THE RELATIONSHIP AMONG TEMPERAMENT DISPOSITION,

FAMILIAL STYLE, ORIENTATION TO TASK, AND

CREATIVE POTENTIAL IN PRESCHOOL CHILDREN

by

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The Relationship Among Temperament Disposition,

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Creative Potential in Preschool Children

Anne K. Bomba

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Abstract

The relationship among temperament disposition, familial variables, orientation to task, and creative potential in preschool children was explored in this study. The subjects were 32 children (17 females and 15 males) who ranged in age from 36 to 61 months, with a mean age of 51 months, enrolled in a University Laboratory School. The subjects were given the Multidimensional Stimulus Fluency Measure as an assessment of creative potential. The parents completed the Behavioral Style Questionnaire and FACES III, measures of the child's temperament and of family interaction patterns, respectively. The child's classroom teacher completed the Play Style Assessment. Correlational analyses revealed a positive though nonsignificant relationship between FACES adaptability and total fluency MSFM ($r$ = .32, $p$ < .07) and a significant negative correlation ($r$= −.34, $p$ < .05) for FACES cohesion and total fluency MSFM. Regression analyses indicated that when cohesion and adaptability are used together 16% of the variance could be accounted for (multiple $r$ = .46, adjusted $r^2$ = .16, $F$ = 3.99, $p$ < .03).

The Relationship among Temperament Disposition, Familial

Style, Orientation to Task, and Creative Potential in

Preschool Children.

Creativity has been cited as being one of the most
complex of human functions (Treffinger, 1986). Research
interest exists in determining specifically which variables
impact creative potential has been renewed. Various authors
(Wallach, 1985; Grinder, 1985) have cited the need for
individuals who have good problem-solving abilities or who
are creative. In the search to uncover what it is that
makes children creative, researchers have postulated several
variables considered to affect creativity. In this regard,
creativity has been studied in relation to such variables as
parenting variables, birth order, gender, intelligence,
family size, personality, and cognitive style. Although
numerous studies have been conducted, few have considered
creativity from a multi-variable approach.

Miller and Gerard (1979) list a variety of background
characteristics which appear to be related to the
development of creativity in children. They also detail
various parental attitudes and behaviors which may affect
children's creativity more directly.

Although 61 studies are considered in their review
Miller and Gerard report no studies which focus on family
dynamics from a systemic point of view. Additionally,
although the relationship between parent and child is

reputed to be an important variable in determining creative potential, few studies (e.g., Bomba & Moran, 1989) have considered creativity from the perspective of individual differences in the child (e.g., in relation to the child's temperament). The interaction between temperament and family dynamics would appear to be important to consider in determining how variables interact in the creative process. Treffinger (1986) states a need for an increased understanding of the role of personal orientation which is how an individual's style or preferences will influence selection and development of problems as well as have impact on the way one works with others.

Reviews of the literature suggest no simple answers and offer a lack of consistency in the data. When the effect of family variables on creativity is studied, the picture that emerges is one which suggests indirect rather than direct effects. Such effects might be evidenced through a construct which defines a stylistic difference and might best be labeled 'orientation to task'. 'Orientation to task' is the label chosen since it best describes the target behaviors. This concept is thought of as the manner in which a child approaches and interacts with any given material in a play or problem-solving situation. Within the current literature, this variable most closely parallels the constructs of cognitive style (specifically reflection-impulsivity) and play style. Saracho (1987a) cited cognitive style as one approach to characterizing individual

differences. Another approach to the same problem would be to consider play style. Recent research (Wolf & Grollman, 1982), has shown that children demonstrate individual differences or styles relative to the object dependence or independence of their play. The differences in play shown were independent of changes due to development, capability, or context. In their analysis of data from Harvard's Project Zero, Shotwell, Wolf, and Gardner (1979), and Wolf and Grollman (1982) identified two distinct types or styles of players: 'patterners' and 'dramatists'. These preschool children displayed individual differences in play style that were independent of changes due to development, capability, or context.

Patterners are said to be object-dependent in their play. That is, they focus their attention on the dimensions of the object and do not use play materials in a social manner. Dramatists, however, might be said to be object-independent. Their play does not rely on the characteristics of an object (Shotwell et al, 1979; Grollman, 1982).

According to Saracho (1987a) basic stylistic differences seem to underlie all individual differences. Differences in style are likely the result of both familial and temperament factors; some type of 'orientation to task' may be seen as an important component of the creative process. The goals of the current study are to: (1) assess the relationship of family dynamics and temperament to

creative potential in preschool children; (2) assess the relationship of family dynamics and temperament to 'orientation to task'; and (3) assess the relationship of 'orientation to task' to creative potential.

It is noteworthy that in several studies with preschoolers parenting variables fail to correlate with creativity (e.g., Ryan, 1984; Gafford, 1988). Studies with older children find that parenting has an impact (Miller & Gerard, 1979), though the specific variables used in these studies are far from consistent. Perhaps during the preschool years the relationship is indirect through personality style of the child rather than direct.

A conceptual model has been formulated to aid in the conceptualization of the relationship between the variables. Both temperament and familial variables are postulated to have indirect effects on ideational fluency. Temperament is considered to be only somewhat directly related to creativity (i.e., to the frequency of popular responses); however, it is suggested that temperament affects other components of personality (playstyle) which in turn affect creative potential (i.e., to the frequency of original responses). Similar indirect effects are postulated for familial variables.

_____

Insert Figure 1 about here

_____

As noted, both temperament and family variables are postulated to have indirect effects on ideational fluency. Various studies (Bomba & Moran, 1989; Broberg & Moran, 1988; Freeland, 1987; Ryan, 1984; Groves, Sawyers, & Moran, 1987; Bomba, Goble, & Moran, 1988) have postulated a variety of variables to be related to creativity in young children. These studies have been limited in their approach, since they have considered a direct relationship to creativity. In these studies, the hypothesized relationship has not always been found. Perhaps these variables may be indirectly related to creativity and have considered only one variable at a time. The hypothesized intervening variable in this study is 'orientation to task', suggesting that the effects of other variables are filtered through 'orientation to task'.

## Method

Subjects  The sample consisted of 32 children (17 females and 15 males, mean age = 51 months, with an age-range of 36-61 months) enrolled in a University Laboratory School. The children were enrolled in one of three programs (1 full day and 2 half-day). The parents of the children also participated by completing questionnaires. Additionally, the classroom teacher for each program completed a questionnnaire for each child.

Instruments

Creative Potential  Ideational fluency served as the measure of creative potential and was assessed using the

Multidimensional Stimulus Fluency Measure (MSFM). The MSFM was adapted by Moran, Milgram, Sawyers, and Fu (1983) from materials by Wallach and Kogan (1965), Ward (1968), and Starkweather (1971) for use with preschool children. Three subtests were used: instances, uses, and pattern meanings. For the instances subtest, children name all the things that have a specific feature (i.e., round, red). In the uses task, children are asked what specific items could be used for ( i.e., box, paper). For the patterns task, children are handed three-dimensional styrofoam shapes, encouraged to turn them in any manner desired, and asked, "What could this be?". Each response was scored as popular or original (given by more or less than five percent of the normative group, respectively). The MSFM was administered by trained undergraduate examiners and was scored by an experienced graduate student. To ease possible anxiety, the examiners spent several days in the children's classrooms prior to testing to help establish rapport with the children. Godwin (1984) reports the reliability and validity of the MSFM to be well established as are the scoring protocols and normative data. The validity of the MSFM as a cognitive style distinct from intelligence was evidenced by Moran et al (1983) with a nonsignificant correlation between original scores and intelligence. The MSFM appears to remain relatively stable ($r$ = .54, $p$ < .01) between the ages of 4 and 7 (Moore & Sawyers, 1987).

Temperament  The Behavioral Style Questionnaire-BSQ
(McDevitt & Carey, 1978) was used to assess children's
temperament.  The BSQ, a 100-item questionnaire, was
completed by the child's mother based on the child's most
recent behavior.  The BSQ has a test-retest reliability of
0.89, with an alpha reliability of 0.84.  In the present
study, temperament consisted of the nine characteristics
identified by Thomas, Chess, Birch, Hertzig, and Korn (1963)
which are: activity level, rhythmicity, approach/withdrawal,
adaptability, intensity, sensory threshold, mood,
distractibility, and attention span/persistence.

Familial Style  FACES III (Olson, Portner, & Lavee,
1985) was used to assess family interaction patterns.  FACES
was developed to assess the dimensions of family cohesion
and family adaptability by means of a 20-item questionnaire.
Family cohesion is defined by Olson et al as "the emotional
bonding that family members have toward one another" (p. 4).
Family adaptability is defined as "the ability of a marital
or family system to change its power structure, role
relationships, and relationship rules in response to
situational and developmental stress" (p. 4).  Internal
consistency for the cohesion scale is reported as
$r$ = .77; the value for adaptability is reported as $r$ = .68.
The correlation between the two scales is minimal ($r$ = .03).

Orientation to Task  Play style was assessed using a
method based on the works of Wolf and Grollman (1982).  The
Play Style Assessment-PSA developed by Horm-Wingerd (1985)

is designed to determine which play style group typifies a child's play. The three possible classifications are: patterner, dramatist, or mixed player. In the PSA, the child's classroom teacher completes a series of two-choice questions based on the child's usual play behavior. The PSA has demonstrated high internal consistency with an alpha of .91 (Horm-Wingerd & Lin, 1988). Empirical evidence for validity has been demonstrated through significant correlations ($r$ = .39) with teacher ratings and children's self reported play preferences (Horm-Wingerd & Lin, 1988) and with teacher ratings and with the observed frequency of dramatic play ($r$ = .49) as evidenced by Horm-Wingerd and Sawyers (1988). The PSA was used because the object dependence/independence dimension measured by the PSA appears relevant to the 'orientation to task' construct.

## Results

Primary analyses involved the consideration of correlational relationships between the various measures: FACES, BSQ, PSA, and MSFM. Pearson correlations on the indirect effects model revealed a positive though nonsignificant relationship between FACES adaptability and total original MSFM ($r$ = .32, $p$ < .07) and a significant negative correlation ($r$ = -.34, $p$ < .05) for FACES cohesion with total original fluency. The indirect effects of the temperament variables as evidenced by the BSQ on total original were nonsignificant.

For the direct effects model, correlations between the two FACES scales were run with playstyle with high scores on the latter indicating a predisposition for field-independence (i.e., more of a dramatist). A significant negative correlation was evidenced with FACES adaptability ($r$ = -.41, $p$ < .02). The correlation with FACES cohesion yielded a value of only $r$ = .28, $p$ < .12.

Direct effects were also hypothesized for the nine temperament characteristics of the BSQ and playstyle. Correlational analyses revealed significant $r$ values for the relationship between playstyle and distractibility ($r$ = .43, $p$ < .01). Table 1 illustrates all of these relationships.

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Insert Table 1 about here

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The final correlational analysis for the direct effects model was between playstyle and total original fluency. A nonsignificant negative correlation was found ($r$ = -.13).

Secondary analyses were conducted using stepwise multiple regressions to find the best combination of predictor variahbles. The indirect effects of the two FACES scales (cohesion and adaptability) with total original fluency were considered. This analysis revealed that when cohesion is used to predict toal original 8% of the variance is accounted for (multiple $r$ = .34, adjusted $r^2$ = .08, F = 3.91, $p$ < .06). When adaptability is added into the regression equation, however, the variance accounted for

doubles to 16 (multiple r = .46, adjusted $r^2$ = .16, F = 3.99, $\underline{p}$ < .03).

Regression analyses with the temperament variables and MSFM yielded nonsignificant findings.

The postulated indirect effects between FACES and BSQ with MSFM total original fluency were only partially evidenced. Significant effects were evidenced only for the FACES dimensions of adaptability and cohesion.

Regression analyses were conducted to assess the direct effects model. When FACES adaptability was used to predict playstyle a multiple $\underline{r}$ of .41, adjusted r2 = .14, F = 6.07, $\underline{p}$ < .02 was shown. When cohesion entered the equation the adjusted r2 of .20 (multiple r = .50, F = 4.77, $\underline{p}$ < .02) showed that with the two dimensions together 20% of the variability was accounted for.

When regression analyses were performed on BSQ variables to predict playstyle a total of 18% variance could be accounted for. Using the variables of distractibility, approach, adaptability, and persistence (multiple r = .53, adjusted r2 = .18, F = 2.65, $\underline{p}$ < .05), although distractibility alone is likely the best predictor (multiple r = .43, adjusted r2 = .16, F = 6.74, $\underline{p}$< .01).

### Discussion

As noted in Figure 1, the family and personality variables were postulated to be indirectly related to total original fluency. This conceptual model proved to be largely overly complex and inaccurate. The data instead

suggest that a direct relationship exists between familial variables and preschool children's creative potential when the former is measured using a systemic orientation. Correlational analyses revealed FACES adaptability to be positively related to total original fluency. Thus, families who are flexible in their family structure have children who have high scores on total original fluency. FACES cohesion was shown to be somewhat negatively related to total original fluency, i.e., those families who were more enmeshed (operating within more closed systems) had children who were less likely to score high on total original fluency. A family with a closed system is less likely to allow unapproved activities or thoughts into the family system, perhaps promoting more of a 'right answer' orientation. Therefore, the child would not have the freedom to explore 'wild ideas', those which would differ from the conventional response. Even those children who were highly creative would be unlikely to continue responding in the unacceptable (creative) manner, if, for no other reason, than for self-preservation.

Another possibility, of course, is that families with creative chidren move toward being more adaptable and less cohesive as a function of the child's divergent ideas. In either causal model, the result is consistent with the data. Perhaps the individual predisposition of the child and the family environment need to be supportive of each other.

Within the literature most of the studies which look at family variables consider those which would lie along the cohesion continuum. That this study finds adaptability to be negatively related to playstyle is also interesting. Those children who score low on playstyle (patterners) are from families that are high on adaptability. Children who score high on playstyle (dramatists) are from families that are low on adaptability. In this case, this finding seems to be less consistent with the general tone of the literature and further discussion would be highly speculative. This is certainly a finding which should be replicated to clarify the relationship and decrease the speculative nature of any explanation.

The direct relationship between temperament (BSQ) and playstyle was confirmed only for distractibility. Hence, children who were highly distractible were those who were more field independent on the PSA (dramatists). This finding is rather interesting and would appear consistent with the conceptual framework for each. Direct effects postulated to be with playstyle and total original fluency however, were not confirmed.

The conceptual model which was postulated did not prove to be valid. However, the importance of considering family variables from a systemic orientation is underscored. Perhaps the inconsistencies found in previous studies relating familial variables to children's creativity may be due to the use of a unidirectional causal mode. This may be

more appropriately be assessed with a bidirectional and systemic model.

Additionally the focus in previous studies on parental attitudes may have been problematic. The FACES measure used is considered to be a measure of family 'style' rather than attitude. Therefore, the distinction between the family style and attitude may be critical and should be pursued with additional study.

References

Bomba, A. K., & Moran, J. D. III (1989). The relationship of selected temperament characteristics to creative potential in preschool children. Early Child Development and Care, 41, 225-230.

Broberg, G. C., & Moran, J. D. III (1988). Creative potential and conceptual tempo in preschool children. Creativity Research Journal, 1, 115-121.

Chess, S., Thomas, A., & Birch, H. (1959). Characteristics of the individual child's behavioral responses to the environment. American Journal of Orthopsychiatry, 24, 798-802.

Dance, J. A. (1988). Language function, creativity, and structure at activity center in a preschool classroom. Dissertation in progress. Oklahoma State University, Stillwater.

Freeland, S. H. (1987). Gender effects in preschool children's creativity. Unpublished master's thesis. Oklahoma State University, Stillwater.

Fu, V. R., Moran, J. D. III, Sawyers, J. K., & Milgram, R. M. (1983). Parental influences on creativity in preschool children. Journal of Genetic Psychology, 143, 289-291.

Gafford, B. (1988). The relationship of parental child rearing attitudes and preschoolers' creativity to the participation in structured and unstructured play activities. Unpublished masters' thesis. Oklahoma State University, Stillwater.

Godwin, L. J. (1984). Validity and reliability of an
    instrument for measuring creativity in preschool
    children. Unpublished masters' thesis. Virginia
    Polytechnic Institute and State University, Blacksburg.

