1973). According to Hutt (1979), playful activities promote diverse exploration or exploration of multiple object uses.

Thus it appears that in young children we are measuring creative potential with measures of ideational fluency and that make-believe play is one variable that serves to achieve ideational fluency. Most of the studies of make-believe play; however focus mainly on assessment of fluency immediately following play. Whether ideational fluency and make-believe play are related to general cognitive styles is still an open question.

Creative children have more ideas (fluency), are able to change their way of thinking (flexibility), and are able to generate unusual, remote and clever ideas (originality).

Certainly parental attitudes of child rearing are most influential on cognitive abilities of their children, specifically the development of make-believe games. As the children develop the various skills for pretense play, their creative potentials are also enhanced because creativity is one of the by-products of make-believe play. Thus children of parents who are given certain amount of freedom to explore, independence, acceptance of ambiguity, low authoritarian, and low dominance (democratic parenting) are more likely to develop high creative potentials.

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Appendix B

<u>Description</u> <u>of</u> <u>Instruments:</u> MSFM

Description of Instruments

Ideational Fluency

The Multidimensional Stimulus Fluency Measure (Moran, et al., 1983) uses three tasks from Wallach and Kogan model to index ideational fluency: Instances, Patterns, and Unusual Uses. For each task the subject is first provided an example, then asked to name all the things that they can think of to fit the particular task (see pp. 32-39 for test instructions). The reliability and validity of the MSFM has been established as well as scoring protocols and normative data from research with over 120 preschool children (Godwin, 1984). The alpha coefficients of the original and popular scores were .76 and .55 respectively (Moran, Milgram, Sawyers, & Fu, 1983). Validity of the MSFM as a cognitive style distinct from intelligence was evidenced by Moran, Milgram, Sawyers, and Fu (1983) with correlation between original and popular scores with intelligence being .22 (NS). The MSFM appears to remain relatively stable, $r = .54$, $p<.01$ between the ages of four and seven (Moore & Sawyers, 1987). The intertask reliability for the MSFM tasks runs greatest between round and red, $r = .24$. Scoring of the MSFM was accomplished by joint consensus of the three testers on the respond scores given in the scoring protocol (Godwin, 1984).

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Creativity Research Group

General Instructions for the Examiner

Please bear in mind the following general guidelines:

(1)   The establishment of the proper atmosphere for testing
        and rapport between examiners and subjects is a
        critical factor in this study. Examiner's behavior can
        significantly affect the research results. Examiners
        must behave in a friendly manner, create a pleasant
        atmosphere, and <u>refrain from any behavior which creates
        the impression of school-type testing and evaluation</u>.
        The very words and actions of the examiner are
        critical.

(2)   Examiners are requested to arrive early and to make a
        special effort by means of informal talk to establish
        rapport. It is important to maintain a pleasant tone
        in your speech at all times.

(3)   Since testing procedures are not timed, each subject
        will finish at a different time. Allow children enough
        time to do this task. Do not over schedule.

(4a)   The examiner must bear in mind the importance of
        establishing trust, a pleasant atmosphere, and the
        desire to participate. The warm-up game is designed to
        help achieve these goals. The examiner should maintain
        as natural a manner as possible while at the same time
        stimulate the child's interest in the games, and
        encourage him to think and to make the maximum effort
        to give as many responses as possible.

(4b)   The examiner should exchange names with the subject,
        and continue to call the subject by his first name
        during the testing session. The child was asked his
        first name so that the examiner can use it in
        establishing a more relaxed and friendly atmosphere.

(4c)   The examiner says:
            Today we are going to play some games. They are
            a new kind of game which you have probably not
            played before. We will play several different
            games. These are thinking and imagination games.
            You don't have to hurry. We can play for as long
            as you want.

(4d)   Refer to specific task instructions for detailed
        instructions on tasks and answer sheets. Examiner
        records child's answers verbatim on the form provided.
        If you do not have enough room, use the other side of
        the answer sheet.

(4e)   At the end of the test session, the examiner should say to the subject, "That was the last game for today. Thank you for your cooperation, you were a big help. You did very well. I'll see you again and play some more games like these."

(5)   The examiner is to answer the subject's questions in the following manner:

(a)   Procedural questions are to be answered by repeating the instructions or explaining in synonymous terms.

(b)   Questions designed to elicit help form the examiner are answered by saying, "Whatever you think" or "Do what you think is best."

(c)   Children may ask, "Is that right?" Respond by saying: "There are no right or wrong answers, whatever you think is fine."

(6)   It is important to remember that we are guests within the school and have been allowed the privilege of testing the children. We need to remain courteous at all times. Confidentiality of data must be respected. Also, children may refuse to tested or decide to quit in the middle of the test session. If this occurs, use "gentle coercion" to try to persuade the child to stay, but if the child will not, discontinue testing for that day and try later in the week.

(7)   Be sure to record any irregularities in testing, such as discontinuance, which might occur before, during, or after testing, on the form provided for general comments.

(8)   In session I, we will be using the following tasks:
                    1.   Instances
                    2.   Patterns

       In session II, the task will be:
                    1.   Uses

<u>Instances</u> <u>Task</u> <u>Instructions</u>

"Now we're going to play a game called 'all the things you can think of'. I might say, 'Tell me things that hurt', and I would like you to tell me as may things as you can think of that hurt. Let's try it. Please tell me all the things you can think of that hurt." (Let the child try to generate responses.) Then reply with, "Yes, that's fine. Some other things that hurt are falling down, getting slapped, fire, getting bruised, a knife, and probably there are a lot of other things, too." (The examiner should vary answers so as to give all of these which the child did not give.) Then proceed by saying, "You see that there are all kinds of different answers in this game. Do you know how to play?" (If the child indicates understanding of the game, proceed with test items. If the child is still is not understanding, terminate test sessions.) The examiner should then say, "Now, remember, I will name something and you are supposed to name as many things as you can. Take as long as you want. Okay, let's try another." (No help should be given to the child when test items are being used.)

(1) Name all the things you can think of that are round.

(2) Name all the things you can think of that are RED.

When child stops responding, ask "what else can you think of?" or "Tell me some more things you can think of", until the child indicates he or she has no more responses.

Three-Dimensional patterns instructions

"In this game, I'm going to show you some blocks. After
looking at each one, I want you to tell me all of the things
you think each block could be. Here is an example- you can
turn it any way you'd like to." (Give the example block to
the child). "What could this be?" (Let the child respond).
"Yes, those are fine. Some other things I was thinking of
were a bridge, a bed, a building block, a chair, and there
are probably a lot of other things, too." The examiner
should vary answers as to give different ones than the child.
If the child indicates an understanding of the game, proceed
with the other two stimuli.

Drawings of Three-Dimensional Stimuli

Example:

Stimuli:

"Hammer"   "Half"

Uses Task Instructions

"Now, today we have a game called 'What can you use it for?'
'The first thing we're going to play with will be a pencil.'
(Examiner hands pencil to child). "I want you to tell me all
the things you can think of that you can DO with a pencil, or
PLAY with it, or MAKE with it. What can you use a pencil
for?" (Let the child try to generate some responses). Then,
reply with, "Yes, that's fine. Some other things you could
use a pencil for are as a flagpole, to dig in the dirt, or
you could use a pencil as a mast in a toy boat. Probably
there are a lot of other things, too." (The examiner should
vary answers, so as to give all of these which the child did
not give.) Then proceed by saying, "You see that there are
all different answers to this game. Do you know how to
play?" If the child does not understand, repeat procedure
from beginning. If child still does not understand,
terminate. The examiner should then say, "Now, remember, I
will name something and you are supposed to tell as many uses
for it as you can think of. Take as long as you want. Let's
try this one." No help should be given to the child on the
test items.

    (1) What can you use a BOX for?

    (2) What can you use PAPER for?

Problems may arise when children ask additional questions.
For example, if the child asks, "What size box?" the
examiner should reply with a neutral answer, such as
"whatever size you think of." All clarifications of the test

questions should be non-committal type. When the child stops
responding, ask "what else can you think of?" or "Tell me
some more things you can think of," until child indicates he
or she has no more responses.

Creativity Research

Session I:

Subject Number _____

Gender   M   F

Date _____

The examiner says: TODAY WE ARE GOING TO PLAY SOME GAMES.

THEY ARE A NEW KIND OF GAME WHICH YOU HAVE PROBABLY NOT

PLAYED BEFORE. WE WILL PLAY SEVERAL DIFFERENT GAMES. THESE

ARE THINKING AND IMAGINATION GAMES. YOU DON'T HAVE TO HURRY.

WE CAN PLAY AS LONG AS YOU WANT.

Proceed to Task 1.

General Comments:

CREATIVITY RESEARCH

INSTANCES

ANSWER FORM

Subject number:_____

Name all the things you can think of that are ROUND:

<u>child's</u> <u>Responses:</u>

Appendix C

Description of Instruments: PARI

<u>Parental</u> <u>Attitude</u> <u>Research</u> <u>Instrument</u>

The revised form of the original Parental Attitude
Research Instrument (PARI) done by Emmerich (1969) was used
in this study. The original instrument us developed by
Schaefer and Bell (1958) to assess the relationship between
parental attitudes and their children's personality
adjustment.

He developed two different forms, one for each parent,
but these forms were very similar with respect to scale
contents, and factorial structure. In these forms Emmerich
included three factors along with their corresponding scales
which were as follows: (1) Authoritarian Control - Fostering
Dependency, Seclusiveness of the Mother, Suppression of
Aggression, Excluding Outside Influences, and Suppression of
Aggression. (2) Hostility-Rejection - Marital Conflict,
Rejection of the Homemaking Role, and Irritability; (3)
Democratic Attitudes - Encouraging Verbalization,
Equalitarianism, and Comradeship and Sharing. The Inventory
section contains a mixture of items developed by Schaefer and
Bell (1958), Zuckerman (1959), and Emmerich (1969).
The first 41 items, in section I may apply to any parent,
while sections II and III are parent specific. The items for
authoritarian control scale (numbers 1, 7, 11, 15, 18, 24,
28, 33, 38, 41, 42, and 48), hostility rejection scale
(numbers 3, 20, 31, 39, 45, 46, 47, and 50), and democratic
scale (numbers 5, 9, 13, 22, 26, 30, and 40) were stated so
that agreement indicated the presence of that characteristic.

The remaining items for authoritarian control (2, 6, 10, 16, 23, 27, 34, 44, and 49), hostility rejection (8, 12, 21, 25, and 43), and democratic attitudes (4, 14, 17, 20, 32, 35, and 37) were stated so that agreement indicated the absence of the characteristic.

The results of investigations of internal consistency and test-retest reliabilities of the scales were estimated with Kuder-Richardson Formula 20 for two original Forms of I and II. The five most reliable items for each scale were selected for Final Form IV. Internal consistency reliability coefficients as well as test-retest reliabilities has been established for the samples.

In scoring the instrument, strong endorsement of an item was scored +2, mild endorsement +1, mild disagreement -1, and strong disagreement -2. For items where agreement signified absence of the attribute in question, the signs were reversed.