Grinder, R. E., (1985). The gifted in our midst: By their
    divine deeds, neuroses, and mental test scores we have
    known them. In R. O. Horowitz and M. O'Brien (Eds.), The
    gifted and talented, (pp. 5-35). Washington, DC: American
    Psychological Association.

Horm-Wingerd, D. M. (1985). The influence of playstyle on
    the friendship choices of preschool children. Unpublished
    dissertation, Virginia Polytechnic Institute and State
    University, Blacksburg.

Kogan, N. (1976). Cognitive styles in infancy and early
    childhood. Hillsdale, NJ: Lawrence Erlbaum.

Kogan, N. (1983). Stylistic variation in childhood and
    adolescence: Creativity, metaphor, and cognitive style.
    In J. H. Flavell and E. M. Markman, (Eds.), Handbook of
    child psychology (Volume III) (pp. 630-706). New York:
    Wiley.

Kogan, N. (1987). Some behavioral implications of cognitive
    styles in childhood. Early Child Development and Care,
    29, 95-117.

McDevitt, S. C., & Carey, W. B. (1978). The measurement of
    temperament in 3-7 year old children. Journal of Child
    Psychology and Psychiatry and Related Disciplines, 19,
    245-253.

Miller, B. C., & Gerard, D. (1979). Family influences on the
   development of creativity in children. The Family
   Coordinator, 28(3), 295-312.

Moran, J. D. III, Bomba, A. K., Goble, C. B., & Rake, B. G.
   (1988). The relationship of temperament to creative
   potential in preschool and kindergarten. Unpublished
   research.

Moran, J. D. III, Milgram, R. M., Sawyers, J. K., & Fu, V.
   R. (1983). Original thinking in preschool children. Child
   Development, 53, 921-926.

Olson, D. H., Portner, J., & Lavee, Y. (1985). FACES III.
   Family Social Science, University of Minnesota, St. Paul,
   MN.

Rubin, K. L. (1980). Fantasy play: Its role in the
   development of social skills and social cognition. New
   directions in child development, 9, 69-84.

Ryan, A. M. (1984). Original thinking in preschool children
   and parental child rearing attitudes. Unpublished
   masters' thesis, Virginia Polytechnic Institute and State
   University, Blacksburg.

Saracho, O. N. (1987a). Cognitive styles: Characteristic
   modes of individuality and diversity. Early Child
   Development and Care, 29, 81-93.

Saracho, O. N. (1987b). Cognitive style characteristics as
   related to young children's play behaviors. Early Child
   Development and Care, 29, 163-179.

Shotwell, J., Wolf, D., & Gardner, H. (1979). Exploring
    early symbolization: Styles of achivement.  In B. Sutton-
    Smith (Eds.), Play and learning, pp. 126-157. New York:
    Gardner.

Thomas, A., Chess, S., Birch, H. G., Hertzig, M. E., & Korn,
    S. (1973). Behavioral individuality in early childhood.
    New York: University Press.

Wolf, D., & Grollman, S. H. (1982). Ways of playing:
    Individual differences in imaginative style.  In D. J.
    Pepler and K. H. Rubin (Eds.), The play of children:
    Current theory and research. Basel, Switzerland: Karger.

Zarpoush, P. (1988). Make believe play, creative potential
    and family environment. Unpublished masters' thesis.
    Oklahoma State University, Stillwater.

Table 1

Correlations of Playstyle and Temperament

| Temperament | Playstyle [a] <br> r |
|---|---|
| Activity | .01 |
| Rhythmicity | -.19 |
| Approach | -.27 |
| Adaptability | -.34 |
| Intensity | .11 |
| Mood | -.29 |
| Persistence | .04 |
| Distractibility | .43* |
| Threshold | .21 |

*p < .01

[a] Note: High scores indicate a preference for field independence over field dependence (i.e., more of a dramatist than a patterner).
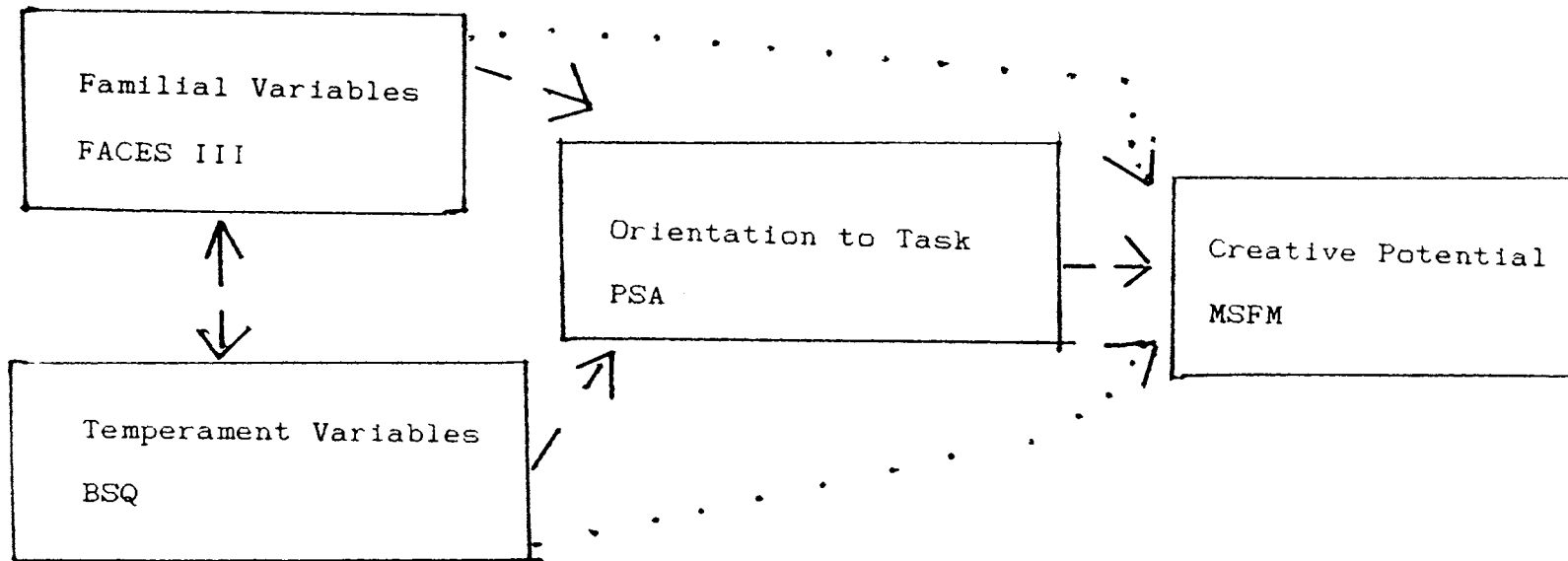
Direct Effects Model = ___   ___   ___   ___

Indirect Effects Model = · · · · · · · · ·

FIGURE 1

APPENDIX A

LITERATURE REVIEW

## CREATIVITY

Within the past thirty years a number of researchers have turned their attention to investigating the determinants of creativity. Since Sputnik in 1957, much research interest has been shown in the area of creativity. Various investigators have identified creativity or creative expression as a critical component of development. In fact, the US Office of Education now includes creative thinking among the abilities required for federal funding of programs for the gifted and talented (Grinder, 1985). Creativity or problem-solving has been cited by various individuals as a need of the future (Wallach, 1985). This renewed attention to creativity comes at a time when researchers are much more sensitive to individual differences and the interactive effects of the individual and the environment.

Treffinger (1986) cites creativity as one of the most complex of human functions. Further, he cites Torrance (1984a) in his discussion of research directions. These include: expanded attention to individual assessment and the diagnostic implications of test data; multivariate analyses of various components of creativity and ways in which combinations of data might significantly enhance long-term predictions of creative accomplishments; and increased investigations of various dimension of styles or psychological types in relation to creative profiles.

In the search to uncover what it is that makes a person creative, researchers have postulated several variables

considered to affect creativity. In this regard, creativity has been studied in relation to parenting variables, birth order, gender, intelligence, family size, personality, and cognitive style, as well as many others. As commonly happens, the primary research emphasis for several years was with adults (i.e., eminent people and undergraduate university students).

In the past few years, a renewed interest in preschool children has occurred. Hence, a number of studies have been conducted which considered creative potential in preschool children. Such topics as gender differences (Freeland, 1987), conceptual tempo (Broberg & Moran, 1988), temperament characteristics (Bomba & Moran, 1989), classroom structure (Gafford, 1988), make-believe play (Zarpoush, 1988), and quality of language elicited (Dance, 1988) have been considered. Although a variety of variables have been considered, few studies have considered a multi-variable approach. In a few recent studies we see the initiation of such an approach. The transition from preschool to kindergarten and the relation to creativity has been considered (Moran, Bomba, Goble, & Rake, 1988) as has the relationship of temperament to family variables (Bomba & Goble, 1988). Nevertheless, a multi-faceted approach considering creativity and other variables has not been adequately addressed.

Although numerous studies have been conducted, few have considered creativity from a multi-variable approach.

Miller and Gerard (1979), in a review of the literature, list background characteristics which appear to be related to the development of creativity in children. They also detail various parental attitudes and behaviors which may affect children's creativity more directly. Research with preschool children has been rather sparse. Miller and Gerard report only 4 studies which consider this age range.

Although 61 studies are considered in their review, Miller and Gerard report no studies which focus on family dynamics from a systemic point of view. Previous studies which have attempted to relate specific parenting style with creativity scores in young children have generally not been successful (Fu, Moran, Sawyers, & Milgram, 1983; Gafford, 1988; Ryan, 1984) with one exception (Zarpoush, 1988). This inability to obtain consistent results may be a product of a unidirectional explanatory model. Individual and family variables certainly play a part in fostering characteristics which contribute to creativity.

FAMILY ENVIRONMENT SCALES

Several scales exist within the literature which can be used to assess either various dimensions of the family environment or family interactions. Within the literature two research instruments predominate. A number of studies have used the Family Environment Scale-FES (Moos & Moos, 1981). Other studies have used the Parental Attitudes Research Instrument-PARI (Emmerich, 1969).

An overview of the two family scales will now be given, including research studies which have used the instrument. As the various scales measure different dimensions of family variables, the generalizability across instruments is limited.

The FES-Family Environment Scale (Moos & Moos, 1981) is used to measure the social climate of the family. This consists of three subscales: cohesion (commitment, help and support from family members); expressiveness (encouragement to act openly and express feelings); and conflict (the amount of anger and aggression which occur among members of the family). The internal consistencies for the subscales are all acceptable, ranging from moderate for expressiveness (.69) to good for cohesion (.78) and conflict (.75) (Bullock & Pennington, 1988).

The Parental Attitudes Research Instrument (Emmerich, 1969) was originally developed by Schaefer and Bell (1958) to assess the relationship between parental attitudes and the personality adjustment of children. The PARI contains three scales consisting of items worded to reflect Authoritarian Control, Hostility-Rejection, and Democratic attitudes of child rearing. Fu, Moran, Sawyers, and Milgram (1983) conducted research looking specifically at preschool children's creativity and the parental influence on it. The study's main focus was to examine the relationship between preschoolers' creativity and parental creativity, child rearing attitudes, and personality. The

instrument used to assess preschoolers' and parents'
creativity was an adaptation from the Wallach and Kogan
(1965) model. The parents were administered four instances
tests (round, noise, red, and wheels). Children were given
three instances tests (round, noise, and red). The Parental
Attitude Research Instrument (PARI) revised by Emmerich
(1965) was used. The PARI measures three parent attitudes:
Authoritarian-Control, Hostility-Rejection, and Democratic
Attitudes. The Myers-Briggs Type Indicator was completed by
parents and reflects the frequency for four basic
personality structures: Extraversion-Introversion, Sensing-
Intuition, Thinking-Feeling, and Judgment-Perception.

The data were analyzed by means of multiple regression.
The creativity scores (popular, unusual, and unique) were
analyzed separately. No parent variables were predictive of
preschoolers' creativity. Fu et al (1983) report that their
lack of results lends itself to speculation. Previous
studies (e.g., Nichols, 1964; Ornstein, 1962; Siegelman,
1973) have yielded conflicting results. Miller and Gerard
consider that this may be due to the incomparability of the
studies.

FACES III (Olson, 1985) was developed to assess the
dimensions of family cohesion and family adaptability
(Olson, Portner, & Lavee, 1985) by means of a 20-item
questionnaire. Family cohesion is defined by Olson et al as
"the emotional bonding that family members have toward one
another" (p. 4). Family adaptability is defined as "the

ability of a marital or family system to change its power
structure, role relationships, and relationship rules in
response to situational and developmental stress" (p. 4).
Internal consistency for the cohesion scale is reported as
$r$ = .77; the value for adaptability is reported as $r$ = .68.
Olson et al report minimal correlation ($r$ = .03) between the
two scales.

FACES III appears to assess different components of
family environment than either the FES or PARI. Given the
lack of consistency in the literature, using a new measure
appears appropriate. FACES III has been used extensively
within the family literature and contains good psychometric
qualities.

OTHER FAMILY VARIABLES AND CREATIVITY

An overview of studies which have considered various
family variables in relation to children's creativity or
creative potential will now be given. The earlier statement
about the dimensions assessed by each instrument should be
noted.

Orth (1988) conducted a study with 38 gifted
preschoolers. In the study parents reported their attitudes
and expectations about childrearing and specific child
behaviors using Strom's Parent As A Teacher Inventory (PAAT)
(1984). Significant correlations were found between
children's fluency and originality and parents' reported
tolerance for frustration on the PAAT. The Frustration
subset included questions about parental responsiveness to

children's questions, expression of fears and anxieties, and the need for attention. Other questions concern play behaviors, specifically the extent to which fighting, interrupting, making noise, and getting dirty are tolerated, as well as the number of toys the child may play with at one time and whether all toys must be put away before bedtime.

Jenkins, Hedlund, and Ripple (1988) conducted a study with 58 single-parent children and 58 two-parent children enrolled in the third grade. Jenkins et al were interested in the relationship between parental perceptions of the family environment and children's perceived competence. These researchers report the single-parent children scored significantly higher than two-parent children on origence ($t$ = 3.37, $p$ < .001). The means on fluency, flexibility, and originality were not significantly different. Jenkins et al stated that the significant differences between the two groups indicate parental separation effects on children's dispositional preference. They speculate as to whether single-parent children prefer to impose their own structure, or have become acclimated to a life style with more self-defined parameters. "The ability to generate a number and variety of alternatives to problems could help children cope with the demands of growing up in a single-parent home" (Jenkins, et al, 1988, p. 156).

References

Bomba, A. K., & Goble, C. B. (1988). Family environment and temperament in preschool children. Unpublished research.

Bomba, A. K., & Moran, J. D. III (1989). The relationship of selected temperament characteristics to creative potential in preschool children. Early Child Development and Care, 41, 225-230.

Broberg, G. C., & Moran, J. D. III (1988). Creative potential and conceptual tempo in preschool children. Creativity Research Journal, 1, 115-121.

Bullock, J. R., & Pennington, D. (1988). The relationship between parental perceptions of the family environment and children's perceived competence. Child Study Journal, 18, 17-31.

Dance, J. A. (1988). Language function, creativity, and structure at activity center in a preschool classroom. Dissertation in progress. Oklahoma State University, Stillwater.

Emmerich, W. (1969). The parental role: A functional cognitive approach. Monographs of the Society for Research in Child Development, 34 (8).

Freeland, S. H. (1987). Gender effects in preschool children's creativity. Unpublished masters' thesis. Oklahoma State University, Stillwater.

Fu, V. R., Moran, J. D. III, Sawyers, J. K., & Milgram, R. M. (1983). Parental influences on creativity in preschool children. Journal of Genetic Psychology, 143, 289-291.

Gafford, B. (1988). The relationship of parental child rearing attitudes and preschoolers' creativity in the participation in structured and unstructured play activities. Unpublished masters' thesis. Oklahoma State University, Stillwater.

Grinder, R. E. (1985). The gifted in our midst: By their divine deeds, neuroses, and mental test scores we have known them. In R. O. Horowitz and M. O'Brien (Eds.), The gifted and talented, (pp. 5-35). Washington, DC: American Psychological Association.

Jenkins, J. E., Hedlund, D. E., & Ripple, R. E. (1988). Parental separation effects on children's divergent thinking abilities and creativity potential. Child Study Journal, 18, 149-159.