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Inventory of Attitudes on Family Life and Children

Read each of the statements below and rate them as follows:

A	a	d	D
strongly agree	mildly agree	mildly disagree	strongly disagree

Indicate your opinion by drawing a circle around the "A" if you strongly agree, around the "a" if you mildly agree, around the "d" if you mildly disagree, and around the "D" if you strongly disagree.

There are no right or wrong answers, so answer according to your own opinion. It is very important to the study that all questions be answered. Many of the statements will seem alike but all are necessary to show slight differences of opinion. Either parent may complete the inventory. For questions 42 through 50, complete only the section that applies to you.

SECTION I

1. A good parent should shelter his child from life's little difficulties.   A a d D

2. Children should be taught about sex as soon as possible.   A a d D

3. Parents who think they can get along in marriage without arguments just don't know the facts.   A a d D

4. Parents should not have to earn the respect of their children by the way they act.   A a d D

5. A child has a right to his own point of view and ought to be allowed to express it.   A a d D

6. If a parent is wrong he should admit it to his child.   A a d D

7. A child should be taught to avoid fighting no matter what happens.   A a d D

8. Most parents could spend all day with the children and remain calm and even-tempered.   A a d D

9. Parents who are interested in hearing about their children's parties, dates, and fun help them grow up right.   A a d D

10. A child should learn he has to be   A   a   d   D
    disappointed some times.

11. It is very important that young boys and   A   a   d   D
    girls not be allowed to see each other
    completely undressed.

12. If a couple really loves each other there are   A   a   d   D
    very few arguments in their married life.

13. Parents should adjust to the children some   A   a   d   D
    rather than always expecting the children
    to adjust to the parents.

14. Children should not be allowed to disagree   A   a   d   D
    with their parents, even if they feel their
    own does are better.

15. It's best for a child if he never gets   A   a   d   D
    started wondering whether his parent's
    views are right.

16. A child should be taught to fight his own   A   a   d   D
    battles.

17. Children would be happier and better   A   a   d   D
    behaved if parents would show less
    interest in their affairs.

18. A child should be protected from jobs which   A   a   d   D
    might be too tiring or hard for him.

19. Sex play is a normal thing in children.   A   a   d   D

20. Children should learn to compromise and   A   a   d   D
    adjust to the demands of their parents.

21. Most parents don't mind spending most of   A   a   d   D
    their spare time at home.

22. A child's ideas should be seriously   A   a   d   D
    considered in making family decisions.

23. A child should be encouraged to look for   A   a   d   D
    answers to his questions from other people
    even if the answers contradict his parents.

24. Children should not be encouraged to box or   A   a   d   D
    wrestle because it often leads to trouble
    or injury.

25. Raising children is an easy job.   A   a   d   D

26. If parents would have fun with their children   A   a   d   D
the children would be more apt to take their
advice.

27. Children have to face difficult situations   A   a   d   D
on their own.

28. Sex is one of the greatest problems to be   A   a   d   D
contented with in children.

29. Almost any problem can be settled by quietly   A   a   d   D
talking it over.

30. There is no reason parents should have their   A   a   d   D
own way all the time, any more than that
children should have their own way all the
time.

31. One of the bad things about raising children   A   a   d   D
is that you aren't free enough of the time
to do just as you like.

32. Children should be discouraged from telling   A   a   d   D
their parents about it when they feel family
rules are unreasonable.

33. The child should not question the thinking   A   a   d   D
of his parents.

34. It's quite natural for children to hit one   A   a   d   D
another.

35. Laughing at children's jokes and telling   A   a   d   D
children jokes usually fail to make things
go more smoothly.

36. Children should be kept away from all hard   A   a   d   D
jobs which might be discouraging.

37. It is rarely possible to treat a child as   A   a   d   D
an equal.

38. A good parent will find enough social life   A   a   d   D
within the family.

39. Parents should keep control of their temper   A   a   d   D
even when children are demanding.

40. When you do things together, children feel   A   a   d   D
close to you and can talk easier.

41. Most parents prefer a quiet child to a   A   a   d   D
"scrappy" one.

SECTION II

Fathers Only *

42. A man can't do a father's job and have an   A a d D
    active social life too.

43. Most fathers are content to be with children A a d D
    in their spare time.

44. A good father still has time for activities   A a d D
    outside the job and home.

45. settling down to family life is hard for a   A a d D
    man because it means giving up so many other
    things.

46. It's no wonder men reach the boiling point   A a d D
    when they come home and run immediately
    into family problems.

47. Sometimes it's necessary for a husband to   A a d D
    tell off his wife in order to get his rights.

48. Too many men forget that a father's place is   A a d D
    with his family.

49. A father can be a family man and still have   A a d D
    plenty of time left over to visit with
    neighbors and friends.

50. There are times when a father feels he can't   A a d D
    stand his family a moment longer.

*Mothers go to Section III

Section III

Mothers Only

42. The women who want lots of parties seldom make good mothers.   A a d D

43. Most mothers are content to be with children all the time.   A a d D

44. A good mother should develop interests outside the home.   A a d D

45. One of the worst things about taking care of a home is a woman feels that she can't get out.   A a d D

46. Children will get on any woman's nerves if she has to be with them all day.   A a d D

47. Sometimes it's necessary for a wife to tell off her husband in order to get her rights.   A a d D

48. Too many women forget that a mother's place is in the home.   A a d D

49. A mother can keep a nice home and still have plenty of time left over to visit with neighbors and friends.   A a d D

50. Mothers very often feel that they can't stand their children a moment longer.   A a d D

Appendix D

Description of Instruments: FES

Family Environment Scale

The Family Environment Scale (FES) is a 90 item true-false instrument developed by Rudolf H. Moose (1974)to measure the social environment attributes of the families.

The FES contains ten subscales which are designed to assess three underlying domains: the Relationship dimensions, the Personal Growth dimensions, and the System Maintenance dimensions. The Relationship dimensions are appraised by the Cohesion, Expressiveness, and Conflict subscales. The Personal Growth dimensions are measured by these five subscales: Independence, Achievement Orientation, Intellectual-Cultural Orientation, Active Recreational Orientation, and Moral-Religious Emphasis, and the System Maintenance dimensions include the Organization and Control subscales.

Intercorrelations for each of the subscales were gained separately on samples of 1,468 husband and wives and 621 sons and daughters drawn from 534 normal families. Test-retest reliabilities for individual's scores were calculated for 47 family members in 9 families in an 8-week interval between testing. The test-retest reliabilities were all in an acceptable range, varying from a low of .68 for independence to a high of .86 for cohesion. Also test-retest stabilities were done for a 4-month interval on a sample of 35 families, and for a 12-month interval on a sample of 241 families. Coefficients were relatively high for these time intervals.

The current study utilized four of the ten subscales

assumed to be most closely allied to creativity and those of interest to the investigation. The reduction of scales was necessary to maintain appropriate variable to subject ratings for regression analyses. The four subscales used in this experiment were: Expressiveness, Conflict, Achievement Orientation, and Control.

References

Moos, R. H. (1974). <u>Family</u> <u>environment</u> <u>scale</u> <u>manual</u>.
    (second Ed.), Palo Alto , CA: Consulting Psychologists
    Press.

Family Environment Scale

There are 36 statements in this booklet. They are statements about families. You are to decide which of these statements are true of your family and which are false. If you think the statement is True or mostly True of your family, circle around the letter T (true). If you think the statement is False or mostly False of your family, circle around the letter F (false).

You may feel that some of the statements are true for some family members and false for others. Circle T if the statement is true for most members. Circle F if the statement is false for most members. If the members are evenly divided, decide what is the stronger overall impression and answer accordingly.

Remember, we would like to know what your family seems like to you. So do not try to figure out how other members see your family, but do give us your general impression of your family for each statement.

---

1. Family members often keep their feelings to themselves.   T   F

2. We fight a lot in our family.   T   F

3. We feel it is important to be the best at whatever you do.   T   F

4. Family members are rarely ordered around.   T   F

5. We say anything we want to around home.   T   F

6. Family members rarely become openly angry.   T   F

7. Getting ahead in life is very important in our family.   T   F

8. There are very few rules to follow in our family.   T   F

9. It's hard to "blow off steam" at home without upsetting somebody.   T   F

10. Family members sometimes get so angry they throw things.   T   F

11. How much money a person makes is not very important to us.   T   F

12. There is one family member who makes most of the decisions.   T   F

13. We tell each other about our personal problems. T   F

14. Family members hardly ever lose their tempers. T   F

15. We believe in competition and "may the best   T   F
    man win."

16. There are set ways of doing things at home.   T   F

17. If we feel like doing something on the spur   T   F
    of the moment we often just pick up and go.

18. Family members often criticize each other.   T   F

19. We always strive to do things just a little   T   F
    better the next time.

20. There is a strong emphasis on following rules   T   F
    in our family.

21. Someone usually gets upset if you complain in   T   F
    our family.

22. Family members sometimes hit each other.   T   F

23. Family members rarely worry about job   T   F
    promotions, school grades, etc.

24. Everyone has an equal say in family decisions. T   F

25. Money and paying bills is openly talked about   T   F
    in our family.

26. If there's disagreement in our family, we   T   F
    try hard to smooth things over and keep the
    peace.

27. In our family, we don't try that hard to   T   F
    succeed.

28. We can do whatever we want to in our family.   T   F

29. We are usually careful about what we say to   T   F
    each other.

30. Family members often try to one-up or out-do   T   F
    each other.

31. "Work before play" is the rule in our family.   T   F

32. Rules are pretty inflexible in our household.   T   F

33. There are a lot of spontaneous discussions   T   F

in our family.

34. In our family, we believe you don't ever get   T   F
anywhere by raising your voice.

35. Family members are often compared with others   T   F
as to how well they are doing at work or school.

36. You can't get away with much in our family.   T   F

Appendix E

<u>Description</u> <u>of</u> <u>Instruments:</u>

<u>Make-believe</u> <u>play</u>

Make-Believe Play

The Make-believe play is a 7 item instrument developed
by the researcher to measure the amount of time children
spend on pretend play. The questions are adaptations of two
questions related to symbolic play from Lieberman's
playfulness scale (1977). Scoring of the Make-believe play
was accomplished by simply adding the scores on each item of
the questionnaire.

The interrater reliability of this new instrument was
determined by having two teachers in each lab fill the
questionnaires for each child. The data suggests that extreme
cautioun should be exercised in interpreting the Make-Believe
play scores due to low interrater reliability. See results
section at manuscript.

References

Lieberman, J. N. (1977). _Playfulness, its relation to imagination and creativity_. New York: Academic Press.

Teacher's Name:_____

Child's Name:_____

Make-Believe Play Questionnaire

Teacher's Number:_____   Child's Number:_____

    As a teacher you know that children differ in many ways-some are shy, some are friendly, some grab what they want, others ask, or wait.
    In this study we are interested in finding out which children engage in make-believe play more often than others.
    Attached you will find a rating measure made up of five scales that refer directly to a child' behavior during play. We hope you will find it possible and worthwhile to look at the children in your group along the traits suggested in the rating scales and give us your evaluation of them.

Rating Scales

1. How familiar do you feel you are with the child's play?

very familiar	somewhat familiar	unfamiliar
3	2	1

2. How often does the child show spontaneity during expressive and dramatic play?
Instances of such behavior would be spontaneously labeling the play products in clay, sand, or paints and/or changing them as a result of, for example, a personal whim, an accidental shape, or a suggestion from the peer group; similarly, in dramatic play, a labeling of play roles as the group structure develops and changes, for example, extending or shrinking a "family" as playmates come or go.

very often	often	occasionally	rarely	very rarely	no opportunity to observe
5	4	3	2	1	0

Comments or examples:

3. What degree of imagination does the child show in his/her expressive dramatic play?
Instances of imagination would be labeling and using inanimate or animate objects for other than the accepted usage, as well as incorporating nonexistent objects into the play situation.

very high	high	moderate	some	very low	no opportunity to observe
5	4	3	2	1	0

Comments or examples:

4. How often does the child use object transformation? For example, pretending that a block of wood is a drinking cup, or using verbal declarations to create imaginary objects e.g. staring at one's empty hand and declaring, my glass is empty.

very often	often	occasionally	rarely	very rarely	no opportunity to observe
5	4	3	2	1	0

Comments or examples:

5. How often does the child use abbreviated actions as substitutes for real actions, or verbal statements are used to create an imaginary action?
For example, pretending to be hammering by moving one's hand up and down or saying "I'm hammering the nails in."

very often	often	occasionally	rarely	very rarely	no opportunity to observe
5	4	3	2	1	0

Comments or examples:

6. How often does the child create imaginary situations through verbal declarations. For example, stating "let's pretend that we're on a jet plane," or "I'm flying in the air."

very often	often	occasionally	rarely	very rarely	no opportunity to observe
5	4	3	2	1	0

Comments or examples:

7.   How often does the child use pretend communication while engaged in dramatic play. For example, pretending to be the mother and telling the others, "you've been naughty children".

very often	often	occasionally	rarely	very rarely	no opportunity to observe
5	4	3	2	1	0

Comments or examples:

8.   How confident do you feel you are in overall ratings?

very confident	somewhat confident	notconfident
3	2	1

Other comments:

Following this procedure please rank all of the children, on make-believe play (from highest to lowest) using the definitions developed in the previous questions. Please feel free to adjust previous ratings, if appropriate, and note ties in ranking when appropriate. Place child's number next to rank.

1._____

2._____

3._____

4._____

5._____

6._____

7._____

8._____

9._____

10._____

11._____

12._____

13._____

14._____

15._____

16._____

17._____

18._____

How confident do you feel you are in the rankings?

very confident	somewhat confident	notconfident
3	2	1

Appendix F

Variable Code Labels

Variable Code Labels

CHNUM   child's number

LT1   lead teacher, question 1

CT1   co teacher, question 1

LT2   lead teacher, question 2

CT2   co teacher, question 2

LT3   lead teacher, question 3

CT3   co teacher, question 3

LT4   lead teacher, question 4

CT4   co teacher, question 4

LT5   lead teacher, question 5

CT5   co teacher, question 5

LT6   lead teacher, question 6

CT6   co teacher, question 6

SUMLT   sum of all the LT questions

SUMLT1   SUMLT minus LT1

SUMLT2   SUMLT minus LT2

SUMLT3   SUMLT minus LT3

SUMLT4   SUMLT minus LT4

SUMLT5   SUMLT minus LT5

SUMLT6   SUMLT minus LT6

SUMCT   sum of all the CT questions

CODE LABELS FOR PEARSON CORRELATION MATRIX

PARIAUT   authority scale for PARI

PARIHOST   hostility scale for PARI

PARIDEM   democratic scale for PARI

MKBELVE   make-believe

```
MSFMINSO   MSFM's instances original

MSFMINSP   MSFM's instanecs popular

MSFMUSEO   MSFM's uses task original

MSFMUSEP   MSFM's uses task popular

MSFMPATO   MSFM's patterns task original

MSFMPATP   MSFM's patterns task popular

MSFMTO     MSFM's total original

MSFMTP     MSFM's total popular

FESEX      FES expressiveness scale

FESCON     FES conflict scale

FESAO      FES achievement orientation scale

FESCTL     FES control scale
```

APPENDIX G

Raw Data

		CHNUM	GEN	AGE	PARIAUT	PARIHOST
		PARIDEM	MKBELVE	MSFMINSO	MSFMINSP	MSFMUSEO
		MSFMUSEP	MSFMPATO	MSFMPATP	MSFMTO	MSFMTF
		FESEX	FESCON	FESAO	FESCTL	
CASE	1	302.000	1.000	64.000	-23.000	6.000
CASE	1	21.000	15.000	22.000	7.000	1.000
CASE	1	3.000	8.000	4.000	31.000	14.000
CASE	1	47.000	38.000	41.000	43.000	
CASE	2	303.000	1.000	68.000	-12.650	0.700
CASE	2	10.000	18.000	39.000	17.000	3.000
CASE	2	6.000	24.000	6.000	66.000	29.000
CASE	2	41.000	54.000	22.000	48.000	
CASE	3	304.000	1.000	66.000	-17.000	2.000
CASE	3	16.000	17.000	21.000	12.000	0.000
CASE	3	6.000	15.000	9.000	36.000	27.000
CASE	3	54.000	48.000	41.000	65.000	
CASE	4	306.000	1.000	61.000	-20.000	4.000
CASE	4	23.000	21.000	10.000	4.000	4.000
CASE	4	4.000	6.000	6.000	20.000	14.000
CASE	4	54.000	54.000	53.000	59.000	
CASE	5	307.000	1.000	59.000	-22.000	1.000
CASE	5	22.000	12.000	9.000	7.000	7.000
CASE	5	3.000	13.000	8.000	29.000	18.000
CASE	5	54.000	32.000	47.000	54.000	
CASE	6	308.000	1.000	67.000	-44.000	14.000
CASE	6	24.000	18.000	8.000	3.000	2.000
CASE	6	5.000	9.000	8.000	19.000	16.000
CASE	6	41.000	48.000	60.000	59.000	
CASE	7	309.000	1.000	66.000	-3.000	6.000
CASE	7	11.000	16.000	6.000	8.000	1.000
CASE	7	5.000	0.000	4.000	7.000	17.000
CASE	7	47.000	48.000	28.000	54.000	
CASE	8	310.000	2.000	66.000	-17.000	4.000
CASE	8	13.000	18.000	23.000	7.000	1.000
CASE	8	5.000	11.000	5.000	35.000	17.000
CASE	8	60.000	48.000	41.000	48.000	
CASE	9	311.000	2.000	57.000	-11.000	13.000
CASE	9	19.000	17.000	9.000	3.000	0.000
CASE	9	5.000	1.000	7.000	10.000	15.000
CASE	9	41.000	32.000	41.000	37.000	
CASE	10	312.000	2.000	60.000	-23.000	-5.000
CASE	10	20.000	28.000	16.000	12.000	3.000
CASE	10	5.000	12.000	6.000	31.000	23.000
CASE	10	54.000	38.000	66.000	48.000	
CASE	11	315.000	2.000	57.000	5.000	9.000
CASE	11	16.000	18.000	11.000	9.000	4.000
CASE	11	8.000	5.000	7.000	20.000	24.000
CASE	11	60.000	59.000	66.000	32.000	
CASE	12	317.000	2.000	63.000	-34.000	6.000
CASE	12	23.000	23.000	7.000	8.000	1.000
CASE	12	5.000	12.000	6.000	20.000	19.000
CASE	12	54.000	48.000	16.000	59.000	
CASE	13	401.000	1.000	55.000	8.000	-6.000
CASE	13	14.000	20.000	2.000	1.000	4.000
CASE	13	3.000	8.000	3.000	14.000	7.000
CASE	13	47.000	32.000	53.000	54.000	
CASE	14	402.000	1.000	46.000	-12.000	5.000
CASE	14	16.000	20.000	4.000	4.000	1.000
CASE	14	3.000	7.000	4.000	12.000	11.000
CASE	14	47.000	38.000	41.000	48.000	
CASE	15	403.000	1.000	46.000	-24.000	7.000

CASE	15	20.000	18.000	6.000	5.000	3.000
CASE	15	1.000	5.000	1.000	14.000	7.000
CASE	15	66.000	48.000	28.000	43.000	
CASE	16	405.000	1.000	53.000	-13.000	-5.000
CASE	16	16.000	24.000	1.000	4.000	0.000
CASE	16	5.000	16.000	6.000	17.000	15.000
CASE	16	41.000	54.000	28.000	32.000	
CASE	17	406.000	1.000	55.000	-15.000	10.000
CASE	17	23.710	21.000	3.000	2.000	0.000
CASE	17	3.000	1.000	4.000	4.000	9.000
CASE	17	47.000	43.000	35.000	32.000	
CASE	18	407.000	1.000	55.000	-8.000	-5.000
CASE	18	17.000	22.000	5.000	6.000	3.000
CASE	18	3.000	6.000	5.000	14.000	15.000
CASE	18	47.000	48.000	60.000	48.000	
CASE	19	408.000	1.000	50.000	-16.000	-1.000
CASE	19	11.000	24.000	6.000	1.000	2.000
CASE	19	1.000	4.000	5.000	12.000	7.000
CASE	19	41.000	43.000	47.000	43.000	
CASE	20	409.000	1.000	55.000	-32.520	9.000
CASE	20	12.000	23.000	39.000	16.000	1.000
CASE	20	3.000	30.000	9.000	70.000	28.000
CASE	20	32.000	43.000	47.000	54.000	
CASE	21	410.000	2.000	51.000	-16.000	4.000
CASE	21	14.000	25.000	12.000	8.000	1.000
CASE	21	2.000	7.000	1.000	20.000	11.000
CASE	21	47.000	43.000	47.000	59.000	
CASE	22	411.000	2.000	55.000	-21.000	10.000
CASE	22	16.000	17.000	0.000	4.000	2.000
CASE	22	3.000	5.000	4.000	7.000	11.000
CASE	22	54.000	59.000	53.000	59.000	
CASE	23	413.000	2.000	55.000	-24.000	-13.000
CASE	23	16.000	12.000	6.000	4.000	0.000
CASE	23	3.000	5.000	1.000	11.000	8.000
CASE	23	41.000	43.000	53.000	43.000	
CASE	24	414.000	2.000	50.000	-23.000	-4.000
CASE	24	24.710	27.000	3.000	1.000	5.000
CASE	24	3.000	7.000	4.000	15.000	8.000
CASE	24	54.000	32.000	47.000	37.000	
CASE	25	415.000	2.000	55.000	-21.000	2.000
CASE	25	19.000	21.000	2.000	2.000	3.000
CASE	25	1.000	6.000	4.000	11.000	7.000
CASE	25	54.000	43.000	41.000	43.000	
CASE	26	417.000	2.000	50.000	-20.770	15.250
CASE	26	14.860	24.000	4.000	3.000	0.000
CASE	26	2.000	2.000	2.000	6.000	7.000
CASE	26	41.000	43.000	22.000	43.000	
CASE	27	109.000	1.000	47.000	-18.000	9.000
CASE	27	17.140	6.000	12.000	5.000	2.000
CASE	27	2.000	3.000	3.000	17.000	10.000
CASE	27	60.000	59.000	47.000	48.000	