Miller, B. C., & Gerard, D. (1979). Family influences on the development of creativity in children. The Family Coordinator, 28(3), 295-312.

Moos, R. H., & Moos, B. S. (1981). Family environment scale manual. Palo Alto: Consulting Psychologists Press.

Moran, J. D. III, Bomba, A. K., Goble, C. B., & Rake, B. G. (1988). The relationship of temperament to creative potential in preschool and kindergarten. Unpublished research.

Nichols, R. C. (1964). Parental attitudes of mothers of intelligent adolescents and creativity of their children. Child Development, 35, 1041-1049.

Ornstein, A. W. (1962). An investigation of parental child-rearing attitudes and creativity in children. Dissertation Abstracts International, 22, 4085-4086.

Orth, L. C. (1988). The relationship of parental child-rearing attitudes to creativity in gifted preschool children. Journal of Creative Behavior, 22, 70.

Ryan, A. M. (1984). Original thinking in preschool children and parental child rearing attitudes. Unpublished masters' thesis, Virginia Polytechnic Institute and State University, Blacksburg.

Siegelman, M. (1973). Parent behavior correlates of personality traits related to creativity in sons and daughters. Journal of Consulting and Clinical Psychology, 40, 43-47.

Torrance, E. P. (1984). The role of creativity in identification of the gifted and talented. Gifted Child Quarterly, 28, 153-156.

Treffinger, D. J. (1986). Research in creativity. Gifted Child Quarterly, 30, 15-19.

Wallach, M. A., & Kogan, N. (1965) Modes of thinking in young children: A study of the creativity-intelligence distinction. New York: Holt, Rinehart, & Winston.

Zarpoush, P. (1988). Make believe play, creative potential,
and family environment. Unpublished masters' thesis.
Oklahoma State University, Stillwater.

APPENDIX B

INSTRUMENTS

Ideational Fluency

The Multidimensional Stimulus Fluency Measure (MSFM) designed by Moran, Milgram, Sawyers, and Fu (1983) is an adaptation of materials by Wallach and Kogan (1965), Ward (1968), and Starkweather (1971) intended to index ideational fluency in preschool children. The three subtests of the MSFM are: Instances, Alternate Uses, and Pattern Meanings. For each task, the subject is provided an example item, then asked to name all the things they can think of to fit the particular task (see pp. 36-40 for detailed test instructions). The reliability and validity of the MSFM have been established as well as scoring protocols and normative data from research with preschool children (Godwin, 1984). Validity of the MSFM as a cognitive style distinct from intelligence was evidenced by Moran et al (1983). Moore and Sawyers (1987) report that the MSFM appears to be relatively stable as an assessment of ideational fluency between the ages of 4 and 7 ($r$ = .54, $p$< .01).

## Instances Task Instructions

"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 many 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 an understanding of the game proceed with test items. If the child does not understand, repeat the procedure from the beginning. If child is still not understanding, terminate the test session.) The examiner should then say, "Now remember, I will name something ande you are supposed to name as many things as you can. Take as long as you want. OK, 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.

## Uses Task Instructions

"Now we have a game called 'what can you use it for?'
The first thing we're going to play with will be a pencil.
(Experimenter 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 in this game.  Do
you know how to play?"  If the child indicates understanding
of the game, proceed with test items.  If the child does not
understand, repeat procedure from beginning.  If the 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 item.

(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 experimenter should reply with a very 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.

<u>Patterns (3 Dimensional)</u>

This task deals with the three dimensional designs.
The administration of the test should go as follows:

"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 things of
were a bridge, a bed, a building block, a chair, and there
are probably a lot of other things too."  (The experimenter
should vary answers so as to give different ones that the
child.)  If the child indicates an understanding of the
game, proceed with the tasks.

Stimuli

Example:
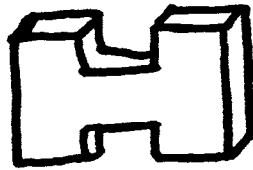


"Hammer"
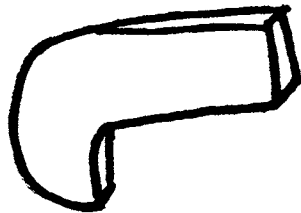


"Half"

Creativity Research Group

General Instructions for the Examiner

Please bear in mind the following guidelines:

(1) The establishment of the proper atmosphere for testing and rapport between examiners and subjects is a critical factor in this study. Examiner behavior can significantly affect the research results. Examiners must behave in a friendly manner, create a pleasant atmosphere, and refrain from any behavior which creates the impression of school-type testing and evaluation. 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 imperative not to express anger or impatience at any time. It is important to maintain a pleasant tone in your speech at all times.

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

(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 stimulating the child's interest in the games, and encouraging 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, record the name, and continue to call the subject by this 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 subjects' questions in the following manner:

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

(b) Questions designed to elicit help from the examiner are best 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 be tested or decide to quit in the middle of a test session. If this occurs use 'gentle cohersion' to try to persuade the child 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) Uses

    (3) Patterns

CREATIVITY RESEARCH

Examiner Report Form (1)

Subject #_____     Date_____

Gender    M    F                      Experimenter_____

Session I: Time in_____         Time out_____

--------------------------------------------------------------

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 #_____          Time to first response_____

                           Response time (first to last)_____


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

Child's Responses:

CREATIVITY RESEARCH

INSTANCES

Answer Form

Subject #_____ Time to first response_____

Response time _____

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

Child's Responses:

CREATIVITY RESEARCH

USES

Answer Form

Subject #_____ Time to first response _____

Response time_____

What can you use a BOX for?

Child's Responses

CREATIVITY RESEARCH

USES

Answer Form

Subject #_____ Time to first response _____

Response time_____

What can you use PAPER for?

Child's Responses:

CREATIVITY RESEARCH

PATTERNS

Answer Form

Subject #_____          Time to first response_____

                             Response time_____

Name all the things you think this could be:
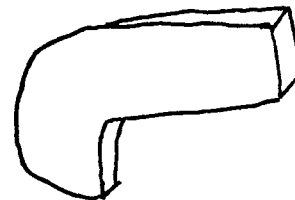
Child's Responses:

CREATIVITY RESEARCH

PATTERNS

Answer Form

Subject #_____     Time to first response_____

Response time  _____

Name all things you think this could be:

Child's Responses

Temperament

The Behavioral Style Questionnaire-BSQ designed by McDevitt and Carey (1978) is a 100-item questionnaire which requests parents to answer questions about their child's behavior on a six-point scale. The BSQ has a high test-retest reliability and acceptable measures of internal consistency (Hubert, Wachs, Peters-Martin, & Gandour, 1982). Carey, Fox, and McDevitt (1988) state the test-retest reliability for ages 3-7 as 0.89, with an alpha reliability of 0.84.

## BEHAVIORAL STYLE QUESTIONNAIRE

by
Sean C. McDevitt, Ph.D. and William B. Carey, M.D.

### DATA SHEET

Relationship to Child _____

Date of Rating _____
month  day  year

### RATING INFORMATION

1. Please base your rating on the child's recent and current behavior (the last four to six weeks).

2. Consider only your own impressions and observations of the child.

3. Rate each question independently. Do not purposely attempt to present a consistent picture of the child.

4. Use extreme ratings where appropriate. Avoid rating only near the middle of the scale.

5. Rate each item quickly. If you cannot decide, skip the item and come back to it later.

6. Rate every item. Circle the number of any item that you are unable to answer due to lack of information or any item that does not apply to your child.

USING THE SCALE SHOWN BELOW, PLEASE MARK AN "X" IN THE SPACE THAT TELLS HOW OFTEN THE CHILD'S RECENT AND CURRENT BEHAVIOR HAS BEEN LIKE THE BEHAVIOR DESCRIBED BY EACH ITEM.

| Almost never | Rarely | Usually does not | Usually does | Frequently | Almost always |
|:---:|:---:|:---:|:---:|:---:|:---:|
| 1 | 2 | 3 | 4 | 5 | 6 |

1. The child is moody for more than a few minutes when corrected or disciplined.  
almost never : 1 : 2 : 3 : 4 : 5 : 6 almost always

2. The child seems not to hear when involved in a favorite activity.  
almost never : 1 : 2 : 3 : 4 : 5 : 6 almost always

3. The child can be coaxed out of a forbidden activity.  
almost never : 1 : 2 : 3 : 4 : 5 : 6 almost always

4. The child runs ahead when walking with the parent.  
almost never : 1 : 2 : 3 : 4 : 5 : 6 almost always

5. The child laughs or smiles while playing.  
almost never : 1 : 2 : 3 : 4 : 5 : 6 almost always

6. The child moves slowly when working on a project or activity.  
almost never : 1 : 2 : 3 : 4 : 5 : 6 almost always

7. The child responds intensely to disapproval.  
almost never : 1 : 2 : 3 : 4 : 5 : 6 almost always

8. The child needs a period of adjustment to get used to changes in school or at home.  
almost never : 1 : 2 : 3 : 4 : 5 : 6 almost always

9. The child enjoys games that involve running or jumping.  
almost never : 1 : 2 : 3 : 4 : 5 : 6 almost always

10. The child is slow to adjust to changes in household rules.  
almost never : 1 : 2 : 3 : 4 : 5 : 6 almost always

11. The child has bowel movements at about the same time each day.  
almost never : 1 : 2 : 3 : 4 : 5 : 6 almost always

12. The child is willing to try new things.  
almost never : 1 : 2 : 3 : 4 : 5 : 6 almost always

13. The child sits calmly while watching TV or listening to music.  
almost never : 1 : 2 : 3 : 4 : 5 : 6 almost always

14. The child leaves or wants to leave the table during meals.  
almost never : 1 : 2 : 3 : 4 : 5 : 6 almost always

15. Changes in plans bother the child.  
almost never : 1 : 2 : 3 : 4 : 5 : 6 almost always

16. The child notices minor changes in mother's dress or appearance (clothing, hairstyle, etc.).  
almost never : 1 : 2 : 3 : 4 : 5 : 6 almost always

| Almost<br>never<br>1 | Rarely<br><br>2 | Usually<br>does not<br>3 | Usually<br>does<br>4 | Frequently<br><br>5 | Almost<br>always<br>6 |
|---|---|---|---|---|---|

17. The child does not acknowledge a call to come in if involved in something.

almost never ___:___:___:___:___:___ almost always
1 2 3 4 5 6

18. The child responds to mild disapproval by the parent ( a frown or shake of the head).

almost never ___:___:___:___:___:___ almost always
1 2 3 4 5 6

19. The child settles arguments with playmates within a few minutes.

almost never ___:___:___:___:___:___ almost always
1 2 3 4 5 6

20. The child shows strong reaction to things, both positive and negative.

almost never ___:___:___:___:___:___ almost always
1 2 3 4 5 6

21. The child had trouble leaving the mother the first three days when he/she entered school.

almost never ___:___:___:___:___:___ almost always
1 2 3 4 5 6

22. The child picks up the nuances or subtleties of parental explanations (example: implied meanings).

almost never ___:___:___:___:___:___ almost always
1 2 3 4 5 6

23. The child falls asleep as soon as he/she is put to bed.

almost never ___:___:___:___:___:___ almost always
1 2 3 4 5 6

24. The child moves about actively when he/she explores new places.

almost never ___:___:___:___:___:___ almost always
1 2 3 4 5 6

25. The child likes to go to new places rather than familiar ones.

almost never ___:___:___:___:___:___ almost always
1 2 3 4 5 6

26. The child sits quietly while waiting.

almost never ___:___:___:___:___:___ almost always
1 2 3 4 5 6

27. The child spends over an hour reading a book or looking at the pictures.

almost never ___:___:___:___:___:___ almost always
1 2 3 4 5 6

28. The child learns new things at his/her level quickly and easily.

almost never ___:___:___:___:___:___ almost always
1 2 3 4 5 6

29. The child smiles or laughs when he/she meets new visitors at home.

almost never ___:___:___:___:___:___ almost always
1 2 3 4 5 6

30. The child is easily excited by praise.

almost never ___:___:___:___:___:___ almost always
1 2 3 4 5 6

31. The child is outgoing with strangers.

almost never ___:___:___:___:___:___ almost always
1 2 3 4 5 6

32. The child fidgets when he/she has to stay still.

almost never ___:___:___:___:___:___ almost always
1 2 3 4 5 6

33. The child says that he/she is "bored" with his/her toys and games.

almost never ___:___:___:___:___:___ almost always
1 2 3 4 5 6

| Almost never | Rarely | Usually does not | Usually does | Frequently | Almost always |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |

34. The child is annoyed at interrupting play to comply with a parental request.
almost never __:__:__:__:__:__ almost always
1  2  3  4  5  6

35. The child practices an activity until he/she masters it.
almost never __:__:__:__:__:__ almost always
1  2  3  4  5  6

36. The child eats about the same amount at supper from day to day.
almost never __:__:__:__:__:__ almost always
1  2  3  4  5  6

37. Unusual noises (sirens, thunder, etc.) interrupt the child's behavior.
almost never __:__:__:__:__:__ almost always
1  2  3  4  5  6

38. The child complains when tired.
almost never __:__:__:__:__:__ almost always
1  2  3  4  5  6

39. The child loses interest in a new toy or game the same day.
almost never __:__:__:__:__:__ almost always
1  2  3  4  5  6

40. The child becomes engrossed in an interesting activity for one half hour or more.
almost never __:__:__:__:__:__ almost always
1  2  3  4  5  6

41. The child cries intensely when hurt.
almost never __:__:__:__:__:__ almost always
1  2  3  4  5  6

42. The child reacts strongly to kidding or light-hearted comments.
almost never __:__:__:__:__:__ almost always
1  2  3  4  5  6

43. The child approaches children his/her age that he/she doesn't know.
almost never __:__:__:__:__:__ almost always
1  2  3  4  5  6

44. The child plays quietly with his/her toys and games.
almost never __:__:__:__:__:__ almost always
1  2  3  4  5  6

45. The child is outwardly expressive of his/her emotions.
almost never __:__:__:__:__:__ almost always
1  2  3  4  5  6

46. The child is enthusiastic when he/she masters an activity and wants to show everyone.
almost never __:__:__:__:__:__ almost always
1  2  3  4  5  6

47. The child is sleepy at his/her bed-time.
almost never __:__:__:__:__:__ almost always
1  2  3  4  5  6

48. The child stops an activity because something else catches his/her attention.
almost never __:__:__:__:__:__ almost always
1  2  3  4  5  6

49. The child is hungry at dinner time.
almost never __:__:__:__:__:__ almost always
1  2  3  4  5  6

50. The child holds back until sure of himself/herself.
almost never __:__:__:__:__:__ almost always
1  2  3  4  5  6

| Almost never 1 | Rarely 2 | Usually does not 3 | Usually does 4 | Frequently 5 | Almost always 6 |
|---|---|---|---|---|---|

51. The child looks up when someone walks past the door-way.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

52. The child becomes upset if he/she misses a regular television program.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

53. The child reacts strongly (cries or complains) to a disappointment or failure.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

54. The child accepts new foods within one or two tries.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

55. The child has difficulty getting used to new situations.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

56. The child will avoid misbehavior if punished firmly once or twice.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

57. The child is sensitive to noises (telephone, doorbell) and looks up right away.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

58. The child prefers active outdoor play to quiet play inside.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

59. The child dislikes milk or other drinks if not ice-cold.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

60. The child notices differences or changes in the consistency of food.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

61. The child adjusts easily to changes in his/her routine.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

62. The child eats about the same amount at breakfast from day to day.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

63. The child seems to take setbacks in stride.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

64. The child cries or whines when frustrated.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

65. The child repeats behavior for which he/she has previously been punished.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

66. The child looks up from playing when the telephone rings.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

67. The child is willing to try new foods.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

|  | Almost<br>never<br>1 | Rarely<br><br>2 | Usually<br>does not<br>3 | Usually<br>does<br>4 | Frequently<br><br>5 | Almost<br>always<br>6 |
|---|---|---|---|---|---|---|

68. The child needs encouragement before he/she will try new things.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

69. The child cries or whines when ill with a cold or upset stomach.  
almost never ___:___:___:___:___·___ almost always  1 2 3 4 5 6

70. The child runs to get where he/she wants to go.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

71. The child's attention drifts away or lapses when listening to parental instructions.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

72. The child becomes angry with one of his/her playmates.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

73. The child is reluctant to give up when trying to do a difficult task.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