| | | CHNUM | LT1 | CT1 | LT2 | CT2 |
| | | L13 | CT3 | LT4 | CT4 | LT5 |
		C15	L16	CT6		
CASE	1	301.000	2.000	2.000	2.000	1.000
CASE	1	3.000	1.000	3.000	1.000	3.000
CASE	1	1.000	2.000	1.000		
CASE	2	302.000	3.000	3.000	2.000	3.000
CASE	2	3.000	4.000	2.000	4.000	3.000
CASE	2	3.000	2.000	3.000		
CASE	3	303.000	4.000	3.000	3.000	3.000
CASE	3	3.000	3.000	3.000	3.000	3.000
CASE	3	3.000	2.000	3.000		
CASE	4	304.000	3.000	4.000	3.000	4.000
CASE	4	3.000	4.000	3.000	4.000	3.000
CASE	4	4.000	2.000	4.000		
CASE	5	306.000	4.000	3.000	3.000	3.000
CASE	5	4.000	3.000	3.000	3.000	4.000
CASE	5	3.000	3.000	3.000		
CASE	6	307.000	2.000	3.000	2.000	3.000
CASE	6	2.000	2.000	2.000	2.000	3.000
CASE	6	2.000	1.000	2.000		
CASE	7	308.000	3.000	4.000	3.000	4.000
CASE	7	3.000	4.000	3.000	4.000	3.000
CASE	7	4.000	3.000	4.000		
CASE	8	309.000	2.000	3.000	2.000	3.000
CASE	8	3.000	2.000	3.000	2.000	3.000
CASE	8	2.000	3.000	2.000		
CASE	9	310.000	3.000	4.000	3.000	4.000
CASE	9	3.000	4.000	3.000	4.000	3.000
CASE	9	4.000	3.000	4.000		
CASE	10	311.000	3.000	3.000	2.000	3.000
CASE	10	3.000	3.000	3.000	3.000	3.000
CASE	10	3.000	3.000	3.000		
CASE	11	312.000	4.000	4.000	4.000	4.000
CASE	11	5.000	4.000	5.000	4.000	5.000
CASE	11	4.000	5.000	4.000		
CASE	12	313.000	3.000	3.000	2.000	3.000
CASE	12	3.000	3.000	3.000	3.000	3.000
CASE	12	3.000	3.000	3.000		
CASE	13	315.000	3.000	3.000	4.000	3.000
CASE	13	4.000	3.000	4.000	3.000	4.000
CASE	13	3.000	3.000	3.000		
CASE	14	316.000	4.000	3.000	3.000	3.000
CASE	14	4.000	3.000	3.000	3.000	4.000
CASE	14	3.000	3.000	3.000		
CASE	15	317.000	4.000	4.000	4.000	4.000
CASE	15	4.000	3.000	4.000	3.000	4.000
CASE	15	3.000	3.000	3.000		
CASE	16	318.000	2.000	2.000	2.000	2.000
CASE	16	2.000	2.000	2.000	2.000	2.000
CASE	16	2.000	1.000	2.000		
CASE	17	319.000	4.000	3.000	3.000	3.000
CASE	17	4.000	3.000	3.000	3.000	4.000
CASE	17	3.000	4.000	3.000		
CASE	18	113.000	2.000	3.000	2.000	3.000
CASE	18	2.000	3.000	2.000	3.000	3.000
CASE	18	3.000	2.000	3.000		

		CHNUM	LT1	CT1	LT2	CT2
		LT3	CT3	LT4	CT4	LT5
		CT5	LT6	CT6	SUMLT	SUMLT1
		SUMLT2	SUMLT3	SUMLT4	SUMLT5	SUMLT6
		SUMCT				
CASE	1	301.000	2.000	2.000	2.000	1.000
CASE	1	3.000	1.000	3.000	1.000	3.000
CASE	1	1.000	2.000	1.000	15.000	13.000
CASE	1	13.000	12.000	12.000	12.000	13.000
CASE	1	7.000				
CASE	2	302.000	3.000	3.000	2.000	3.000
CASE	2	3.000	4.000	2.000	4.000	3.000
CASE	2	3.000	2.000	3.000	15.000	12.000
CASE	2	13.000	12.000	13.000	12.000	13.000
CASE	2	20.000				
CASE	3	303.000	4.000	3.000	3.000	3.000
CASE	3	3.000	3.000	3.000	3.000	3.000
CASE	3	3.000	2.000	3.000	18.000	14.000
CASE	3	15.000	15.000	15.000	15.000	16.000
CASE	3	18.000				
CASE	4	304.000	3.000	4.000	3.000	4.000
CASE	4	3.000	4.000	3.000	4.000	3.000
CASE	4	4.000	2.000	4.000	17.000	14.000
CASE	4	14.000	14.000	14.000	14.000	15.000
CASE	4	24.000				
CASE	5	306.000	4.000	3.000	3.000	3.000
CASE	5	4.000	3.000	3.000	3.000	4.000
CASE	5	3.000	3.000	3.000	21.000	17.000
CASE	5	18.000	17.000	18.000	17.000	18.000
CASE	5	18.000				
CASE	6	307.000	2.000	3.000	2.000	3.000
CASE	6	2.000	2.000	2.000	2.000	3.000
CASE	6	2.000	1.000	2.000	12.000	10.000
CASE	6	10.000	10.000	10.000	9.000	11.000
CASE	6	14.000				
CASE	7	308.000	3.000	4.000	3.000	4.000
CASE	7	3.000	4.000	3.000	4.000	3.000
CASE	7	4.000	3.000	4.000	18.000	15.000
CASE	7	15.000	15.000	15.000	15.000	15.000
CASE	7	24.000				
CASE	8	309.000	2.000	3.000	2.000	3.000
CASE	8	3.000	2.000	3.000	2.000	3.000
CASE	8	2.000	3.000	2.000	16.000	14.000
CASE	8	14.000	13.000	13.000	13.000	13.000
CASE	8	14.000				
CASE	9	310.000	3.000	4.000	3.000	4.000
CASE	9	3.000	4.000	3.000.	4.000	3.000
CASE	9	4.000	3.000	4.000	18.000	15.000
CASE	9	15.000	15.000	15.000	15.000	15.000
CASE	9	24.000				
CASE	10	311.000	3.000	3.000	2.000	3.000
CASE	10	3.000	3.000	3.000	3.000	3.000
CASE	10	3.000	3.000	3.000	17.000	14.000
CASE	10	15.000	14.000	14.000	14.000	14.000
CASE	10	18.000				

CASE	11	312.000	4.000	4.000	4.000	4.000
CASE	11	5.000	4.000	5.000	4.000	5.000
CASE	11	4.000	5.000	4.000	28.000	24.000
CASE	11	24.000	23.000	23.000	23.000	23.000
CASE	12	313.000	3.000	3.000	2.000	3.000
CASE	12	3.000	3.000	3.000	3.000	3.000
CASE	12	3.000	3.000	3.000	17.000	14.000
CASE	12	15.000	14.000	14.000	14.000	14.000
CASE	13	315.000	3.000	3.000	4.000	3.000
CASE	13	4.000	3.000	4.000	3.000	4.000
CASE	13	3.000	3.000	3.000	22.000	19.000
CASE	13	18.000	18.000	18.000	18.000	19.000
CASE	14	316.000	4.000	3.000	3.000	3.000
CASE	14	4.000	3.000	3.000	3.000	4.000
CASE	14	3.000	3.000	3.000	21.000	17.000
CASE	14	18.000	17.000	18.000	17.000	18.000
CASE	15	317.000	4.000	4.000	4.000	4.000
CASE	15	4.000	3.000	4.000	3.000	4.000
CASE	15	3.000	3.000	3.000	23.000	19.000
CASE	15	19.000	19.000	19.000	19.000	20.000
CASE	16	318.000	2.000	2.000	2.000	2.000
CASE	16	2.000	2.000	2.000	2.000	2.000
CASE	16	2.000	1.000	2.000	11.000	9.000
CASE	16	9.000	9.000	9.000	9.000	0.000
CASE	17	319.000	4.000	3.000	3.000	3.000
CASE	17	4.000	3.000	3.000	3.000	4.000
CASE	17	3.000	4.000	3.000	22.000	18.000
CASE	17	19.000	18.000	19.000	18.000	18.000
CASE	18	113.000	2.000	3.000	2.000	3.000
CASE	18	2.000	3.000	2.000	3.000	3.000
CASE	18	3.000	2.000	3.000	13.000	11.000
CASE	18	11.000	11.000	11.000	10.000	11.000

		CHNUM	LT1	CT1	L12	C12
		LT3	CT3	LT4	CT4	LT5
		C15	L16	C16	SUMLT	SUMLT1
		SUMLT2	SUMLT3	SUMLT4	SUMLT5	SUMLT6
CASE	1	301.000	2.000	2.000	2.000	1.000
CASE	1	3.000	1.000	3.000	1.000	3.000
CASE	1	1.000	2.000	1.000	15.000	13.000
CASE	1	13.000	12.000	12.000	12.000	13.000
CASE	2	302.000	3.000	3.000	2.000	3.000
CASE	2	3.000	4.000	2.000	4.000	3.000
CASE	2	3.000	2.000	3.000	15.000	12.000
CASE	2	13.000	12.000	13.000	12.000	13.000
CASE	3	303.000	4.000	3.000	3.000	3.000
CASE	3	3.000	3.000	3.000	3.000	3.000
CASE	3	3.000	2.000	3.000	18.000	14.000
CASE	3	15.000	15.000	15.000	15.000	16.000
CASE	4	304.000	3.000	4.000	3.000	4.000
CASE	4	3.000	4.000	3.000	4.000	3.000
CASE	4	4.000	2.000	4.000	17.000	14.000
CASE	4	14.000	14.000	14.000	14.000	15.000
CASE	5	306.000	4.000	3.000	3.000	3.000
CASE	5	4.000	3.000	3.000	3.000	4.000
CASE	5	3.000	3.000	3.000	21.000	17.000
CASE	5	18.000	17.000	18.000	17.000	18.000
CASE	6	307.000	2.000	3.000	2.000	3.000
CASE	6	2.000	2.000	2.000	2.000	3.000
CASE	6	2.000	1.000	2.000	12.000	10.000
CASE	6	10.000	10.000	10.000	9.000	11.000
CASE	7	308.000	3.000	4.000	3.000	4.000
CASE	7	3.000	4.000	3.000	4.000	3.000
CASE	7	4.000	3.000	4.000	18.000	15.000
CASE	7	15.000	15.000	15.000	15.000	15.000
CASE	8	309.000	2.000	3.000	2.000	3.000
CASE	8	3.000	2.000	3.000	2.000	3.000
CASE	8	2.000	3.000	2.000	16.000	14.000
CASE	8	14.000	13.000	13.000	13.000	13.000
CASE	9	310.000	3.000	4.000	3.000	4.000
CASE	9	3.000	4.000	3.000	4.000	3.000
CASE	9	4.000	3.000	4.000	18.000	15.000
CASE	9	15.000	15.000	15.000	15.000	15.000
CASE	10	311.000	3.000	3.000	2.000	3.000
CASE	10	3.000	3.000	3.000	3.000	3.000
CASE	10	3.000	3.000	3.000	17.000	14.000
CASE	10	15.000	14.000	14.000	14.000	14.000

CASE	11	312.000	4.000	4.000	4.000	4.000
CASE	11	5.000	4.000	5.000	4.000	5.000
CASE	11	4.000	5.000	4.000	28.000	24.000
CASE	11	24.000	23.000	23.000	23.000	23.000
CASE	11	24.000				
CASE	12	313.000	3.000	3.000	2.000	3.000
CASE	12	3.000	3.000	3.000	3.000	3.000
CASE	12	3.000	3.000	3.000	17.000	14.000
CASE	12	15.000	14.000	14.000	14.000	14.000
CASE	12	18.000				
CASE	13	315.000	3.000	3.000	4.000	3.000
CASE	13	4.000	3.000	4.000	3.000	4.000
CASE	13	3.000	3.000	3.000	22.000	19.000
CASE	13	18.000	18.000	18.000	18.000	19.000
CASE	13	18.000				
CASE	14	316.000	4.000	3.000	3.000	3.000
CASE	14	4.000	3.000	3.000	3.000	4.000
CASE	14	3.000	3.000	3.000	21.000	17.000
CASE	14	18.000	17.000	18.000	17.000	18.000
CASE	14	18.000				
CASE	15	317.000	4.000	4.000	4.000	4.000
CASE	15	4.000	3.000	4.000	3.000	4.000
CASE	15	3.000	3.000	3.000	23.000	19.000
CASE	15	19.000	19.000	19.000	19.000	20.000
CASE	15	20.000				
CASE	16	318.000	2.000	2.000	2.000	2.000
CASE	16	2.000	2.000	2.000	2.000	2.000
CASE	16	2.000	1.000	2.000	11.000	9.000
CASE	16	9.000	9.000	9.000	9.000	10.000
CASE	16	12.000				
CASE	17	319.000	4.000	3.000	3.000	3.000
CASE	17	4.000	3.000	3.000	3.000	4.000
CASE	17	3.000	4.000	3.000	22.000	18.000
CASE	17	19.000	18.000	19.000	18.000	18.000
CASE	17	18.000				
CASE	18	113.000	2.000	3.000	2.000	3.000
CASE	18	2.000	3.000	2.000	3.000	3.000
CASE	18	3.000	2.000	3.000	13.000	11.000
CASE	18	11.000	11.000	11.000	10.000	11.000
CASE	18	18.000				

		CANON	LT1	CT1	LT2	CT2
		LT3	CT3	LT4	CT4	LT5
		CT5	LT6	CT6		
CASE	1	401.000	3.000	3.000	2.000	3.000
CASE	1	3.000	3.000	3.000	3.000	5.000
CASE	1	3.000	4.000	2.000		
CASE	2	402.000	3.000	4.000	3.000	4.000
CASE	2	3.000	4.000	3.000	4.000	4.000
CASE	2	4.000	4.000	4.000		
CASE	3	403.000	3.000	3.000	3.000	3.000
CASE	3	3.000	4.000	3.000	3.000	3.000
CASE	3	4.000	3.000	4.000		
CASE	4	404.000	3.000	3.000	3.000	2.000
CASE	4	3.000	3.000	3.000	3.000	4.000
CASE	4	3.000	3.000	3.000		
CASE	5	405.000	4.000	4.000	4.000	4.000
CASE	5	3.000	5.000	4.000	5.000	5.000
CASE	5	5.000	4.000	4.000		
CASE	6	406.000	4.000	3.000	3.000	3.000
CASE	6	3.000	3.000	3.000	3.000	4.000
CASE	6	2.000	4.000	3.000		
CASE	7	407.000	3.000	2.000	3.000	2.000
CASE	7	3.000	2.000	4.000	2.000	4.000
CASE	7	3.000	5.000	2.000		
CASE	8	408.000	4.000	5.000	4.000	4.000
CASE	8	3.000	4.000	3.000	4.000	5.000
CASE	8	5.000	5.000	4.000		
CASE	9	409.000	4.000	3.000	4.000	3.000
CASE	9	3.000	3.000	3.000	2.000	5.000
CASE	9	3.000	4.000	3.000		
CASE	10	410.000	4.000	4.000	4.000	4.000
CASE	10	4.000	3.000	3.000	3.000	5.000
CASE	10	3.000	5.000	3.000		
CASE	11	411.000	3.000	2.000	3.000	2.000
CASE	11	3.000	3.000	3.000	2.000	3.000
CASE	11	2.000	2.000	2.000		
CASE	12	413.000	2.000	2.000	1.000	3.000
CASE	12	2.000	2.000	2.000	2.000	2.000
CASE	12	3.000	3.000	2.000		
CASE	13	414.000	4.000	4.000	4.000	4.000
CASE	13	5.000	4.000	4.000	4.000	5.000
CASE	13	4.000	5.000	4.000		
CASE	14	415.000	3.000	4.000	4.000	3.000
CASE	14	3.000	4.000	3.000	3.000	3.000
CASE	14	3.000	5.000	4.000		
CASE	15	416.000	4.000	4.000	5.000	4.000
CASE	15	5.000	4.000	5.000	4.000	5.000
CASE	15	4.000	5.000	4.000		
CASE	16	417.000	4.000	3.000	4.000	3.000
CASE	16	4.000	3.000	3.000	3.000	5.000
CASE	16	3.000	4.000	3.000		
CASE	17	418.000	4.000	3.000	5.000	2.000
CASE	17	5.000	3.000	5.000	2.000	5.000
CASE	17	2.000	5.000	3.000		
CASE	18	109.000	1.000	3.000	1.000	1.000
CASE	18	1.000	2.000	1.000	2.000	1.000
CASE	18	2.000	1.000	2.000		

		CHNUM	GEN	AGE	PARIAUT	PARIHOST
		PARIDEM	MKBELVE	MSFMINSO	MSFMINSP	MSFMUSEO
		MSFMUSEP	MSFMFATO	MSFMPATP	MSFMTO	MSFMTP
		FESEX	FESCON	FESAO	FESCTL	
CASE	1	302.000	1.000	64.000	-23.000	6.000
CASE	1	21.000	15.000	22.000	7.000	12.000
CASE	1	13.000	8.000	4.000	42.000	24.000
CASE	1	47.000	38.000	41.000	43.000	
CASE	2	303.000	1.000	68.000	-12.650	0.700
CASE	2	10.000	18.000	39.000	17.000	14.000
CASE	2	3.000	24.000	6.000	77.000	26.000
CASE	2	41.000	54.000	22.000	48.000	
CASE	3	304.000	1.000	66.000	-17.000	2.000
CASE	3	16.000	17.000	21.000	12.000	9.000
CASE	3	4.000	15.000	9.000	45.000	25.000
CASE	3	54.000	48.000	41.000	65.000	
CASE	4	306.000	1.000	61.000	-20.000	4.000
CASE	4	23.000	21.000	10.000	4.000	12.000
CASE	4	3.000	6.000	6.000	28.000	13.000
CASE	4	54.000	54.000	53.000	59.000	
CASE	5	307.000	1.000	59.000	-22.000	1.000
CASE	5	22.000	12.000	9.000	7.000	17.000
CASE	5	0.000	13.000	8.000	39.000	15.000
CASE	5	54.000	32.000	47.000	54.000	
CASE	6	308.000	1.000	67.000	-44.000	14.000
CASE	6	24.000	18.000	8.000	3.000	13.000
CASE	6	1.000	9.000	8.000	31.000	12.000
CASE	6	41.000	48.000	60.000	59.000	
CASE	7	309.000	1.000	66.000	-3.000	6.000
CASE	7	11.000	16.000	6.000	8.000	2.000
CASE	7	5.000	0.000	4.000	8.000	17.000
CASE	7	47.000	48.000	28.000	54.000	
CASE	8	310.000	2.000	66.000	-17.000	4.000
CASE	8	13.000	18.000	23.000	7.000	3.000
CASE	8	4.000	11.000	5.000	37.000	16.000
CASE	8	60.000	48.000	41.000	48.000	
CASE	9	311.000	2.000	57.000	-11.000	13.000
CASE	9	19.000	17.000	9.000	3.000	15.000
CASE	9	2.000	1.000	7.000	25.000	12.000
CASE	9	41.000	32.000	41.000	37.000	
CASE	10	312.000	2.000	60.000	-23.000	-5.000
CASE	10	20.000	28.000	16.000	12.000	6.000
CASE	10	5.000	12.000	6.000	33.000	23.000
CASE	10	54.000	38.000	66.000	48.000	
CASE	11	315.000	2.000	57.000	5.000	9.000
CASE	11	16.000	18.000	11.000	9.000	26.000
CASE	11	5.000	5.000	7.000	42.000	21.000
CASE	11	60.000	59.000	66.000	32.000	
CASE	12	317.000	2.000	63.000	-34.000	6.000
CASE	12	23.000	23.000	7.000	8.000	5.000
CASE	12	4.000	12.000	6.000	24.000	18.000
CASE	12	54.000	48.000	16.000	59.000	
CASE	13	401.000	1.000	55.000	8.000	-6.000
CASE	13	14.000	20.000	2.000	1.000	4.000
CASE	13	3.000	8.000	3.000	14.000	7.000
CASE	13	47.000	32.000	53.000	54.000	
CASE	14	402.000	1.000	46.000	-12.000	5.000
CASE	14	16.000	20.000	4.000	4.000	1.000
CASE	14	2.000	7.000	4.000	12.000	10.000
CASE	14	47.000	38.000	41.000	48.000	