74. The child reacts to mild approval from the parent (a nod or smile).  
almost never ·1 2 3 4 5 6 almost always

75. The child requests "something to eat" between meals and regular snacks.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

76. The child rushes to greet the parent or greets loudly after absence during the day.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

77. The child looks up when he/she hears voices in the next room.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

78. The child protests when denied a request by by the parent.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

79. The child ignores loud noises when reading or looking at pictures in a book.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

80. The child dislikes a food that he/she had previously seemed to accept.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

81. The child stops what he/she is doing and looks up when the parent enters the room.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

82. The child cries for more than a few minutes when hurt.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

83. The child watches a long ( 1 hour or more) TV program without getting up to do something else.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

84. The child spontaneously wakes up at the usual time on weekends and holidays.  
almost never ___:___:___:___:___:___ almost always  1 2 3 4 5 6

| Almost never | Rarely | Usually does not | Usually does | Frequently | Almost always |
|:---:|:---:|:---:|:---:|:---:|:---:|
| 1 | 2 | 3 | 4 | 5 | 6 |

85. The child responds to sounds or noises unrelated to his/her activity.  almost never __:__:__:__:__:__ almost always 1 2 3 4 5 6

86. The child avoids new guests or visitors.  almost never __:__:__:__:__:__ almost always 1 2 3 4 5 6

87. The child fidgets when a story is being read to him/her.  almost never __:__:__:__:__:__ almost always 1 2 3 4 5 6

88. The child becomes upset or cries over minor falls or bumps.  almost never __:__:__:__:__:__ almost always 1 2 3 4 5 6

89. The child interrupts an activity to listen to conversation around him/her.  almost never __:__:__:__:__:__ almost always 1 2 3 4 5 6

90. The child is unwilling to leave a play activity that he/she has not completed.  almost never __:__:__:__:__:__ almost always 1 2 3 4 5 6

91. The child is able to fall asleep when there is conversation in a nearby room.  almost never __:__:__:__:__:__ almost always 1 2 3 4 5 6

92. The child becomes highly excited when presented with a new toy or game.  almost never __:__:__:__:__:__ almost always 1 2 3 4 5 6

93. The child pays attention from start to finish when the parent tries to explain something to him/her.  almost never __:__:__:__:__:__ almost always 1 2 3 4 5 6

94. The child speaks so quickly that it is sometimes difficult to understand him/her.  almost never __:__:__:__:__:__ almost always 1 2 3 4 5 6

95. The child wants to leave the table during meals to answer the doorbell or phone.  almost never __:__:__:__:__:__ almost always 1 2 3 4 5 6

96. The child complains of events in school or with playmates that day.  almost never __:__:__:__:__:__ almost always 1 2 3 4 5 6

97. The child frowns when asked to do a chore by the parent.  almost never __:__:__:__:__:__ almost always 1 2 3 4 5 6

98. The child tends to hold back in new situations.  almost never __:__:__:__:__:__ almost always 1 2 3 4 5 6

99. The child laughs hard while watching television cartoons or comedy.  almost never __:__:__:__:__:__ almost always 1 2 3 4 5 6

100. The child has "off" days when he/she is moody or cranky.  almost never __:__:__:__:__:__ almost always 1 2 3 4 5 6

59

FACES III

FACES III (Olson, Portner, & Lavee, 1985) was developed
to assess the dimensions of family cohesion and family
adaptability. The measure consists of two scales,
compiled to make a 20-item questionnaire. Family
cohesion is defined by Olson et al as "the emotional
bonding that family members have toward one another" (p.
4). Family adaptability is defined as "the ability of a
marital or a family system to change its power structure,
role relationships, and relationship rules in response to
situational and developmental stress" (p. 4). Internal
consistency for the cohesion scale is reported as $r$ =
.77; the value for adaptability is reported as $r$ = .68.
Olson et al report minimal ($r$ = .03) correlation between
the two scales. FACES is scored by adding the even-
numbered responses to yield a score for adaptability.
The odd-numbered responses are summed for a cohesion
score.

# FACES III

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| ALMOST NEVER | ONCE IN A WHILE | SOMETIMES | FREQUENTLY | ALMOST ALWAYS |

INSTRUCTIONS:   The following statements describe common family situations.   Using the 5 responses listed above, please place the NUMBER (1-5) that you believe best describes your family.

_____  1.  Family members ask each other for help.

_____  2.  In solving problems, the childrens's suggestions are followed.

_____  3.  We approve of each other's friends.

_____  4.  Children have a say in their discipline.

_____  5.  We like to do things with just our immediate family.

_____  6.  Different persons act as leaders in our family.

_____  7.  Family members feel closer to other family members than to people outside the family.

_____  8.  Our family changes its way of handling tasks.

_____  9.  Family members like to spend free time with each other.

_____ 10.  Parent(s) and children discuss punishment together.

_____ 11.  Family members feel very close to each other.

_____ 12.  The children make the decisions in our family.

_____ 13.  When our family gets together for activities, everybody is present.

_____ 14.  Rules change in our family.

_____ 15.  We can easily think of things to do together as a family.

_____ 16.  We shift household reponsibilities from person to person.

_____ 17.  Family members consult other family members on their decisions.

_____ 18.  It is hard to identify the leader(s) in our family.

_____ 19.  Family togetherness is very important.

_____ 20.  It is hard to tell who does which household chores.

Play Style Assessment

The Play Style Assessment-PSA was developed by Horm-Wingerd (1985) to determine which play style group typifies a child's play. The PSA is based on the works of Wolf and Grollman (1982). The the three possible classifications in the PSA are: patterner, dramatist, or mixed player. The child's classroom teacher completes a series of two-choice questions based on the child's usual play behavior. The PSA has demonstrated high internal consistency with an alpha of .91 (Horm-Wingerd & Lin, 1988). Empirical evidence for validity has been demonstrated through significant correlations ($r$ = .39) with teacher ratings and children's self reported play preferences (Horm-Wingerd & Lin, 1988) and with teacher ratings and the observed frequency of dramatic play ($r$ = .49) as evidenced by Horm-Wingerd and Sawyers (1988).

**Play Style Assessment**
Teacher Form

#_____

DIRECTIONS: For each pair of statements listed below, please mark an X beside the one statement that best describes the above named child's (see attached card) typical play behavior.

Please keep in mind this child's typical play behavior while reading and responding to the following statements.

1. When involved in pretend play that includes acting out feelings and fantasies, child tends to

   _____ cut-off the pretend play and turn attention to other activities.
                          OR
   _____ stick with the pretend play and carry it out for a while.

2. When playing with blocks, child tends to

   _____ not pay much attention to the size, shape, or color of blocks.
                          OR
   _____ sort or arrange blocks by size, shape, or color.

3. When involved in pretend play, child tends to

   _____ break away from the pretend play story to investigate nearby objects, toys, or events.
                          OR
   _____ continue play for a while without interrupting the pretend or make-believe story.

4. Child spends most of his or her play time

_____ manipulating or arranging toys such as blocks and legos.
OR
_____ making-up pretend characters and situations.

---

5. When playing make-believe, child tends to

_____ use anything to stand for objects in play (e.g., can use a block as a cup or can pantomime the presence of a cup).
OR
_____ use things that look like the real objects needed in play (e.g., uses a toy cup as a cup; uses a ruler as a sword).

---

6. In a single make-believe story, child tends to

_____ cast a playmate in different roles (e.g., "Now Tommy is the good guy" ; "Now Tommy is the bad guy").
OR
_____ assign a playmate one fixed role which continues throughout the play story (e.g., Tommy is the good guy the entire play story).

---

7. When involved in art activities, child prefers to use

_____ fingerpaints.
OR
_____ crayons.

---

8. If something unusual happens (e.g., fire whistle sounds or telephone rings) when child is involved in pretend play, child tends to

_____ continue playing and may include the unusual event in the play story.
OR
_____ stop playing and goes to investigate the unusual event.

---

9. During play, child

_____ often stops play to handle, look at, explore, or sort toys or playthings.
OR
_____ does not stop play to handle, look at, explore, or sort toys or playthings.

10. When playing with toys such as blocks, child tends to

_____ involve other children or adults.
OR
_____ play alone.

_____

11. While playing, child tends to

_____ freely show emotions and feelings.
OR
_____ be reluctant to show emotions and feelings.

_____

12. When building with blocks, child tends to

_____ play alone and experiment with balancing and stacking the blocks.
OR
_____ include other people and make block play a turn-taking or other social game.

_____

13. In make-believe play, child tends to

_____ pretend an object can stand for many different things (e.g., the same block can be a cake, a candle, or a person).
OR
_____ pretend an object can only be used in one way (e.g., if the child says a block is a piece of cake, the child continues to refer to the block as cake even after the make-believe play story ends).

_____

14. Child appears to _____ games and play activities which involve acting-out fantasies and feelings.

_____ like
OR
_____ dislike

_____

15. When playing with blocks with other children or adults, child tends to

_____ focus attention on the physical properties (shape, size) of the blocks.
OR
_____ focus attention on the social interactions (conversations) of the children or adults.

16. When given a choice, child prefers to

_____ manipulate toys such as puzzles.
                    OR
_____ play make-believe or pretending games.

---

17. When playing with blocks, child tends to

_____ construct buildings or designs.
                    OR
_____ use blocks as props for pretend play (e.g., pretends blocks are food and gives them to mother to eat).

---

18. When child is punished, child typically

_____ re-enacts the punishment in play.
                    OR
_____ does not re-enact the punishment in play.

---

19. When playing make-believe, child tends to

_____ use real or actual toys or objects in play.
                    OR
_____ create pretend toys or imaginary objects to use in play.

---

20. Child usually ends pretend or make-believe play stories

_____ by providing an ending that goes with the play story (e.g., waving "bye-bye" to pretend guests).
                    OR
_____ by suddenly focusing attention on nearby toys or objects (e.g., asking name and uses of a new toy).

---

21. When playing make-believe, child tends to

_____ create non-existent or pretend people in play.
            OR
_____ use real people in play.

22. In play, child

_____ is reluctant to act out fantasies and feelings.
OR
_____ is reluctant to stop fantasizing and expressing feelings.

---

23. In make-believe play, child tends to

_____ always look for more realistic or similar toys or objects to stand for real objects (e.g., will use a trianglar block to stand for a piece of cake).
OR
_____ easily accept any kind of toy or object to stand for real objects (e.g., can use a red bead to stand for a piece of cake).

---

24. When asked to engage in activities requiring close attention to the characteristics or properties of toys or objects (e.g., color, shape, size), child tends to

_____ enjoy these types of activities.
OR
_____ become bored and frustrated with the activities.

---

25. Child demonstrates curiosity or a strong interest in

_____ people and feelings - sharing experiences and communicating with others.
OR
_____ objects in the world around them - what they are called, how they work, and how many different ways they can be used.

---

**Thank you for completing this form.**

Play Style Assessment

_Teacher_ Form

Subject # _____

| 1. | 1. P | | 16. | 1. P |
| | 2. D | | | 2. D |
| 2. | 1. D | | 17. | 1. P |
| | 2. P | | | 2. D |
| 3. | 1. P | | 18. | 1. D |
| | 2. D | | | 2. P |
| 4. | 1. P | | 19. | 1. P |
| | 2. D | | | 2. D |
| 5. | 1. D | | 20. | 1. D |
| | 2. P | | | 2. P |
| 6. | 1. D | | 21. | 1. D |
| | 2. P | | | 2. P |
| 7. | 1. D | | 22. | 1. P |
| | 2. P | | | 2. D |
| 8. | 1. D | | 23. | 1. P |
| | 2. P | | | 2. D |
| 9. | 1. P | | 24. | 1. P |
| | 2. D | | | 2. D |
| 10. | 1. D | | 25. | 1. D |
| | 2. P | | | 2. P |
| 11. | 1. D | | | |
| | 2. P | | | |
| 12. | 1. P | | | |
| | 2. D | | | |
| 13. | 1. D | | | |
| | 2. P | | | |
| 14. | 1. D | | | |
| | 2. P | | | |
| 15. | 1. P | | | |
| | 2. D | | | |

# of Ps = _____ X 1 = _____

# of Ds = _____ X 2 = _____

SCORE = _____

APPENDIX C

RAW DATA

Variable Code Labels

```
VARIABLE LABELS
  V1 'SUBJECT NUMBER'
  V2 'ACTIVITY'
  V3 'RHYTHMICITY'
  V4 'APPROACH'
  V5 'ADAPTABILITY'
  V6 'INTENSITY'
  V7 'MOOD'
  V8 'PERSISTENCE'
  V9 'DISTRACTIBILITY'
  V10 'THRESHOLD'/
  V11 'SUBJECT NUMBER'
  V12 'ORIGINAL INSTANCES'
  V13 'POPULAR INSTANCES'
  V14 'ORIGINAL USES'
  V15 'POPULAR USES'
  V16 'ORIGINAL PATTERNS'
  V17 'POPULAR PATTERNS'
  V18 'ORIGINAL TOTAL'
  V19 'POPULAR TOTAL'
  V20 'TOTAL'
  V21 'COHESION'
  V22 'FACES ADAPT'
  V23 'PLAY STYLE'
```

Raw Data

| | V1 | V2 | V3 | V4 | V5 | V6 | V7 | V8 | V9 | V10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 588320 | 2.46 | 2.78 | 4.00 | 3.27 | 4.92 | 3.08 | 3.20 | 4.20 | 4.80 | |
| 588403 | 4.54 | 3.56 | 2.67 | 3.09 | 4.08 | 3.25 | 4.10 | 4.80 | 3.55 | |
| 588404 | 3.85 | 3.56 | 3.92 | 3.45 | 5.00 | 3.50 | 2.20 | 3.22 | 2.91 | |
| 588405 | 5.38 | 3.11 | 6.00 | 5.18 | 5.08 | 4.92 | 3.00 | 3.40 | 4.00 | |
| 588417 | 3.84 | 3.44 | 2.08 | 1.90 | 4.70 | 1.83 | 2.70 | 4.75 | 3.27 | |
| 588418 | 4.15 | 2.33 | 1.33 | 1.36 | 4.08 | 2.33 | 3.30 | 3.50 | 3.55 | |
| 588419 | 3.31 | 2.56 | 3.17 | 2.40 | 4.08 | 3.67 | 2.40 | 3.56 | 4.00 | |
| 588424 | 3.74 | 2.88 | 3.66 | 3.66 | 4.83 | 3.91 | 3.44 | 3.00 | 4.09 | |
| 588425 | 3.77 | 3.67 | 3.00 | 2.36 | 4.67 | 3.08 | 2.80 | 3.00 | 3.36 | |
| 588426 | 4.23 | 3.33 | 2.42 | 2.36 | 4.58 | 3.33 | 3.40 | 4.00 | 3.64 | |
| 588427 | 3.85 | 3.78 | 3.83 | 3.18 | 5.08 | 3.42 | 2.40 | 3.90 | 4.36 | |
| 588516 | 3.58 | 2.25 | 2.80 | 2.91 | 4.60 | 3.58 | 3.30 | 4.11 | 3.72 | |
| 588422 | 3.38 | 4.00 | 3.92 | 1.82 | 4.17 | 2.73 | 1.50 | 2.70 | 3.36 | |
| 488107 | 4.38 | 3.89 | 4.83 | 3.82 | 4.25 | 3.58 | 3.60 | 4.50 | 3.00 | |
| 488115 | 4.31 | 2.44 | 2.75 | 3.00 | 5.08 | 3.67 | 3.60 | 4.80 | 4.45 | |
| 488117 | 4.31 | 2.56 | 1.92 | 2.36 | 3.83 | 3.00 | 2.90 | 3.90 | 4.18 | |
| 488431 | 3.92 | 3.89 | 3.75 | 2.82 | 3.75 | 3.42 | 2.64 | 3.30 | 4.36 | |
| 488433 | 3.69 | 4.11 | 2.55 | 1.91 | 5.42 | 4.33 | 3.20 | 3.80 | 4.27 | |
| 488434 | 2.62 | 3.78 | 2.58 | 1.18 | 3.50 | 2.58 | 2.00 | 3.70 | 3.64 | |
| 488435 | 3.15 | 3.67 | 2.00 | 2.36 | 4.58 | 2.82 | 2.20 | 3.80 | 3.20 | |
| 488436 | 4.00 | 2.67 | 2.17 | 2.64 | 3.92 | 2.92 | 3.00 | 3.80 | 4.09 | |
| 488437 | 3.62 | 2.25 | 2.08 | 2.09 | 3.90 | 2.58 | 2.00 | 4.70 | 4.27 | |
| 488430 | 3.85 | 2.66 | 1.83 | 2.81 | 4.41 | 2.50 | 3.40 | 4.00 | 3.90 | |
| 488439 | 3.08 | 2.78 | 1.83 | 2.27 | 5.00 | 3.08 | 2.70 | 3.90 | 4.10 | |
| 388515 | 3.62 | 3.11 | 3.50 | 2.45 | 4.83 | 2.83 | 2.10 | 4.90 | 4.36 | |
| 388458 | 4.08 | 4.11 | 3.83 | 2.82 | 4.42 | 4.50 | 2.90 | 3.20 | 3.18 | |
| 388459 | 3.69 | 4.11 | 3.25 | 2.82 | 4.42 | 3.00 | 2.50 | 4.50 | 3.55 | |
| 388461 | 2.85 | 3.56 | 3.08 | 2.73 | 3.83 | 2.82 | 3.00 | 3.90 | 3.55 | |
| 388463 | 4.54 | 2.89 | 2.93 | 3.09 | 4.42 | 3.08 | 3.40 | 4.10 | 3.73 | |
| 388465 | 2.69 | 2.33 | 2.92 | 2.80 | 5.00 | 3.83 | 2.50 | 3.90 | 4.55 | |
| 388468 | 3.67 | 3.11 | 3.50 | 2.27 | 3.75 | 3.58 | 3.10 | 4.20 | 4.55 | |
| 388470 | 3.58 | 3.44 | 4.08 | 3.55 | 4.25 | 3.75 | 2.67 | 3.78 | 3.64 | |