CASE	15	403.000	1.000	46.000	-24.000	7.000
CASE	15	20.000	18.000	6.000	5.000	3.000
CASE	15	0.000	5.000	1.000	14.000	6.000
CASE	15	66.000	48.000	28.000	43.000	
CASE	16	405.000	1.000	53.000	-13.000	-5.000
CASE	16	16.000	24.000	1.000	4.000	2.000
CASE	16	3.000	16.000	6.000	19.000	13.000
CASE	16	41.000	54.000	28.000	32.000	
CASE	17	406.000	1.000	55.000	-15.000	10.000
CASE	17	23.710	21.000	3.000	2.000	1.000
CASE	17	2.000	1.000	4.000	5.000	8.000
CASE	17	47.000	43.000	35.000	32.000	
CASE	18	407.000	1.000	55.000	-8.000	-5.000
CASE	18	17.000	22.000	5.000	6.000	3.000
CASE	18	2.000	6.000	6.000	14.000	14.000
CASE	18	47.000	48.000	60.000	48.000	
CASE	19	408.000	1.000	50.000	-16.000	-1.000
CASE	19	11.000	24.000	6.000	1.000	2.000
CASE	19	1.000	4.000	5.000	12.000	7.000
CASE	19	41.000	43.000	47.000	43.000	
CASE	20	409.000	1.000	55.000	-32.520	9.000
CASE	20	12.000	23.000	39.000	16.000	1.000
CASE	20	3.000	30.000	9.000	70.000	28.000
CASE	20	32.000	43.000	47.000	54.000	
CASE	21	410.000	2.000	51.000	-16.000	4.000
CASE	21	14.000	25.000	12.000	8.000	1.000
CASE	21	2.000	7.000	1.000	20.000	11.000
CASE	21	47.000	43.000	47.000	59.000	
CASE	22	411.000	2.000	55.000	-21.000	10.000
CASE	22	16.000	17.000	0.000	4.000	1.000
CASE	22	3.000	5.000	4.000	6.000	11.000
CASE	22	54.000	59.000	53.000	59.000	
CASE	23	413.000	2.000	55.000	-24.000	-13.000
CASE	23	16.000	12.000	6.000	4.000	0.000
CASE	23	3.000	5.000	1.000	11.000	8.000
CASE	23	41.000	43.000	53.000	43.000	
CASE	24	414.000	2.000	50.000	-23.000	-4.000
CASE	24	24.710	27.000	3.000	1.000	5.000
CASE	24	3.000	7.000	4.000	15.000	8.000
CASE	24	54.000	32.000	47.000	37.000	
CASE	25	415.000	2.000	55.000	-21.000	2.000
CASE	25	19.000	21.000	2.000	2.000	3.000
CASE	25	1.000	6.000	4.000	11.000	7.000
CASE	25	54.000	43.000	41.000	43.000	
CASE	26	417.000	2.000	50.000	-20.770	15.250
CASE	26	14.860	24.000	4.000	3.000	0.000
CASE	26	2.000	2.000	2.000	6.000	7.000
CASE	26	41.000	43.000	22.000	43.000	
CASE	27	109.000	1.000	47.000	-18.000	9.000
CASE	27	17.140	6.000	12.000	5.000	2.000
CASE	27	2.000	3.000	3.000	17.000	10.000
CASE	27	60.000	59.000	47.000	48.000	

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Statistical Analyses

PEARSON CORRELATION MATRIX

	LT1	CT1	LT2	CT2	LT3
LT1	1.000				
CT1	0.454	1.000			
LT2	0.710	0.612	1.000		
CT2	0.473	0.962	0.573	1.000	
LT3	0.796	0.392	0.785	0.341	1.000
CT3	0.524	0.793	0.466	0.831	0.346
LT4	0.574	0.496	0.816	0.405	0.854
CT4	0.524	0.793	0.466	0.831	0.346
LT5	0.712	0.416	0.760	0.377	0.919
CT5	0.553	0.850	0.558	0.881	0.383
LT6	0.630	0.490	0.591	0.453	0.850
CT6	0.553	0.850	0.558	0.881	0.383

	CT3	LT4	CT4	LT5	CT5
CT3	1.000				
LT4	0.274	1.000			
CT4	1.000	0.274	1.000		
LT5	0.306	0.783	0.306	1.000	
CT5	0.960	0.382	0.960	0.356	1.000
LT6	0.433	0.791	0.433	0.795	0.504
CT6	0.960	0.382	0.960	0.356	1.000

	LT6	CT6
LT6	1.000	
CT6	0.504	1.000

NUMBER OF OBSERVATIONS: 18

PEARSON CORRELATION MATRIX

	SUMCT	SUMLT
SUMCT	1.000	
SUMLT	0.508	1.000

NUMBER OF OBSERVATIONS: 18

PEARSON CORRELATION MATRIX

	CHNUM	LT1	CT1	LT2	CT2
CHNUM	1.000				
LT1	0.354	1.000			
CT1	0.070	0.454	1.000		
LT2	0.277	0.710	0.612	1.000	
CT2	0.054	0.473	0.962	0.573	1.000
LT3	0.408	0.796	0.392	0.785	0.341
CT3	0.000	0.524	0.793	0.466	0.831
LT4	0.354	0.574	0.496	0.816	0.405
CT4	0.000	0.524	0.793	0.466	0.831
LT5	0.155	0.712	0.416	0.760	0.377
CT5	-0.005	0.553	0.850	0.558	0.881
LT6	0.213	0.630	0.490	0.591	0.453
CT6	-0.005	0.553	0.850	0.558	0.881
SUMLT	0.330	0.824	0.535	0.861	0.490
SUMLT1	0.309	0.747	0.527	0.854	0.471
SUMLT2	0.329	0.820	0.501	0.803	0.457
SUMLT3	0.309	0.824	0.563	0.872	0.521
SUMLT4	0.316	0.856	0.529	0.848	0.496
SUMLT5	0.357	0.831	0.548	0.865	0.503
SUMLT6	0.348	0.844	0.524	0.900	0.480

	LT3	CT3	LT4	CT4	LT5
LT3	1.000				
CT3	0.346	1.000			
LT4	0.854	0.274	1.000		
CT4	0.346	1.000	0.274	1.000	
LT5	0.919	0.306	0.783	0.306	1.000
CT5	0.383	0.960	0.382	0.960	0.356
LT6	0.850	0.433	0.791	0.433	0.795
CT6	0.383	0.960	0.382	0.960	0.356
SUMLT	0.971	0.443	0.898	0.443	0.924
SUMLT1	0.965	0.404	0.928	0.404	0.927
SUMLT2	0.976	0.423	0.884	0.423	0.926
SUMLT3	0.957	0.461	0.901	0.461	0.917
SUMLT4	0.971	0.467	0.853	0.467	0.930
SUMLT5	0.965	0.461	0.905	0.461	0.894
SUMLT6	0.964	0.427	0.890	0.427	0.920

	CT5	LT6	CT6	SUMLT	SUMLT1
CT5	1.000				
LT6	0.504	1.000			
CT6	1.000	0.504	1.000		
SUMLT	0.515	0.880	0.515	1.000	
SUMLT1	0.483	0.895	0.483	0.992	1.000
SUMLT2	0.489	0.910	0.489	0.994	0.987
SUMLT3	0.541	0.880	0.541	0.998	0.990
SUMLT4	0.530	0.876	0.530	0.996	0.980
SUMLT5	0.536	0.881	0.536	0.997	0.988
SUMLT6	0.496	0.809	0.496	0.991	0.977

	SUMLT2	SUMLT3	SUMLT4	SUMLT5	SUMLT6
SUMLT2	1.000				
SUMLT3	0.991	1.000			
SUMLT4	0.992	0.993	1.000		
SUMLT5	0.991	0.997	0.991	1.000	
SUMLT6	0.976	0.989	0.987	0.988	1.000

NUMBER OF OBSERVATIONS: 18

PEARSON CORRELATION MATRIX

	SUMCT	SUMLT
SUMCT	1.000	
SUMLT	0.536	1.000

NUMBER OF OBSERVATIONS: 18

PEARSON CORRELATION MATRIX

	SUMCT	SUMLT
SUMCT	1.000	
SUMLT	0.519	1.000

NUMBER OF OBSERVATIONS: 36

PEARSON CORRELATION MATRIX

	LT1	CT1	LT2	CT2	LT3
LT1	1.000				
CT1	0.455	1.000			
LT2	0.793	0.546	1.000		
CT2	0.531	0.793	0.448	1.000	
LT3	0.777	0.350	0.781	0.401	1.000
CT3	0.544	0.755	0.544	0.735	0.369
LT4	0.660	0.330	0.799	0.355	0.849
CT4	0.484	0.781	0.398	0.803	0.329
LT5	0.809	0.437	0.780	0.454	0.752
CT5	0.454	0.740	0.422	0.785	0.261
LT6	0.670	0.466	0.709	0.430	0.668
CT6	0.550	0.820	0.599	0.766	0.418

	CT3	LT4	CT4	LT5	CT5
CT3	1.000				
LT4	0.379	1.000			
CT4	0.915	0.310	1.000		
LT5	0.414	0.717	0.384	1.000	
CT5	0.846	0.331	0.872	0.407	1.000
LT6	0.429	0.696	0.348	0.787	0.451
CT6	0.925	0.408	0.859	0.384	0.844

	LT6	CT6
LT6	1.000	
CT6	0.476	1.000

NUMBER OF OBSERVATIONS: 36

PEARSON CORRELATION MATRIX

	CHNUM	LT1	CT1	LT2	CT2
CHNUM	1.000				
LT1	0.539	1.000			
CT1	0.111	0.455	1.000		
LT2	0.537	0.793	0.546	1.000	
CT2	0.244	0.531	0.793	0.448	1.000
LT3	0.431	0.777	0.350	0.781	0.401
CT3	0.275	0.544	0.755	0.544	0.735
LT4	0.483	0.660	0.330	0.799	0.355
CT4	0.124	0.484	0.781	0.398	0.803
LT5	0.586	0.809	0.437	0.780	0.454
CT5	0.249	0.454	0.740	0.422	0.785
LT6	0.654	0.670	0.466	0.709	0.430
CT6	0.220	0.550	0.820	0.599	0.766
SUMLT	0.615	0.874	0.489	0.908	0.490
SUMLT1	0.612	0.828	0.482	0.905	0.470
SUMLT2	0.617	0.870	0.463	0.863	0.488
SUMLT3	0.636	0.872	0.505	0.911	0.496
SUMLT4	0.623	0.891	0.506	0.904	0.503
SUMLT5	0.605	0.867	0.489	0.915	0.486
SUMLT6	0.572	0.891	0.472	0.921	0.484

	LT3	CT3	LT4	CT4	LT5
LT3	1.000				
CT3	0.369	1.000			
LT4	0.849	0.379	1.000		
CT4	0.329	0.915	0.310	1.000	
LT5	0.752	0.414	0.717	0.384	1.000
CT5	0.261	0.846	0.331	0.872	0.407
LT6	0.668	0.429	0.696	0.348	0.787
CT6	0.418	0.925	0.408	0.859	0.384
SUMLT	0.895	0.501	0.878	0.420	0.912
SUMLT1	0.892	0.480	0.894	0.397	0.907
SUMLT2	0.898	0.478	0.873	0.414	0.919
SUMLT3	0.850	0.515	0.861	0.428	0.922
SUMLT4	0.879	0.511	0.830	0.430	0.925
SUMLT5	0.906	0.509	0.894	0.418	0.867
SUMLT6	0.917	0.497	0.887	0.420	0.904

	CT5	LT6	CT6	SUMLT	SUMLT1
CT5	1.000				
LT6	0.451	1.000			
CT6	0.844	0.476	1.000		
SUMLT	0.441	0.867	0.531	1.000	
SUMLT1	0.427	0.880	0.514	0.996	1.000
SUMLT2	0.434	0.881	0.502	0.995	0.991
SUMLT3	0.466	0.885	0.541	0.996	0.992
SUMLT4	0.450	0.876	0.540	0.996	0.988
SUMLT5	0.438	0.864	0.553	0.995	0.992
SUMLT6	0.416	0.784	0.521	0.989	0.980

	SUMLT2	SUMLT3	SUMLT4	SUMLT5	SUMLT6
SUMLT2	1.000				
SUMLT3	0.990	1.000			
SUMLT4	0.991	0.994	1.000		
SUMLT5	0.988	0.988	0.987	1.000	
SUMLT6	0.979	0.978	0.981	0.984	1.000

NUMBER OF OBSERVATIONS: 36

PEARSON CORRELATION MATRIX

	LT1	SUMLT1	LT2	SUMLT2	LT3
LT1	1.000				
SUMLT1	0.828	1.000			
LT2	0.793	0.905	1.000		
SUMLT2	0.870	0.991	0.863	1.000	
LT3	0.777	0.892	0.781	0.898	1.000
SUMLT3	0.872	0.992	0.911	0.990	0.850
LT4	0.660	0.894	0.799	0.873	0.849
SUMLT4	0.891	0.988	0.904	0.991	0.879
LT5	0.809	0.907	0.780	0.919	0.752
SUMLT5	0.867	0.992	0.915	0.988	0.906
LT6	0.670	0.880	0.709	0.881	0.668
SUMLT6	0.891	0.980	0.921	0.979	0.917

	SUMLT3	LT4	SUMLT4	LT5	SUMLT5
SUMLT3	1.000				
LT4	0.861	1.000			
SUMLT4	0.994	0.830	1.000		
LT5	0.922	0.717	0.925	1.000	
SUMLT5	0.988	0.894	0.987	0.867	1.000
LT6	0.885	0.696	0.876	0.787	0.864
SUMLT6	0.978	0.887	0.981	0.904	0.984

	LT6	SUMLT6
LT6	1.000	
SUMLT6	0.784	1.000

NUMBER OF OBSERVATIONS: 36

PEARSON CORRELATION MATRIX

	LT1	CT1	LT2	CT2	LT3
LT1	1.000				
CT1	0.452	1.000			
LT2	0.862	0.521	1.000		
CT2	0.617	0.706	0.456	1.000	
LT3	0.780	0.322	0.830	0.446	1.000
CT3	0.537	0.742	0.584	0.706	0.392
LT4	0.718	0.218	0.804	0.344	0.851
CT4	0.463	0.784	0.399	0.786	0.318
LT5	0.906	0.454	0.754	0.589	0.750
CT5	0.347	0.671	0.311	0.756	0.177
LT6	0.743	0.507	0.727	0.614	0.710
CT6	0.533	0.808	0.642	0.701	0.447

	CT3	LT4	CT4	LT5	CT5
CT3	1.000				
LT4	0.445	1.000			
CT4	0.863	0.344	1.000		
LT5	0.454	0.710	0.482	1.000	
CT5	0.747	0.272	0.825	0.401	1.000
LT6	0.385	0.710	0.391	0.755	0.388
CT6	0.893	0.416	0.779	0.402	0.716

	LT6	CT6
LT6	1.000	
CT6	0.493	1.000

NUMBER OF OBSERVATIONS: 18

PEARSON CORRELATION MATRIX

	CHNUM	LT1	CT1	LT2	CT2
CHNUM	1.000				
LT1	0.706	1.000			
CT1	0.084	0.452	1.000		
LT2	0.543	0.862	0.521	1.000	
CT2	0.545	0.617	0.706	0.456	1.000
LT3	0.593	0.780	0.322	0.830	0.446
CT3	0.377	0.537	0.742	0.584	0.706
LT4	0.608	0.718	0.218	0.804	0.344
CT4	0.258	0.463	0.784	0.399	0.786
LT5	0.632	0.906	0.454	0.754	0.589
CT5	0.304	0.347	0.671	0.311	0.756
LT6	0.650	0.743	0.507	0.727	0.614
CT6	0.335	0.533	0.808	0.642	0.701
SUMLT	0.688	0.924	0.466	0.919	0.571
SUMLT1	0.675	0.898	0.461	0.915	0.554
SUMLT2	0.707	0.917	0.441	0.877	0.585
SUMLT3	0.692	0.933	0.485	0.917	0.584
SUMLT4	0.685	0.940	0.501	0.917	0.599
SUMLT5	0.681	0.901	0.454	0.934	0.548
SUMLT6	0.669	0.932	0.437	0.930	0.537

	LT3	CT3	LT4	CT4	LT5
LT3	1.000				
CT3	0.392	1.000			
LT4	0.851	0.445	1.000		
CT4	0.318	0.863	0.344	1.000	
LT5	0.750	0.454	0.710	0.482	1.000
CT5	0.177	0.747	0.272	0.825	0.401
LT6	0.710	0.385	0.710	0.391	0.755
CT6	0.447	0.893	0.416	0.779	0.402
SUMLT	0.907	0.516	0.882	0.445	0.905
SUMLT1	0.915	0.505	0.897	0.435	0.891
SUMLT2	0.904	0.487	0.880	0.446	0.920
SUMLT3	0.866	0.530	0.868	0.461	0.916
SUMLT4	0.894	0.516	0.836	0.453	0.918
SUMLT5	0.920	0.516	0.900	0.422	0.851
SUMLT6	0.919	0.527	0.889	0.440	0.905

	CT5	LT6	CT6	SUMLT	SUMLT1
CT5	1.000				
LT6	0.388	1.000			
CT6	0.716	0.493	1.000		
SUMLT	0.355	0.866	0.543	1.000	
SUMLT1	0.351	0.874	0.537	0.998	1.000
SUMLT2	0.357	0.879	0.506	0.995	0.994
SUMLT3	0.385	0.879	0.551	0.996	0.992
SUMLT4	0.362	0.873	0.553	0.996	0.990
SUMLT5	0.332	0.868	0.563	0.994	0.995
SUMLT6	0.333	0.798	0.534	0.992	0.988

	SUMLT2	SUMLT3	SUMLT4	SUMLT5	SUMLT6
SUMLT2	1.000				
SUMLT3	0.991	1.000			
SUMLT4	0.991	0.994	1.000		
SUMLT5	0.984	0.986	0.785	1.000	
SUMLT6	0.984	0.984	0.986	0.984	1.000

NUMBER OF OBSERVATIONS: 18

PEARSON CORRELATION MATRIX

	LT1	SUMLT1	LT2	SUMLT2	LT3
LT1	1.000				
SUMLT1	0.747	1.000			
LT2	0.710	0.854	1.000		
SUMLT2	0.820	0.987	0.803	1.000	
LT3	0.796	0.965	0.785	0.976	1.000
SUMLT3	0.824	0.990	0.872	0.991	0.957
LT4	0.574	0.928	0.816	0.884	0.854
SUMLT4	0.856	0.980	0.848	0.992	0.971
LT5	0.712	0.927	0.760	0.926	0.919
SUMLT5	0.831	0.988	0.865	0.991	0.965
LT6	0.630	0.895	0.591	0.910	0.850
SUMLT6	0.844	0.977	0.900	0.976	0.964

	SUMLT3	LT4	SUMLT4	LT5	SUMLT5
SUMLT3	1.000				
LT4	0.901	1.000			
SUMLT4	0.993	0.853	1.000		
LT5	0.917	0.783	0.930	1.000	
SUMLT5	0.997	0.905	0.991	0.894	1.000
LT6	0.880	0.791	0.876	0.795	0.881
SUMLT6	0.989	0.890	0.987	0.920	0.988

	LT6	SUMLT6
LT6	1.000	
SUMLT6	0.809	1.000

NUMBER OF OBSERVATIONS: 18

PEARSON CORRELATION MATRIX

	LT1	SUMLT1	LT2	SUMLT2	LT3
LT1	1.000				
SUMLT1	0.898	1.000			
LT2	0.862	0.915	1.000		
SUMLT2	0.917	0.994	0.877	1.000	
LT3	0.780	0.915	0.830	0.904	1.000
SUMLT3	0.933	0.992	0.917	0.991	0.866
LT4	0.718	0.897	0.804	0.880	0.851
SUMLT4	0.940	0.990	0.917	0.991	0.894
LT5	0.906	0.891	0.754	0.920	0.750
SUMLT5	0.901	0.995	0.934	0.984	0.920
LT6	0.743	0.874	0.727	0.879	0.710
SUMLT6	0.932	0.988	0.930	0.984	0.919

	SUMLT3	LT4	SUMLT4	LT5	SUMLT5
SUMLT3	1.000				
LT4	0.868	1.000			
SUMLT4	0.994	0.836	1.000		
LT5	0.916	0.710	0.918	1.000	
SUMLT5	0.986	0.900	0.985	0.851	1.000
LT6	0.879	0.710	0.873	0.755	0.868
SUMLT6	0.984	0.889	0.986	0.905	0.984

	LT6	SUMLT6
LT6	1.000	
SUMLT6	0.798	1.000

NUMBER OF OBSERVATIONS: 18

PEARSON CORRELATION MATRIX

	PARIAUT	PARIHOST	PARIDEM	MKBELVE	MSFMINSO
PARIAUT	1.000				
PARIHOST	-0.222	1.000			
PARIDEM	-0.458	0.120	1.000		
MKBELVE	-0.060	-0.155	0.044	1.000	
MSFMINSO	-0.169	0.086	-0.360	-0.086	1.000
MSFMINSP	-0.076	0.011	-0.369	-0.012	0.852
MSFMUSEO	0.115	-0.246	0.277	-0.018	-0.070
MSFMUSEP	0.216	0.056	-0.045	-0.035	0.326
MSFMPATO	-0.281	-0.175	-0.240	0.173	0.750
MSFMPATP	-0.153	0.140	0.100	0.048	0.417
MSFMTO	-0.214	-0.047	-0.300	0.017	0.948
MSFMTP	-0.045	0.068	-0.208	-0.000	0.754
FESEX	0.105	0.032	0.329	-0.226	-0.209
FESCON	0.020	0.229	-0.227	-0.242	0.106
FESAO	0.092	-0.226	0.135	-0.027	-0.066
FESCTL	-0.293	0.075	-0.084	-0.108	0.220

	MSFMINSP	MSFMUSEO	MSFMUSEP	MSFMPATO	MSFMPATP
MSFMINSP	1.000				
MSFMUSEO	-0.030	1.000			
MSFMUSEP	0.481	-0.051	1.000		
MSFMPATO	0.739	0.070	0.279	1.000	
MSFMPATP	0.442	0.152	0.592	0.546	1.000
MSFMTO	0.853	0.096	0.320	0.910	0.514
MSFMTP	0.893	0.019	0.749	0.714	0.759
FESEX	-0.087	0.417	0.029	-0.303	-0.177
FESCON	0.239	-0.145	0.294	0.047	0.050
FESAO	-0.082	0.388	0.080	-0.099	0.198
FESCTL	0.317	0.075	0.026	0.267	0.208