NUMBER OF CASES READ = 32    NUMBER OF CASES LISTED = 32

| | V11 | V12 | V13 | V14 | V15 | V16 | V17 | V18 | V19 | V20 | V21 | V22 | V23 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 588320 | 2 | 7 | 0 | 7 | 4 | 3 | 6 | 17 | 23 | 41 | 27 | 44 | |
| 588403 | 5 | 2 | 2 | 5 | 26 | 6 | 33 | 13 | 46 | 45 | 26 | 39 | |
| 588404 | 4 | 2 | 1 | 7 | 7 | 5 | 12 | 14 | 26 | 34 | 24 | 30 | |
| 588405 | 4 | 2 | 4 | 5 | 3 | 2 | 11 | 9 | 20 | 44 | 23 | 44 | |
| 588417 | 8 | 6 | 2 | 6 | 4 | 1 | 14 | 13 | 27 | 44 | 22 | 44 | |
| 588418 | 4 | 4 | 4 | 7 | 11 | 5 | 19 | 16 | 35 | 35 | 22 | 46 | |
| 588419 | 3 | 4 | 6 | 5 | 10 | 3 | 19 | 12 | 31 | 44 | 28 | 30 | |
| 588424 | 6 | 2 | 1 | 8 | 2 | 8 | 9 | 18 | 27 | 49 | 34 | 28 | |
| 588425 | 7 | 4 | 0 | 7 | 7 | 8 | 14 | 19 | 33 | 47 | 30 | 29 | |
| 588426 | 16 | 3 | 0 | 5 | 4 | 4 | 20 | 12 | 32 | 40 | 22 | 30 | |
| 588427 | 24 | 14 | 4 | 4 | 8 | 6 | 36 | 24 | 60 | 40 | 30 | 43 | |
| 588516 | 7 | 1 | 1 | 5 | 4 | 5 | 12 | 11 | 23 | 35 | 29 | 31 | |
| 588422 | 17 | 7 | 3 | 11 | 17 | 9 | 37 | 27 | 64 | 33 | 29 | 31 | |
| 488107 | 12 | 6 | 5 | 8 | 7 | 5 | 24 | 19 | 43 | 38 | 33 | 35 | |
| 488115 | 7 | 5 | 0 | 9 | 7 | 5 | 14 | 19 | 33 | 50 | 35 | 42 | |
| 488117 | 19 | 10 | 1 | 9 | 8 | 4 | 28 | 23 | 51 | 47 | 27 | 47 | |
| 488431 | 6 | 8 | 0 | 12 | 10 | 6 | 16 | 26 | 42 | 43 | 30 | 34 | |
| 488433 | 1 | 4 | 1 | 3 | 1 | 4 | 3 | 11 | 14 | 45 | 27 | 43 | |
| 488434 | 2 | 7 | 0 | 4 | 4 | 2 | 6 | 13 | 19 | 48 | 17 | 38 | |
| 488435 | 22 | 10 | 1 | 13 | 14 | 7 | 37 | 30 | 67 | 39 | 36 | 40 | |
| 488436 | 7 | 2 | 1 | 6 | 1 | 6 | 9 | 14 | 23 | 46 | 29 | 35 | |
| 488437 | 1 | 3 | 1 | 6 | 10 | 4 | 12 | 13 | 25 | 45 | 18 | 46 | |
| 488430 | 12 | 5 | 2 | 6 | 2 | 5 | 16 | 16 | 32 | 44 | 23 | 39 | |
| 488439 | 41 | 15 | 4 | 9 | 10 | 8 | 55 | 32 | 87 | 42 | 24 | 41 | |
| 388515 | 2 | 3 | 1 | 5 | 4 | 1 | 7 | 9 | 16 | 49 | 32 | 36 | |
| 388458 | 11 | 7 | 2 | 5 | 6 | 5 | 19 | 17 | 36 | 41 | 25 | 29 | |
| 388459 | 3 | 2 | 0 | 6 | 1 | 2 | 4 | 10 | 14 | 43 | 17 | 47 | |
| 388461 | 1 | 2 | 2 | 4 | 1 | 4 | 4 | 10 | 14 | 40 | 22 | 46 | |
| 388463 | 5 | 2 | 0 | 9 | 2 | 0 | 7 | 11 | 18 | 47 | 23 | 48 | |
| 388465 | 3 | 1 | 1 | 3 | 7 | 1 | 11 | 5 | 16 | 44 | 22 | 44 | |
| 388468 | 24 | 6 | 0 | 11 | 6 | 1 | 30 | 18 | 48 | 35 | 33 | 25 | |
| 388470 | 6 | 0 | 2 | 1 | 1 | 1 | 9 | 2 | 11 | 39 | 19 | 34 | |

NUMBER OF CASES READ =    32    NUMBER OF CASES LISTED =    32

APPENDIX D

SUMMARY OF ANALYSES

V1        SUBJECT NUMBER

| VALUE LABEL | VALUE | FREQUENCY | PERCENT | VALID PERCENT | CUM PERCENT |
|---|---|---|---|---|---|
| | 388458 | 1 | 3.1 | 3.1 | 3.1 |
| | 388459 | 1 | 3.1 | 3.1 | 6.3 |
| | 388461 | 1 | 3.1 | 3.1 | 9.4 |
| | 388463 | 1 | 3.1 | 3.1 | 12.5 |
| | 388465 | 1 | 3.1 | 3.1 | 15.6 |
| | 388468 | 1 | 3.1 | 3.1 | 18.8 |
| | 388470 | 1 | 3.1 | 3.1 | 21.9 |
| | 388515 | 1 | 3.1 | 3.1 | 25.0 |
| | 488107 | 1 | 3.1 | 3.1 | 28.1 |
| | 488115 | 1 | 3.1 | 3.1 | 31.3 |
| | 488117 | 1 | 3.1 | 3.1 | 34.4 |
| | 488430 | 1 | 3.1 | 3.1 | 37.5 |
| | 488431 | 1 | 3.1 | 3.1 | 40.6 |
| | 488433 | 1 | 3.1 | 3.1 | 43.8 |
| | 488434 | 1 | 3.1 | 3.1 | 46.9 |
| | 488435 | 1 | 3.1 | 3.1 | 50.0 |
| | 488436 | 1 | 3.1 | 3.1 | 53.1 |
| | 488437 | 1 | 3.1 | 3.1 | 56.3 |
| | 488439 | 1 | 3.1 | 3.1 | 59.4 |
| | 588320 | 1 | 3.1 | 3.1 | 62.5 |
| | 588403 | 1 | 3.1 | 3.1 | 65.6 |
| | 588404 | 1 | 3.1 | 3.1 | 68.8 |
| | 588405 | 1 | 3.1 | 3.1 | 71.9 |
| | 588417 | 1 | 3.1 | 3.1 | 75.0 |
| | 588418 | 1 | 3.1 | 3.1 | 78.1 |
| | 588419 | 1 | 3.1 | 3.1 | 81.3 |
| | 588422 | 1 | 3.1 | 3.1 | 84.4 |
| | 588424 | 1 | 3.1 | 3.1 | 87.5 |
| | 588425 | 1 | 3.1 | 3.1 | 90.6 |
| | 588426 | 1 | 3.1 | 3.1 | 93.8 |
| | 588427 | 1 | 3.1 | 3.1 | 96.9 |
| | 588516 | 1 | 3.1 | 3.1 | 100.0 |
| | TOTAL | 32 | 100.0 | 100.0 | |

```
MEAN      504031.219    STD ERR   14273.926    MEDIAN    488435.500
MODE      388458.000    STD DEV   80745.519    VARIANCE  6519838780
KURTOSIS      -1.392    S E KURT       .809    SKEWNESS       -.299
S E SKEW        .414    RANGE    200058.000    MINIMUM   388458.000
MAXIMUM   588516.000    SUM      16128999.0
```

VALID CASES     32    MISSING CASES     0

V2          ACTIVITY

| VALUE LABEL | VALUE | FREQUENCY | PERCENT | VALID PERCENT | CUM PERCENT |
|---|---|---|---|---|---|
| | 2.46 | 1 | 3.1 | 3.1 | 3.1 |
| | 2.62 | 1 | 3.1 | 3.1 | 6.3 |
| | 2.69 | 1 | 3.1 | 3.1 | 9.4 |
| | 2.85 | 1 | 3.1 | 3.1 | 12.5 |
| | 3.08 | 1 | 3.1 | 3.1 | 15.6 |
| | 3.15 | 1 | 3.1 | 3.1 | 18.8 |
| | 3.31 | 1 | 3.1 | 3.1 | 21.9 |
| | 3.38 | 1 | 3.1 | 3.1 | 25.0 |
| | 3.58 | 2 | 6.3 | 6.3 | 31.3 |
| | 3.62 | 2 | 6.3 | 6.3 | 37.5 |
| | 3.67 | 1 | 3.1 | 3.1 | 40.6 |
| | 3.69 | 2 | 6.3 | 6.3 | 46.9 |
| | 3.74 | 1 | 3.1 | 3.1 | 50.0 |
| | 3.77 | 1 | 3.1 | 3.1 | 53.1 |
| | 3.84 | 1 | 3.1 | 3.1 | 56.3 |
| | 3.85 | 3 | 9.4 | 9.4 | 65.6 |
| | 3.92 | 1 | 3.1 | 3.1 | 68.8 |
| | 4.00 | 1 | 3.1 | 3.1 | 71.9 |
| | 4.08 | 1 | 3.1 | 3.1 | 75.0 |
| | 4.15 | 1 | 3.1 | 3.1 | 78.1 |
| | 4.23 | 1 | 3.1 | 3.1 | 81.3 |
| | 4.31 | 2 | 6.3 | 6.3 | 87.5 |
| | 4.38 | 1 | 3.1 | 3.1 | 90.6 |
| | 4.54 | 2 | 6.3 | 6.3 | 96.9 |
| | 5.38 | 1 | 3.1 | 3.1 | 100.0 |
| | TOTAL | 32 | 100.0 | 100.0 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| MEAN | 3.742 | STD ERR | .108 | MEDIAN | 3.755 |
| MODE | 3.850 | STD DEV | .614 | VARIANCE | .377 |
| KURTOSIS | .827 | S E KURT | .809 | SKEWNESS | .040 |
| S E SKEW | .414 | RANGE | 2.920 | MINIMUM | 2.460 |
| MAXIMUM | 5.380 | SUM | 119.730 | | |

VALID CASES     32     MISSING CASES     0

V3          RHYTHMICITY

| VALUE LABEL | VALUE | FREQUENCY | PERCENT | VALID PERCENT | CUM PERCENT |
|---|---|---|---|---|---|
| | 2.25 | 2 | 6.3 | 6.3 | 6.3 |
| | 2.33 | 2 | 6.3 | 6.3 | 12.5 |
| | 2.44 | 1 | 3.1 | 3.1 | 15.6 |
| | 2.56 | 2 | 6.3 | 6.3 | 21.9 |
| | 2.66 | 1 | 3.1 | 3.1 | 25.0 |
| | 2.67 | 1 | 3.1 | 3.1 | 28.1 |
| | 2.78 | 2 | 6.3 | 6.3 | 34.4 |
| | 2.88 | 1 | 3.1 | 3.1 | 37.5 |
| | 2.89 | 1 | 3.1 | 3.1 | 40.6 |
| | 3.11 | 3 | 9.4 | 9.4 | 50.0 |
| | 3.33 | 1 | 3.1 | 3.1 | 53.1 |
| | 3.44 | 2 | 6.3 | 6.3 | 59.4 |
| | 3.56 | 3 | 9.4 | 9.4 | 68.8 |
| | 3.67 | 2 | 6.3 | 6.3 | 75.0 |
| | 3.78 | 2 | 6.3 | 6.3 | 81.3 |
| | 3.89 | 2 | 6.3 | 6.3 | 87.5 |
| | 4.00 | 1 | 3.1 | 3.1 | 90.6 |
| | 4.11 | 3 | 9.4 | 9.4 | 100.0 |
| | TOTAL | 32 | 100.0 | 100.0 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| MEAN | 3.207 | STD ERR | .108 | MEDIAN | 3.220 |
| MODE | 3.110 | STD DEV | .611 | VARIANCE | .373 |
| KURTOSIS | -1.347 | S E KURT | .809 | SKEWNESS | -.082 |
| S E SKEW | .414 | RANGE | 1.860 | MINIMUM | 2.250 |
| MAXIMUM | 4.110 | SUM | 102.610 | | |

VALID CASES     32     MISSING CASES     0

V4          APPROACH

| VALUE LABEL | VALUE | FREQUENCY | PERCENT | VALID PERCENT | CUM PERCENT |
|---|---|---|---|---|---|
| | 1.33 | 1 | 3.1 | 3.1 | 3.1 |
| | 1.83 | 2 | 6.3 | 6.3 | 9.4 |
| | 1.92 | 1 | 3.1 | 3.1 | 12.5 |
| | 2.00 | 1 | 3.1 | 3.1 | 15.6 |
| | 2.08 | 2 | 6.3 | 6.3 | 21.9 |
| | 2.17 | 1 | 3.1 | 3.1 | 25.0 |
| | 2.42 | 1 | 3.1 | 3.1 | 28.1 |
| | 2.55 | 1 | 3.1 | 3.1 | 31.3 |
| | 2.58 | 1 | 3.1 | 3.1 | 34.4 |
| | 2.67 | 1 | 3.1 | 3.1 | 37.5 |
| | 2.75 | 1 | 3.1 | 3.1 | 40.6 |
| | 2.80 | 1 | 3.1 | 3.1 | 43.8 |
| | 2.92 | 1 | 3.1 | 3.1 | 46.9 |
| | 2.93 | 1 | 3.1 | 3.1 | 50.0 |
| | 3.00 | 1 | 3.1 | 3.1 | 53.1 |
| | 3.08 | 1 | 3.1 | 3.1 | 56.3 |
| | 3.17 | 1 | 3.1 | 3.1 | 59.4 |
| | 3.25 | 1 | 3.1 | 3.1 | 62.5 |
| | 3.50 | 2 | 6.3 | 6.3 | 68.8 |
| | 3.66 | 1 | 3.1 | 3.1 | 71.9 |
| | 3.75 | 1 | 3.1 | 3.1 | 75.0 |
| | 3.83 | 2 | 6.3 | 6.3 | 81.3 |
| | 3.92 | 2 | 6.3 | 6.3 | 87.5 |
| | 4.00 | 1 | 3.1 | 3.1 | 90.6 |
| | 4.08 | 1 | 3.1 | 3.1 | 93.8 |
| | 4.83 | 1 | 3.1 | 3.1 | 96.9 |
| | 6.00 | 1 | 3.1 | 3.1 | 100.0 |
| | TOTAL | 32 | 100.0 | 100.0 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| MEAN | 3.068 | STD ERR | .174 | MEDIAN | 2.965 |
| MODE | 1.830 | STD DEV | .984 | VARIANCE | .969 |
| KURTOSIS | 1.156 | S E KURT | .809 | SKEWNESS | .730 |
| S E SKEW | .414 | RANGE | 4.670 | MINIMUM | 1.330 |
| MAXIMUM | 6.000 | SUM | 98.180 | | |

VALID CASES     32      MISSING CASES     0

V5          ADAPTABILITY

| VALUE LABEL | VALUE | FREQUENCY | PERCENT | VALID PERCENT | CUM PERCENT |
|---|---|---|---|---|---|
| | 1.18 | 1 | 3.1 | 3.1 | 3.1 |
| | 1.36 | 1 | 3.1 | 3.1 | 6.3 |
| | 1.82 | 1 | 3.1 | 3.1 | 9.4 |
| | 1.90 | 1 | 3.1 | 3.1 | 12.5 |
| | 1.91 | 1 | 3.1 | 3.1 | 15.6 |
| | 2.09 | 1 | 3.1 | 3.1 | 18.8 |
| | 2.27 | 2 | 6.3 | 6.3 | 25.0 |
| | 2.36 | 4 | 12.5 | 12.5 | 37.5 |
| | 2.40 | 1 | 3.1 | 3.1 | 40.6 |
| | 2.45 | 1 | 3.1 | 3.1 | 43.8 |
| | 2.64 | 1 | 3.1 | 3.1 | 46.9 |
| | 2.73 | 1 | 3.1 | 3.1 | 50.0 |
| | 2.80 | 1 | 3.1 | 3.1 | 53.1 |
| | 2.81 | 1 | 3.1 | 3.1 | 56.3 |
| | 2.82 | 3 | 9.4 | 9.4 | 65.6 |
| | 2.91 | 1 | 3.1 | 3.1 | 68.8 |
| | 3.00 | 1 | 3.1 | 3.1 | 71.9 |
| | 3.09 | 2 | 6.3 | 6.3 | 78.1 |
| | 3.18 | 1 | 3.1 | 3.1 | 81.3 |
| | 3.27 | 1 | 3.1 | 3.1 | 84.4 |
| | 3.45 | 1 | 3.1 | 3.1 | 87.5 |
| | 3.55 | 1 | 3.1 | 3.1 | 90.6 |
| | 3.66 | 1 | 3.1 | 3.1 | 93.8 |
| | 3.82 | 1 | 3.1 | 3.1 | 96.9 |
| | 5.18 | 1 | 3.1 | 3.1 | 100.0 |
| | TOTAL | 32 | 100.0 | 100.0 | |

| | | | | | | |
|---|---|---|---|---|---|
| MEAN | 2.710 | STD ERR | .135 | MEDIAN | 2.765 |
| MODE | 2.360 | STD DEV | .766 | VARIANCE | .586 |
| KURTOSIS | 2.509 | S E KURT | .809 | SKEWNESS | .788 |
| S E SKEW | .414 | RANGE | 4.000 | MINIMUM | 1.180 |
| MAXIMUM | 5.180 | SUM | 86.730 | | |

VALID CASES     32     MISSING CASES     0

V6          INTENSITY

| VALUE LABEL | VALUE | FREQUENCY | PERCENT | VALID PERCENT | CUM PERCENT |
|---|---|---|---|---|---|
| | 3.50 | 1 | 3.1 | 3.1 | 3.1 |
| | 3.75 | 2 | 6.3 | 6.3 | 9.4 |
| | 3.83 | 2 | 6.3 | 6.3 | 15.6 |
| | 3.90 | 1 | 3.1 | 3.1 | 18.8 |
| | 3.92 | 1 | 3.1 | 3.1 | 21.9 |
| | 4.08 | 3 | 9.4 | 9.4 | 31.3 |
| | 4.17 | 1 | 3.1 | 3.1 | 34.4 |
| | 4.25 | 2 | 6.3 | 6.3 | 40.6 |
| | 4.41 | 1 | 3.1 | 3.1 | 43.8 |
| | 4.42 | 3 | 9.4 | 9.4 | 53.1 |
| | 4.58 | 2 | 6.3 | 6.3 | 59.4 |
| | 4.60 | 1 | 3.1 | 3.1 | 62.5 |
| | 4.67 | 1 | 3.1 | 3.1 | 65.6 |
| | 4.70 | 1 | 3.1 | 3.1 | 68.8 |
| | 4.83 | 2 | 6.3 | 6.3 | 75.0 |
| | 4.92 | 1 | 3.1 | 3.1 | 78.1 |
| | 5.00 | 3 | 9.4 | 9.4 | 87.5 |
| | 5.08 | 3 | 9.4 | 9.4 | 96.9 |
| | 5.42 | 1 | 3.1 | 3.1 | 100.0 |
| | TOTAL | 32 | 100.0 | 100.0 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| MEAN | 4.451 | STD ERR | .087 | MEDIAN | 4.420 |
| MODE | 4.080 | STD DEV | .493 | VARIANCE | .243 |
| KURTOSIS | -.950 | S E KURT | .809 | SKEWNESS | -.039 |
| S E SKEW | .414 | RANGE | 1.920 | MINIMUM | 3.500 |
| MAXIMUM | 5.420 | SUM | 142.430 | | |

VALID CASES     32     MISSING CASES     0

V7          MOOD

| VALUE LABEL | VALUE | FREQUENCY | PERCENT | VALID PERCENT | CUM PERCENT |
|---|---|---|---|---|---|
| | 1.83 | 1 | 3.1 | 3.1 | 3.1 |
| | 2.33 | 1 | 3.1 | 3.1 | 6.3 |
| | 2.50 | 1 | 3.1 | 3.1 | 9.4 |
| | 2.58 | 2 | 6.3 | 6.3 | 15.6 |
| | 2.73 | 1 | 3.1 | 3.1 | 18.8 |
| | 2.82 | 2 | 6.3 | 6.3 | 25.0 |
| | 2.83 | 1 | 3.1 | 3.1 | 28.1 |
| | 2.92 | 1 | 3.1 | 3.1 | 31.3 |
| | 3.00 | 2 | 6.3 | 6.3 | 37.5 |
| | 3.08 | 4 | 12.5 | 12.5 | 50.0 |
| | 3.25 | 1 | 3.1 | 3.1 | 53.1 |
| | 3.33 | 1 | 3.1 | 3.1 | 56.3 |
| | 3.42 | 2 | 6.3 | 6.3 | 62.5 |
| | 3.50 | 1 | 3.1 | 3.1 | 65.6 |
| | 3.58 | 3 | 9.4 | 9.4 | 75.0 |
| | 3.67 | 2 | 6.3 | 6.3 | 81.3 |
| | 3.75 | 1 | 3.1 | 3.1 | 84.4 |
| | 3.83 | 1 | 3.1 | 3.1 | 87.5 |
| | 3.91 | 1 | 3.1 | 3.1 | 90.6 |
| | 4.33 | 1 | 3.1 | 3.1 | 93.8 |
| | 4.50 | 1 | 3.1 | 3.1 | 96.9 |
| | 4.92 | 1 | 3.1 | 3.1 | 100.0 |
| | TOTAL | 32 | 100.0 | 100.0 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| MEAN | 3.266 | STD ERR | .114 | MEDIAN | 3.165 |
| MODE | 3.080 | STD DEV | .643 | VARIANCE | .414 |
| KURTOSIS | .697 | S E KURT | .809 | SKEWNESS | .392 |
| S E SKEW | .414 | RANGE | 3.090 | MINIMUM | 1.830 |
| MAXIMUM | 4.920 | SUM | 104.500 | | |

VALID CASES    32    MISSING CASES    0

V8          PERSISTENCE

| VALUE LABEL | VALUE | FREQUENCY | PERCENT | VALID PERCENT | CUM PERCENT |
|---|---|---|---|---|---|
| | 1.50 | 1 | 3.1 | 3.1 | 3.1 |
| | 2.00 | 2 | 6.3 | 6.3 | 9.4 |
| | 2.10 | 1 | 3.1 | 3.1 | 12.5 |
| | 2.20 | 2 | 6.3 | 6.3 | 18.8 |
| | 2.40 | 2 | 6.3 | 6.3 | 25.0 |
| | 2.50 | 2 | 6.3 | 6.3 | 31.3 |
| | 2.64 | 1 | 3.1 | 3.1 | 34.4 |
| | 2.67 | 1 | 3.1 | 3.1 | 37.5 |
| | 2.70 | 2 | 6.3 | 6.3 | 43.8 |
| | 2.80 | 1 | 3.1 | 3.1 | 46.9 |
| | 2.90 | 2 | 6.3 | 6.3 | 53.1 |
| | 3.00 | 3 | 9.4 | 9.4 | 62.5 |
| | 3.10 | 1 | 3.1 | 3.1 | 65.6 |
| | 3.20 | 2 | 6.3 | 6.3 | 71.9 |
| | 3.30 | 2 | 6.3 | 6.3 | 78.1 |
| | 3.40 | 3 | 9.4 | 9.4 | 87.5 |
| | 3.44 | 1 | 3.1 | 3.1 | 90.6 |
| | 3.60 | 2 | 6.3 | 6.3 | 96.9 |
| | 4.10 | 1 | 3.1 | 3.1 | 100.0 |
| | TOTAL | 32 | 100.0 | 100.0 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| MEAN | 2.848 | STD ERR | .101 | MEDIAN | 2.900 |
| MODE | 3.000 | STD DEV | .573 | VARIANCE | .328 |
| KURTOSIS | -.140 | S E KURT | .809 | SKEWNESS | -.202 |
| S E SKEW | .414 | RANGE | 2.600 | MINIMUM | 1.500 |
| MAXIMUM | 4.100 | SUM | 91.150 | | |

VALID CASES     32     MISSING CASES     0

V9        DISTRACTIBILITY

| VALUE LABEL | VALUE | FREQUENCY | PERCENT | VALID PERCENT | CUM PERCENT |
|---|---|---|---|---|---|
| | 2.70 | 1 | 3.1 | 3.1 | 3.1 |
| | 3.00 | 2 | 6.3 | 6.3 | 9.4 |
| | 3.20 | 1 | 3.1 | 3.1 | 12.5 |
| | 3.22 | 1 | 3.1 | 3.1 | 15.6 |
| | 3.30 | 1 | 3.1 | 3.1 | 18.8 |
| | 3.40 | 1 | 3.1 | 3.1 | 21.9 |
| | 3.50 | 1 | 3.1 | 3.1 | 25.0 |
| | 3.56 | 1 | 3.1 | 3.1 | 28.1 |
| | 3.70 | 1 | 3.1 | 3.1 | 31.3 |
| | 3.78 | 1 | 3.1 | 3.1 | 34.4 |
| | 3.80 | 3 | 9.4 | 9.4 | 43.8 |
| | 3.90 | 5 | 15.6 | 15.6 | 59.4 |
| | 4.00 | 2 | 6.3 | 6.3 | 65.6 |
| | 4.10 | 1 | 3.1 | 3.1 | 68.8 |
| | 4.11 | 1 | 3.1 | 3.1 | 71.9 |
| | 4.20 | 2 | 6.3 | 6.3 | 78.1 |
| | 4.50 | 2 | 6.3 | 6.3 | 84.4 |
| | 4.70 | 1 | 3.1 | 3.1 | 87.5 |
| | 4.75 | 1 | 3.1 | 3.1 | 90.6 |
| | 4.80 | 2 | 6.3 | 6.3 | 96.9 |
| | 4.90 | 1 | 3.1 | 3.1 | 100.0 |
| | TOTAL | 32 | 100.0 | 100.0 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| MEAN | 3.901 | STD ERR | .100 | MEDIAN | 3.900 |
| MODE | 3.900 | STD DEV | .567 | VARIANCE | .322 |
| KURTOSIS | -.438 | S E KURT | .809 | SKEWNESS | -.043 |
| S E SKEW | .414 | RANGE | 2.200 | MINIMUM | 2.700 |
| MAXIMUM | 4.900 | SUM | 124.820 | | |

VALID CASES     32     MISSING CASES     0

V10        THRESHOLD

| VALUE LABEL | VALUE | FREQUENCY | PERCENT | VALID PERCENT | CUM PERCENT |
|---|---|---|---|---|---|
| | 2.91 | 1 | 3.1 | 3.1 | 3.1 |
| | 3.00 | 1 | 3.1 | 3.1 | 6.3 |
| | 3.18 | 1 | 3.1 | 3.1 | 9.4 |
| | 3.20 | 1 | 3.1 | 3.1 | 12.5 |
| | 3.27 | 1 | 3.1 | 3.1 | 15.6 |
| | 3.36 | 2 | 6.3 | 6.3 | 21.9 |
| | 3.55 | 4 | 12.5 | 12.5 | 34.4 |
| | 3.64 | 3 | 9.4 | 9.4 | 43.8 |
| | 3.72 | 1 | 3.1 | 3.1 | 46.9 |
| | 3.73 | 1 | 3.1 | 3.1 | 50.0 |
| | 3.90 | 1 | 3.1 | 3.1 | 53.1 |
| | 4.00 | 2 | 6.3 | 6.3 | 59.4 |
| | 4.09 | 2 | 6.3 | 6.3 | 65.6 |
| | 4.10 | 1 | 3.1 | 3.1 | 68.8 |
| | 4.18 | 1 | 3.1 | 3.1 | 71.9 |
| | 4.27 | 2 | 6.3 | 6.3 | 78.1 |
| | 4.36 | 3 | 9.4 | 9.4 | 87.5 |
| | 4.45 | 1 | 3.1 | 3.1 | 90.6 |
| | 4.55 | 2 | 6.3 | 6.3 | 96.9 |
| | 4.80 | 1 | 3.1 | 3.1 | 100.0 |
| | TOTAL | 32 | 100.0 | 100.0 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| MEAN | 3.849 | STD ERR | .087 | MEDIAN | 3.815 |
| MODE | 3.550 | STD DEV | .493 | VARIANCE | .243 |
| KURTOSIS | -.882 | S E KURT | .809 | SKEWNESS | -.053 |
| S E SKEW | .414 | RANGE | 1.890 | MINIMUM | 2.910 |
| MAXIMUM | 4.800 | SUM | 123.180 | | |

VALID CASES    32    MISSING CASES    0

V11       SUBJECT NUMBER

| VALUE LABEL | VALUE | FREQUENCY | PERCENT | VALID PERCENT | CUM PERCENT |
|---|---|---|---|---|---|
| | 388458 | 1 | 3.1 | 3.1 | 3.1 |
| | 388459 | 1 | 3.1 | 3.1 | 6.3 |
| | 388461 | 1 | 3.1 | 3.1 | 9.4 |
| | 388463 | 1 | 3.1 | 3.1 | 12.5 |
| | 388465 | 1 | 3.1 | 3.1 | 15.6 |
| | 388468 | 1 | 3.1 | 3.1 | 18.8 |
| | 388470 | 1 | 3.1 | 3.1 | 21.9 |
| | 388515 | 1 | 3.1 | 3.1 | 25.0 |
| | 488107 | 1 | 3.1 | 3.1 | 28.1 |
| | 488115 | 1 | 3.1 | 3.1 | 31.3 |
| | 488117 | 1 | 3.1 | 3.1 | 34.4 |
| | 488430 | 1 | 3.1 | 3.1 | 37.5 |
| | 488431 | 1 | 3.1 | 3.1 | 40.6 |
| | 488433 | 1 | 3.1 | 3.1 | 43.8 |
| | 488434 | 1 | 3.1 | 3.1 | 46.9 |
| | 488435 | 1 | 3.1 | 3.1 | 50.0 |
| | 488436 | 1 | 3.1 | 3.1 | 53.1 |
| | 488437 | 1 | 3.1 | 3.1 | 56.3 |
| | 488439 | 1 | 3.1 | 3.1 | 59.4 |
| | 588320 | 1 | 3.1 | 3.1 | 62.5 |
| | 588403 | 1 | 3.1 | 3.1 | 65.6 |
| | 588404 | 1 | 3.1 | 3.1 | 68.8 |
| | 588405 | 1 | 3.1 | 3.1 | 71.9 |
| | 588417 | 1 | 3.1 | 3.1 | 75.0 |
| | 588418 | 1 | 3.1 | 3.1 | 78.1 |
| | 588419 | 1 | 3.1 | 3.1 | 81.3 |
| | 588422 | 1 | 3.1 | 3.1 | 84.4 |
| | 588424 | 1 | 3.1 | 3.1 | 87.5 |
| | 588425 | 1 | 3.1 | 3.1 | 90.6 |
| | 588426 | 1 | 3.1 | 3.1 | 93.8 |
| | 588427 | 1 | 3.1 | 3.1 | 96.9 |
| | 588516 | 1 | 3.1 | 3.1 | 100.0 |
| | TOTAL | 32 | 100.0 | 100.0 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| MEAN | 504031.219 | STD ERR | 14273.926 | MEDIAN | 488435.500 |
| MODE | 388458.000 | STD DEV | 80745.519 | VARIANCE | 6519838780 |
| KURTOSIS | -1.392 | S E KURT | .809 | SKEWNESS | -.299 |
| S E SKEW | .414 | RANGE | 200058.000 | MINIMUM | 388458.000 |
| MAXIMUM | 588516.000 | SUM | 16128999.0 | | |