	MSFMTO	MSFMTP	FESEX	FESCON	FESAO
MSFMTO	1.000				
MSFMTP	0.785	1.000			
FESEX	-0.215	-0.106	1.000		
FESCON	0.072	0.239	0.256	1.000	
FESAO	-0.042	0.035	0.099	-0.043	1.000
FESCTL	0.262	0.274	0.043	0.106	0.079

	FESCTL
FESCTL	1.000

NUMBER OF OBSERVATIONS: 27

DEP VAR: MSFMIO   N: 27   MULTIPLE R: .363   SQUARED MULTIPLE R: .132
ADJUSTED SQUARED MULTIPLE R: .000   STANDARD ERROR OF ESTIMATE: 16.286

VARIABLE	COEFFICIENT	STD ERROR	STD COEF	TOLERANCE	T	P(2 TAIL)
CONSTANT	16.401	29.245	0.000	1.0000000	0.561	0.581
FESEX	-0.511	0.422	-0.251	.9223816	-1.212	0.238
FESCON	0.208	0.407	0.106	.9196187	0.512	0.613
FESAO	-0.040	0.245	-0.033	.9784860	-0.164	0.871
FESCTL	0.462	0.351	0.264	.9816678	1.316	0.202

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
REGRESSION	887.656	4	221.914	0.837	0.517
RESIDUAL	5835.307	22	265.241		

TOTAL OBSERVATIONS: 27

	CHNUM	GEN	AGE	PARIAUT	PARIHOST
N OF CASES	27	27	27	27	27
MINIMUM	109.000	1.000	46.000	-44.000	-13.000
MAXIMUM	417.000	2.000	68.000	8.000	15.250
MEAN	353.111	1.407	56.741	-17.701	3.628
STANDARD DEV	69.897	0.501	6.637	10.779	6.855

	PARIDEM	MKBELVE	MSFMINSO	MSFMINSP	MSFMUSEO
N OF CASES	27	27	27	27	27
MINIMUM	10.000	6.000	0.000	1.000	0.000
MAXIMUM	24.710	28.000	39.000	17.000	7.000
MEAN	17.386	19.444	10.593	6.037	2.000
STANDARD DEV	4.292	4.862	10.255	4.265	1.776

	MSFMUSEP	MSFMPATO	MSFMPATP	MSFMIO	MSFMTP
N OF CASES	27	27	27	27	27
MINIMUM	1.000	0.000	1.000	4.000	7.000
MAXIMUM	8.000	30.000	9.000	70.000	29.000
MEAN	3.630	8.444	4.926	21.037	14.593
STANDARD DEV	1.713	6.807	2.286	16.080	6.829

	FESEX	FESCON	FESAO	FESCTL
N OF CASES	27	27	27	27
MINIMUM	32.000	32.000	16.000	32.000
MAXIMUM	66.000	59.000	66.000	65.000
MEAN	49.111	45.111	43.370	47.852
STANDARD DEV	7.885	8.192	13.159	9.193

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DEP VAR:  MSFMTO      N:  27   MULTIPLE R:  .497   SQUARED MULTIPLE R:  .247
ADJUSTED SQUARED MULTIPLE R:  .184   STANDARD ERROR OF ESTIMATE:      14.522

   VARIABLE    COEFFICIENT    STD ERROR    STD COEF TOLERANCE    T    P(2 TAIL)

CONSTANT        42.142        11.389        0.000 1.0000000    3.545    0.002
PARIDEM         -1.891         0.747       -0.505  .7898502   -2.533    0.018
PARIAUT         -0.665         0.297       -0.446  .7898502   -2.236    0.035


                        ANALYSIS OF VARIANCE

    SOURCE    SUM-OF-SQUARES    DF    MEAN-SQUARE      F-RATIO      P

REGRESSION       1661.321       2      830.660        3.939      0.033
  RESIDUAL       5061.642      24      210.902


DURBIN-WATSON D STATISTIC    1.554
FIRST ORDER AUTOCORRELATION   .203
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DEP VAR:  MSFMTO      N:  27   MULTIPLE R:  .505   SQUARED MULTIPLE R:  .255
ADJUSTED SQUARED MULTIPLE R:  .157   STANDARD ERROR OF ESTIMATE:      14.760

   VARIABLE    COEFFICIENT    STD ERROR    STD COEF TOLERANCE    T    P(2 TAIL)

CONSTANT        42.267        12.087        0.000 1.0000000    3.497    0.002
PARIAUT         -0.693         0.308       -0.464  .7616412   -2.252    0.034
PARIHOST        -0.209         0.433       -0.089  .9502844   -0.483    0.633
PARIDEM         -1.883         0.759       -0.503  .7894807   -2.481    0.021


                        ANALYSIS OF VARIANCE

    SOURCE    SUM-OF-SQUARES    DF    MEAN-SQUARE      F-RATIO      P

REGRESSION       1712.207       3      570.736        2.620      0.075
  RESIDUAL       5010.756      23      217.859
```

DEP VAR: MKBELVE   N: 27   MULTIPLE R: .306   SQUARED MULTIPLE R: .094
ADJUSTED SQUARED MULTIPLE R: .000   STANDARD ERROR OF ESTIMATE: 5.032

VARIABLE	COEFFICIENT	STD ERROR	STD COEF	TOLERANCE	T	P(2 TAIL)
CONSTANT	31.955	9.035	0.000	1.0000000	3.537	0.002
FESEX	-0.107	0.130	-0.173	.9223816	-0.818	0.422
FESCON	-0.113	0.126	-0.190	.9196187	-0.896	0.380
FESAO	-0.005	0.076	-0.012	.9784860	-0.059	0.953
FESCTL	-0.042	0.108	-0.079	.9816678	-0.386	0.703

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
REGRESSION	57.643	4	14.411	0.569	0.688
RESIDUAL	557.024	22	25.319		

DEP VAR: MKBELVE   N: 27   MULTIPLE R: .184   SQUARED MULTIPLE R: .034
ADJUSTED SQUARED MULTIPLE R: .000   STANDARD ERROR OF ESTIMATE: 5.082

VARIABLE	COEFFICIENT	STD ERROR	STD COEF	TOLERANCE	T	P(2 TAIL)
CONSTANT	18.702	4.161	0.000	1.0000000	4.495	0.000
PARIAUT	-0.040	0.106	-0.088	.7616412	-0.374	0.712
PARIHOST	-0.126	0.149	-0.177	.9502844	-0.843	0.408
PARIDEM	0.029	0.261	0.025	.7894807	0.109	0.914

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
REGRESSION	20.763	3	6.921	0.268	0.848
RESIDUAL	593.903	23	25.822		

Appedix I

Letter to Parents

OSU

Oklahoma State University / STILLWATER, OKLAHOMA 74078-0337
241 HOME ECONOMICS WEST
(405) 624-5057

DEPARTMENT OF FAMILY RELATIONS
AND CHILD DEVELOPMENT
COLLEGE OF HOME ECONOMICS

Dear Parent:

We are ready to continue the process of collecting information about your child.
Enclosed you will find the questionnaires concerning parenting styles and rewards.
These questionnaires should be somewhat shorter than the last one.   PLEASE TRY
TO RETURN THE QUESTIONNAIRES TO YOUR CHILD'S TEACHER OR TO THE
TABLES WHICH WILL BE SET UP IN THE HALL BY FRIDAY, OCTOBER, 23.

As you will notice, a code number is used instead of your child's name. This
is used to insure confidentiality.

If you have any questions regarding this process, please contact either Dr.
Couchenour, Director, Child Development Laboratories (624-5059) or Dr. Moran,
FRCD Department Head (624-5057). We appreciate your assistance in our efforts
to maintain the excellence and excitement that is part of the Child Development
Laboratories.

Sincerely,

Donna Couchenour

Donna Couchenour, Director
Child Development Laboratories

DC:m

Enclosures (2)

**CENTENNIAL
DECADE**
1980-1990

Appendix J

Press Release for the Public

Creative Potential, Make-Believe Play,

Home Environment, and Child Rearing Attitudes

Creativity in young children is exhibited when children generate behaviors in every day life activities which are out of the ordinary in order to help solve problems in a variety of social settings. In general, creativity has been defined as the products and behaviors which are unusual, high quality, and socially useful (Moran, Sawyers, Fu, & Milgram, In press).

Pretense play, on the other hand, is when young children begin object substitution (Cecilm Gray, Thornburg, & Ispa, 1985). They try to act out some of the every day life events and in doing so they gain a better understanding of the world around them. Young children tend to use more realistic objects, whereas older children appear to be less tied to perceived similarities between the pretense objects, and the objects that they signify (Copple, Cocking, & Mathews, 1980).

The processes and functions involved in make-believe play such as fantasy, imagination, novel events, ideas and sometimes a variety of actions that often have no apparent ties to reality are similar to those that have attributed to the creative process. Thus the apparent effects of pretense play on the development of creative and flexible thinking are evident.

Parenting ideas and values of child-rearing influence children's play and play environment. Characteristics of parents such as low dominance, high acceptance of regression,

high independence granting, and acceptance of the child as an individual with ideas and values have positive effects on children's creativity (Dreyer, &Wells, 1966; Maw, & Maw, 1966; Weisberg, & Springer, 1961). Parents also have control over the child's play environment, in terms of the toys they provide for the child, the time they allow the child to engage in free play, the amount of freedom they give to the choice of the child's play, how much they participate in the child's make-believe play and finally how much freedom and independence they give the child in decision making and every day life events.

Thus in looking at the possibilities of how much children's cognitive abilities could be affected by different factors, it is of great importance to study the relationships between parental child rearing attitudes and their children's make-believe games as well as finding out if those children who engage in make-believe play also have higher creative potentials.

The results of this study indicate that there is a relationship between parental variables (Authoritarian and Democratic) and children's creative potentials. However no link were found among children's creativity, the amount of make-believe play they engage in an the home environment of the child.

Authoritarian parenting according to Baumrind (1967) are those who are always in control, make the rules, and impose them upon the child, and often use physical punishment.

Democratic parenting, on the other hand uses reasoning in guiding the child. Thus low authoritarian and low democratic parenting would appear to be a combination of less control, less firm punishment, less reasoning, and somewhat less independence granting. These seem to be similar to the characteristics of permissive parenting (e. g. little guidance, few demands and responsibilities placed upon the child). Perhaps our finding of a strong relationship of low authoritarian and low democratic parenting styles to higher creativity is in fact an indication of a link between permissive parenting and creativity at preschool age.

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VITA

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Candidate for the degree of

Master of Science

Thesis: CREATIVE POTENTIAL, MAKE-BELIEVE PLAY, FAMILY
ENVIRONMENT, AND CHILD REARING ATTITUDES

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Education: Graduated from Vafa High School in June,
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