VALID CASES     32     MISSING CASES     0

V12        ORIGINAL INSTANCES

| VALUE LABEL | VALUE | FREQUENCY | PERCENT | VALID PERCENT | CUM PERCENT |
|---|---|---|---|---|---|
| | 1 | 3 | 9.4 | 9.4 | 9.4 |
| | 2 | 3 | 9.4 | 9.4 | 18.8 |
| | 3 | 3 | 9.4 | 9.4 | 28.1 |
| | 4 | 3 | 9.4 | 9.4 | 37.5 |
| | 5 | 2 | 6.3 | 6.3 | 43.8 |
| | 6 | 3 | 9.4 | 9.4 | 53.1 |
| | 7 | 4 | 12.5 | 12.5 | 65.6 |
| | 8 | 1 | 3.1 | 3.1 | 68.8 |
| | 11 | 1 | 3.1 | 3.1 | 71.9 |
| | 12 | 2 | 6.3 | 6.3 | 78.1 |
| | 16 | 1 | 3.1 | 3.1 | 81.3 |
| | 17 | 1 | 3.1 | 3.1 | 84.4 |
| | 19 | 1 | 3.1 | 3.1 | 87.5 |
| | 22 | 1 | 3.1 | 3.1 | 90.6 |
| | 24 | 2 | 6.3 | 6.3 | 96.9 |
| | 41 | 1 | 3.1 | 3.1 | 100.0 |
| | TOTAL | 32 | 100.0 | 100.0 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| MEAN | 9.125 | STD ERR | 1.580 | MEDIAN | 6.000 |
| MODE | 7.000 | STD DEV | 8.936 | VARIANCE | 79.855 |
| KURTOSIS | 4.063 | S E KURT | .809 | SKEWNESS | 1.874 |
| S E SKEW | .414 | RANGE | 40.000 | MINIMUM | 1.000 |
| MAXIMUM | 41.000 | SUM | 292.000 | | |

VALID CASES    32    MISSING CASES    0

V13        POPULAR INSTANCES

| VALUE LABEL | VALUE | FREQUENCY | PERCENT | VALID PERCENT | CUM PERCENT |
|---|---|---|---|---|---|
| | 0 | 1 | 3.1 | 3.1 | 3.1 |
| | 1 | 2 | 6.3 | 6.3 | 9.4 |
| | 2 | 8 | 25.0 | 25.0 | 34.4 |
| | 3 | 3 | 9.4 | 9.4 | 43.8 |
| | 4 | 4 | 12.5 | 12.5 | 56.3 |
| | 5 | 2 | 6.3 | 6.3 | 62.5 |
| | 6 | 3 | 9.4 | 9.4 | 71.9 |
| | 7 | 4 | 12.5 | 12.5 | 84.4 |
| | 8 | 1 | 3.1 | 3.1 | 87.5 |
| | 10 | 2 | 6.3 | 6.3 | 93.8 |
| | 14 | 1 | 3.1 | 3.1 | 96.9 |
| | 15 | 1 | 3.1 | 3.1 | 100.0 |
| | | ------- | ------- | ------- | |
| | TOTAL | 32 | 100.0 | 100.0 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| MEAN | 4.875 | STD ERR | .638 | MEDIAN | 4.000 |
| MODE | 2.000 | STD DEV | 3.608 | VARIANCE | 13.016 |
| KURTOSIS | 1.448 | S E KURT | .809 | SKEWNESS | 1.242 |
| S E SKEW | .414 | RANGE | 15.000 | MINIMUM | .000 |
| MAXIMUM | 15.000 | SUM | 156.000 | | |

VALID CASES     32     MISSING CASES     0

V14     ORIGINAL USES

| VALUE LABEL | VALUE | FREQUENCY | PERCENT | VALID PERCENT | CUM PERCENT |
|---|---|---|---|---|---|
| | 0 | 9 | 28.1 | 28.1 | 28.1 |
| | 1 | 10 | 31.3 | 31.3 | 59.4 |
| | 2 | 6 | 18.8 | 18.8 | 78.1 |
| | 3 | 1 | 3.1 | 3.1 | 81.3 |
| | 4 | 4 | 12.5 | 12.5 | 93.8 |
| | 5 | 1 | 3.1 | 3.1 | 96.9 |
| | 6 | 1 | 3.1 | 3.1 | 100.0 |
| | TOTAL | 32 | 100.0 | 100.0 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| MEAN | 1.625 | STD ERR | .290 | MEDIAN | 1.000 |
| MODE | 1.000 | STD DEV | 1.641 | VARIANCE | 2.694 |
| KURTOSIS | .417 | S E KURT | .809 | SKEWNESS | 1.071 |
| S E SKEW | .414 | RANGE | 6.000 | MINIMUM | .000 |
| MAXIMUM | 6.000 | SUM | 52.000 | | |

VALID CASES     32     MISSING CASES     0

V15          POPULAR USES

| VALUE LABEL | VALUE | FREQUENCY | PERCENT | VALID PERCENT | CUM PERCENT |
|---|---|---|---|---|---|
| | 1 | 1 | 3.1 | 3.1 | 3.1 |
| | 3 | 2 | 6.3 | 6.3 | 9.4 |
| | 4 | 3 | 9.4 | 9.4 | 18.8 |
| | 5 | 7 | 21.9 | 21.9 | 40.6 |
| | 6 | 5 | 15.6 | 15.6 | 56.3 |
| | 7 | 4 | 12.5 | 12.5 | 68.8 |
| | 8 | 2 | 6.3 | 6.3 | 75.0 |
| | 9 | 4 | 12.5 | 12.5 | 87.5 |
| | 11 | 2 | 6.3 | 6.3 | 93.8 |
| | 12 | 1 | 3.1 | 3.1 | 96.9 |
| | 13 | 1 | 3.1 | 3.1 | 100.0 |
| | TOTAL | 32 | 100.0 | 100.0 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| MEAN | 6.594 | STD ERR | .485 | MEDIAN | 6.000 |
| MODE | 5.000 | STD DEV | 2.746 | VARIANCE | 7.539 |
| KURTOSIS | .081 | S E KURT | .809 | SKEWNESS | .505 |
| S E SKEW | .414 | RANGE | 12.000 | MINIMUM | 1.000 |
| MAXIMUM | 13.000 | SUM | 211.000 | | |

VALID CASES     32     MISSING CASES     0

V16          ORIGINAL PATTERNS

| VALUE LABEL | VALUE | FREQUENCY | PERCENT | VALID PERCENT | CUM PERCENT |
|---|---|---|---|---|---|
| | 1 | 5 | 15.6 | 15.6 | 15.6 |
| | 2 | 3 | 9.4 | 9.4 | 25.0 |
| | 3 | 1 | 3.1 | 3.1 | 28.1 |
| | 4 | 6 | 18.8 | 18.8 | 46.9 |
| | 6 | 2 | 6.3 | 6.3 | 53.1 |
| | 7 | 5 | 15.6 | 15.6 | 68.8 |
| | 8 | 2 | 6.3 | 6.3 | 75.0 |
| | 10 | 4 | 12.5 | 12.5 | 87.5 |
| | 11 | 1 | 3.1 | 3.1 | 90.6 |
| | 14 | 1 | 3.1 | 3.1 | 93.8 |
| | 17 | 1 | 3.1 | 3.1 | 96.9 |
| | 26 | 1 | 3.1 | 3.1 | 100.0 |
| | TOTAL | 32 | 100.0 | 100.0 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| MEAN | 6.531 | STD ERR | .944 | MEDIAN | 6.000 |
| MODE | 4.000 | STD DEV | 5.340 | VARIANCE | 28.515 |
| KURTOSIS | 4.686 | S E KURT | .809 | SKEWNESS | 1.794 |
| S E SKEW | .414 | RANGE | 25.000 | MINIMUM | 1.000 |
| MAXIMUM | 26.000 | SUM | 209.000 | | |

VALID CASES     32     MISSING CASES     0

V17      POPULAR PATTERNS

|  | VALUE | FREQUENCY | PERCENT | VALID PERCENT | CUM PERCENT |
|---|---|---|---|---|---|
| VALUE LABEL | | | | | |
|  | 0 | 1 | 3.1 | 3.1 | 3.1 |
|  | 1 | 5 | 15.6 | 15.6 | 18.8 |
|  | 2 | 3 | 9.4 | 9.4 | 28.1 |
|  | 3 | 2 | 6.3 | 6.3 | 34.4 |
|  | 4 | 5 | 15.6 | 15.6 | 50.0 |
|  | 5 | 7 | 21.9 | 21.9 | 71.9 |
|  | 6 | 4 | 12.5 | 12.5 | 84.4 |
|  | 7 | 1 | 3.1 | 3.1 | 87.5 |
|  | 8 | 3 | 9.4 | 9.4 | 96.9 |
|  | 9 | 1 | 3.1 | 3.1 | 100.0 |
|  | TOTAL | 32 | 100.0 | 100.0 | |

| MEAN | 4.250 | STD ERR | .424 | MEDIAN | 4.500 |
|---|---|---|---|---|---|
| MODE | 5.000 | STD DEV | 2.396 | VARIANCE | 5.742 |
| KURTOSIS | -.743 | S E KURT | .809 | SKEWNESS | .060 |
| S E SKEW | .414 | RANGE | 9.000 | MINIMUM | .000 |
| MAXIMUM | 9.000 | SUM | 136.000 | | |

VALID CASES     32     MISSING CASES     0

V18        ORIGINAL TOTAL

|  |  |  |  | VALID | CUM |
| VALUE LABEL | VALUE | FREQUENCY | PERCENT | PERCENT | PERCENT |
| --- | --- | --- | --- | --- | --- |
|  | 3 | 1 | 3.1 | 3.1 | 3.1 |
|  | 4 | 2 | 6.3 | 6.3 | 9.4 |
|  | 6 | 2 | 6.3 | 6.3 | 15.6 |
|  | 7 | 2 | 6.3 | 6.3 | 21.9 |
|  | 9 | 3 | 9.4 | 9.4 | 31.3 |
|  | 11 | 2 | 6.3 | 6.3 | 37.5 |
|  | 12 | 3 | 9.4 | 9.4 | 46.9 |
|  | 14 | 3 | 9.4 | 9.4 | 56.3 |
|  | 16 | 2 | 6.3 | 6.3 | 62.5 |
|  | 19 | 3 | 9.4 | 9.4 | 71.9 |
|  | 20 | 1 | 3.1 | 3.1 | 75.0 |
|  | 24 | 1 | 3.1 | 3.1 | 78.1 |
|  | 28 | 1 | 3.1 | 3.1 | 81.3 |
|  | 30 | 1 | 3.1 | 3.1 | 84.4 |
|  | 33 | 1 | 3.1 | 3.1 | 87.5 |
|  | 36 | 1 | 3.1 | 3.1 | 90.6 |
|  | 37 | 2 | 6.3 | 6.3 | 96.9 |
|  | 55 | 1 | 3.1 | 3.1 | 100.0 |
|  | TOTAL | 32 | 100.0 | 100.0 |  |

| MEAN | 17.281 | STD ERR | 2.145 | MEDIAN | 14.000 |
| MODE | 9.000 | STD DEV | 12.132 | VARIANCE | 147.176 |
| KURTOSIS | 1.621 | S E KURT | .809 | SKEWNESS | 1.304 |
| S E SKEW | .414 | RANGE | 52.000 | MINIMUM | 3.000 |
| MAXIMUM | 55.000 | SUM | 553.000 |  |  |

VALID CASES      32      MISSING CASES      0

V19      POPULAR TOTAL

| VALUE LABEL | VALUE | FREQUENCY | PERCENT | VALID PERCENT | CUM PERCENT |
|---|---|---|---|---|---|
| | 2 | 1 | 3.1 | 3.1 | 3.1 |
| | 5 | 1 | 3.1 | 3.1 | 6.3 |
| | 9 | 2 | 6.3 | 6.3 | 12.5 |
| | 10 | 2 | 6.3 | 6.3 | 18.8 |
| | 11 | 3 | 9.4 | 9.4 | 28.1 |
| | 12 | 2 | 6.3 | 6.3 | 34.4 |
| | 13 | 4 | 12.5 | 12.5 | 46.9 |
| | 14 | 2 | 6.3 | 6.3 | 53.1 |
| | 16 | 2 | 6.3 | 6.3 | 59.4 |
| | 17 | 2 | 6.3 | 6.3 | 65.6 |
| | 18 | 2 | 6.3 | 6.3 | 71.9 |
| | 19 | 3 | 9.4 | 9.4 | 81.3 |
| | 23 | 1 | 3.1 | 3.1 | 84.4 |
| | 24 | 1 | 3.1 | 3.1 | 87.5 |
| | 26 | 1 | 3.1 | 3.1 | 90.6 |
| | 27 | 1 | 3.1 | 3.1 | 93.8 |
| | 30 | 1 | 3.1 | 3.1 | 96.9 |
| | 32 | 1 | 3.1 | 3.1 | 100.0 |
| | TOTAL | 32 | 100.0 | 100.0 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| MEAN | 15.719 | STD ERR | 1.213 | MEDIAN | 14.000 |
| MODE | 13.000 | STD DEV | 6.859 | VARIANCE | 47.047 |
| KURTOSIS | .297 | S E KURT | .809 | SKEWNESS | .590 |
| S E SKEW | .414 | RANGE | 30.000 | MINIMUM | 2.000 |
| MAXIMUM | 32.000 | SUM | 503.000 | | |

VALID CASES      32      MISSING CASES      0

V20        TOTAL

| VALUE LABEL | VALUE | FREQUENCY | PERCENT | VALID PERCENT | CUM PERCENT |
|---|---|---|---|---|---|
| | 11 | 1 | 3.1 | 3.1 | 3.1 |
| | 14 | 3 | 9.4 | 9.4 | 12.5 |
| | 16 | 2 | 6.3 | 6.3 | 18.8 |
| | 18 | 1 | 3.1 | 3.1 | 21.9 |
| | 19 | 1 | 3.1 | 3.1 | 25.0 |
| | 20 | 1 | 3.1 | 3.1 | 28.1 |
| | 23 | 3 | 9.4 | 9.4 | 37.5 |
| | 25 | 1 | 3.1 | 3.1 | 40.6 |
| | 26 | 1 | 3.1 | 3.1 | 43.8 |
| | 27 | 2 | 6.3 | 6.3 | 50.0 |
| | 31 | 1 | 3.1 | 3.1 | 53.1 |
| | 32 | 2 | 6.3 | 6.3 | 59.4 |
| | 33 | 2 | 6.3 | 6.3 | 65.6 |
| | 35 | 1 | 3.1 | 3.1 | 68.8 |
| | 36 | 1 | 3.1 | 3.1 | 71.9 |
| | 42 | 1 | 3.1 | 3.1 | 75.0 |
| | 43 | 1 | 3.1 | 3.1 | 78.1 |
| | 46 | 1 | 3.1 | 3.1 | 81.3 |
| | 48 | 1 | 3.1 | 3.1 | 84.4 |
| | 51 | 1 | 3.1 | 3.1 | 87.5 |
| | 60 | 1 | 3.1 | 3.1 | 90.6 |
| | 64 | 1 | 3.1 | 3.1 | 93.8 |
| | 67 | 1 | 3.1 | 3.1 | 96.9 |
| | 87 | 1 | 3.1 | 3.1 | 100.0 |
| | TOTAL | 32 | 100.0 | 100.0 | |

| MEAN | 33.000 | STD ERR | 3.159 | MEDIAN | 29.000 |
|---|---|---|---|---|---|
| MODE | 14.000 | STD DEV | 17.871 | VARIANCE | 319.355 |
| KURTOSIS | 1.464 | S E KURT | .809 | SKEWNESS | 1.240 |
| S E SKEW | .414 | RANGE | 76.000 | MINIMUM | 11.000 |
| MAXIMUM | 87.000 | SUM | 1056.000 | | |

VALID CASES     32     MISSING CASES     0

V21        COHESION

| VALUE LABEL | VALUE | FREQUENCY | PERCENT | VALID PERCENT | CUM PERCENT |
|---|---|---|---|---|---|
| | 33 | 1 | 3.1 | 3.1 | 3.1 |
| | 34 | 1 | 3.1 | 3.1 | 6.3 |
| | 35 | 3 | 9.4 | 9.4 | 15.6 |
| | 38 | 1 | 3.1 | 3.1 | 18.8 |
| | 39 | 2 | 6.3 | 6.3 | 25.0 |
| | 40 | 3 | 9.4 | 9.4 | 34.4 |
| | 41 | 2 | 6.3 | 6.3 | 40.6 |
| | 42 | 1 | 3.1 | 3.1 | 43.8 |
| | 43 | 2 | 6.3 | 6.3 | 50.0 |
| | 44 | 5 | 15.6 | 15.6 | 65.6 |
| | 45 | 3 | 9.4 | 9.4 | 75.0 |
| | 46 | 1 | 3.1 | 3.1 | 78.1 |
| | 47 | 3 | 9.4 | 9.4 | 87.5 |
| | 48 | 1 | 3.1 | 3.1 | 90.6 |
| | 49 | 2 | 6.3 | 6.3 | 96.9 |
| | 50 | 1 | 3.1 | 3.1 | 100.0 |
| | TOTAL | 32 | 100.0 | 100.0 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| MEAN | 42.375 | STD ERR | .824 | MEDIAN | 43.500 |
| MODE | 44.000 | STD DEV | 4.661 | VARIANCE | 21.726 |
| KURTOSIS | -.642 | S E KURT | .809 | SKEWNESS | -.407 |
| S E SKEW | .414 | RANGE | 17.000 | MINIMUM | 33.000 |
| MAXIMUM | 50.000 | SUM | 1356.000 | | |

VALID CASES      32      MISSING CASES      0

V22        FACES ADAPT

| VALUE LABEL | VALUE | FREQUENCY | PERCENT | VALID PERCENT | CUM PERCENT |
|---|---|---|---|---|---|
| | 17 | 2 | 6.3 | 6.3 | 6.3 |
| | 18 | 1 | 3.1 | 3.1 | 9.4 |
| | 19 | 1 | 3.1 | 3.1 | 12.5 |
| | 22 | 5 | 15.6 | 15.6 | 28.1 |
| | 23 | 3 | 9.4 | 9.4 | 37.5 |
| | 24 | 2 | 6.3 | 6.3 | 43.8 |
| | 25 | 1 | 3.1 | 3.1 | 46.9 |
| | 26 | 1 | 3.1 | 3.1 | 50.0 |
| | 27 | 3 | 9.4 | 9.4 | 59.4 |
| | 28 | 1 | 3.1 | 3.1 | 62.5 |
| | 29 | 3 | 9.4 | 9.4 | 71.9 |
| | 30 | 3 | 9.4 | 9.4 | 81.3 |
| | 32 | 1 | 3.1 | 3.1 | 84.4 |
| | 33 | 2 | 6.3 | 6.3 | 90.6 |
| | 34 | 1 | 3.1 | 3.1 | 93.8 |
| | 35 | 1 | 3.1 | 3.1 | 96.9 |
| | 36 | 1 | 3.1 | 3.1 | 100.0 |
| | TOTAL | 32 | 100.0 | 100.0 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| MEAN | 26.188 | STD ERR | .926 | MEDIAN | 26.500 |
| MODE | 22.000 | STD DEV | 5.239 | VARIANCE | 27.448 |
| KURTOSIS | -.787 | S E KURT | .809 | SKEWNESS | .052 |
| S E SKEW | .414 | RANGE | 19.000 | MINIMUM | 17.000 |
| MAXIMUM | 36.000 | SUM | 838.000 | | |

VALID CASES        32        MISSING CASES        0

V23        PLAY STYLE

| VALUE LABEL | VALUE | FREQUENCY | PERCENT | VALID PERCENT | CUM PERCENT |
|---|---|---|---|---|---|
| | 25 | 1 | 3.1 | 3.1 | 3.1 |
| | 28 | 1 | 3.1 | 3.1 | 6.3 |
| | 29 | 2 | 6.3 | 6.3 | 12.5 |
| | 30 | 3 | 9.4 | 9.4 | 21.9 |
| | 31 | 2 | 6.3 | 6.3 | 28.1 |
| | 34 | 2 | 6.3 | 6.3 | 34.4 |
| | 35 | 2 | 6.3 | 6.3 | 40.6 |
| | 36 | 1 | 3.1 | 3.1 | 43.8 |
| | 38 | 1 | 3.1 | 3.1 | 46.9 |
| | 39 | 2 | 6.3 | 6.3 | 53.1 |
| | 40 | 1 | 3.1 | 3.1 | 56.3 |
| | 41 | 1 | 3.1 | 3.1 | 59.4 |
| | 42 | 1 | 3.1 | 3.1 | 62.5 |
| | 43 | 2 | 6.3 | 6.3 | 68.8 |
| | 44 | 4 | 12.5 | 12.5 | 81.3 |
| | 46 | 3 | 9.4 | 9.4 | 90.6 |
| | 47 | 2 | 6.3 | 6.3 | 96.9 |
| | 48 | 1 | 3.1 | 3.1 | 100.0 |
| | TOTAL | 32 | 100.0 | 100.0 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| MEAN | 38.063 | STD ERR | 1.211 | MEDIAN | 39.000 |
| MODE | 44.000 | STD DEV | 6.848 | VARIANCE | 46.899 |
| KURTOSIS | -1.317 | S E KURT | .809 | SKEWNESS | -.228 |
| S E SKEW | .414 | RANGE | 23.000 | MINIMUM | 25.000 |
| MAXIMUM | 48.000 | SUM | 1218.000 | | |

VALID CASES      32      MISSING CASES      O

- - - ...-- - - - - - - - - - - - P E A R S O N   C O R R E L A T I O N   C O E F F I C I E N T S - - - - - - - - - - - - - - -

|     | V2 | V3 | V4 | V5 | V6 | V7 | V8 | V9 | V10 |
|-----|------|------|------|------|------|------|------|------|------|
| V20 | .0053 | .0982 | -.1738 | -.1772 | -.0314 | -.1390 | -.1138 | -.1567 | -.0704 |
|     | ( 32) | ( 32) | ( 32) | ( 32) | ( 32) | ( 32) | ( 32) | ( 32) | ( 32) |
|     | P= .977 | P= .593 | P= .341 | P= .332 | P= .865 | P= .448 | P= .535 | P= .392 | P= .702 |
| V21 | .1138 | -.1760 | -.1721 | .0237 | .0940 | .0104 | .1477 | .2653 | .3773 |
|     | ( 32) | ( 32) | ( 32) | ( 32) | ( 32) | ( 32) | ( 32) | ( 32) | ( 32) |
|     | P= .535 | P= .335 | P= .346 | P= .897 | P= .609 | P= .955 | P= .420 | P= .142 | P= .033 |
| V22 | .1089 | .0100 | .1634 | .1541 | .1961 | .2135 | .1752 | -.0679 | .1635 |
|     | ( 32) | ( 32) | ( 32) | ( 32) | ( 32) | ( 32) | ( 32) | ( 32) | ( 32) |
|     | P= .553 | P= .957 | P= .371 | P= .400 | P= .282 | P= .241 | P= .338 | P= .712 | P= .371 |

(COEFFICIENT / (CASES) / 2-TAILED SIG)          " . " IS PRINTED IF A COEFFICIENT CANNOT BE COMPUTED

- - - - - - - .- - - - - - - PEARSON CORRELATION COEFFICIENTS - - - - - - - - - - - - - - - -

|       | V18            | V19            | V20            | V21            | V22            | V23            |
|-------|----------------|----------------|----------------|----------------|----------------|----------------|
| V18   | 1.0000         | .7519          | .9675          | -.3396         | .3153          | -.1346         |
|       | ( 32)          | ( 32)          | ( 32)          | ( 32)          | ( 32)          | ( 32)          |
|       | P= .           | P= .000        | P= .000        | P= .057        | P= .079        | P= .463        |
| V19   | .7519          | 1.0000         | .8942          | -.1611         | .5159          | -.1026         |
|       | ( 32)          | ( 32)          | ( 32)          | ( 32)          | ( 32)          | ( 32)          |
|       | P= .000        | P= .           | P= .000        | P= .379        | P= .003        | P= .576        |
| V20   | .9675          | .8942          | 1.0000         | -.2924         | .4121          | -.1307         |
|       | ( 32)          | ( 32)          | ( 32)          | ( 32)          | ( 32)          | ( 32)          |
|       | P= .000        | P= .000        | P= .           | P= .104        | P= .019        | P= .476        |
| V21   | -.3396         | -.1611         | -.2924         | 1.0000         | .0050          | .2792          |
|       | ( 32)          | ( 32)          | ( 32)          | ( 32)          | ( 32)          | ( 32)          |
|       | P= .057        | P= .379        | P= .104        | P= .           | P= .979        | P= .122        |
| V22   | .3153          | .5159          | .4121          | .0050          | 1.0000         | -.4103         |
|       | ( 32)          | ( 32)          | ( 32)          | ( 32)          | ( 32)          | ( 32)          |
|       | P= .079        | P= .003        | P= .019        | P= .979        | P= .           | P= .020        |
| V23   | -.1346         | -.1026         | -.1307         | .2792          | -.4103         | 1.0000         |
|       | ( 32)          | ( 32)          | ( 32)          | ( 32)          | ( 32)          | ( 32)          |
|       | P= .463        | P= .576        | P= .476        | P= .122        | P= .020        | P= .           |

(COEFFICIENT / (CASES) / 2-TAILED SIG)        " . " IS PRINTED IF A COEFFICIENT CANNOT BE COMPUTED

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* * * *   M U L T I P L E   R E G R E S S I O N   * * * *

LISTWISE DELETION OF MISSING DATA

EQUATION NUMBER 1    DEPENDENT VARIABLE..   V2O    TOTAL

BEGINNING BLOCK NUMBER  1.  METHOD:  STEPWISE

VARIABLE(S) ENTERED ON STEP NUMBER  1..    V22       FACES ADAPT

MULTIPLE R           .41208      ANALYSIS OF VARIANCE
R SQUARE             .16981                       DF      SUM OF SQUARES      MEAN SQUARE
ADJUSTED R SQUARE    .14214      REGRESSION         1         1681.11180      1681.11180
STANDARD ERROR     16.55183      RESIDUAL          30         8218.88820       273.96294

                                 F =      6.13627       SIGNIF F =  .0191


----------------- VARIABLES IN THE EQUATION ------------------          ------------ VARIABLES NOT IN THE EQUATION -------------

VARIABLE            B         SE B      BETA       T  SIG T          VARIABLE      BETA IN  PARTIAL  MIN TOLER        T  SIG T

V22            1.405612     .567431    .412079    2.477  .0191        V21         -.294437 -.323146     .999975    -1.839  .0762
(CONSTANT)    -3.809461   15.144933              -.252  .8031


             * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


VARIABLE(S) ENTERED ON STEP NUMBER  2..    V21       COHESION

MULTIPLE R           .50646      ANALYSIS OF VARIANCE
R SQUARE             .25650                       DF      SUM OF SQUARES      MEAN SQUARE
ADJUSTED R SQUARE    .20522      REGRESSION         2         2539.35418      1269.67709 .
STANDARD ERROR     15.93158      RESIDUAL          29         7360.64582       253.81537

                                 F =      5.00236       SIGNIF F =  .0136


----------------- VARIABLES IN THE EQUATION ------------------

VARIABLE            B         SE B      BETA       T  SIG T

V22            1.410587     .546174    .413538    2.583  .0151
V21           -1.128864     .613897   -.294437   -1.839  .0762
(CONSTANT)    43.895851   29.758055              1.475  .1510
```

LISTWISE DELETION OF MISSING DATA

EQUATION NUMBER 1    DEPENDENT VARIABLE..   V23    PLAY STYLE

BEGINNING BLOCK NUMBER  1.  METHOD:  STEPWISE

VARIABLE(S) ENTERED ON STEP NUMBER  1..    V9         DISTRACTIBILITY

```
MULTIPLE R            .42835      ANALYSIS OF VARIANCE
R SQUARE              .18348                     DF      SUM OF SQUARES      MEAN SQUARE
ADJUSTED R SQUARE     .15627      REGRESSION       1         266.76089        266.76089
STANDARD ERROR       6.29051      RESIDUAL        30        1187.11411         39.57047

                                  F =      6.74141      SIGNIF F =  .0144
```

------------------ VARIABLES IN THE EQUATION ------------------          ------------ VARIABLES NOT IN THE EQUATION -------------

| VARIABLE | B | SE B | BETA | T | SIG T | VARIABLE | BETA IN | PARTIAL | MIN TOLER | T | SIG T |
|---|---|---|---|---|---|---|---|---|---|---|---|
| V9 | 5.172918 | 1.992325 | .428349 | 2.596 | .0144 | V2 | -.011195 | -.012365 | .996201 | -.067 | .9474 |
| (CONSTANT) | 17.884889 | 7.850468 | | 2.278 | .0300 | V3 | -.098840 | -.106351 | .945328 | -.576 | .5691 |
| | | | | | | V4 | -.183233 | -.196902 | .942879 | -1.082 | .2884 |
| | | | | | | V5 | -.025197 | -.027874 | .999280 | -.150 | .8817 |
| | | | | | | V6 | .105233 | .116429 | .999505 | .631 | .5328 |
| | | | | | | V7 | -.182932 | -.193889 | .917257 | -1.064 | .2960 |
| | | | | | | V8 | -.079545 | -.084689 | .925533 | -.458 | .6506 |
| | | | | | | V10 | .116950 | .125799 | .944753 | .683 | .5001 |

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

VARIABLE(S) ENTERED ON STEP NUMBER  2..    V4         APPROACH

```
MULTIPLE R            .46383      ANALYSIS OF VARIANCE
R SQUARE              .21514                     DF      SUM OF SQUARES      MEAN SQUARE
ADJUSTED R SQUARE     .16101      REGRESSION       2         312.78567        156.39283
STANDARD ERROR       6.27279      RESIDUAL        29        1141.08933         39.34791

                                  F =      3.97462      SIGNIF F =  .0298
```

```
* * * *   M U L T I P L E   R E G R E S S I O N   * * * *

EQUATION NUMBER 1    DEPENDENT VARIABLE..   V23   PLAY STYLE

------------------ VARIABLES IN THE EQUATION ------------------        ------------ VARIABLES NOT IN THE EQUATION -------------

VARIABLE          B           SE B        BETA        T   SIG T        VARIABLE     BETA IN   PARTIAL  MIN TOLER        T  SIG T

V9          4.644057    2.046008    .384556     2.270   .0308          V2           .035567   .038800  .884013       .205  .8387
V4         -1.274600    1.178525   -.183233    -1.082   .2884          V3          -.041691  -.043056  .834917      -.228  .8213
(CONSTANT)  23.858410   9.580689                2.490   .0187          V5           .253960   .187896  .405382      1.012  .3201
                                                                       V6           .149867   .165253  .900221       .887  .3828
                                                                       V7          -.111130  -.095505  .579674      -.508  .6156
                                                                       V8          -.078057  -.084762  .875522      -.450  .6561
                                                                       V10          .122580   .134427  .890663       .718  .4788


         * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


VARIABLE(S) ENTERED ON STEP NUMBER   3..    V5          ADAPTABILITY


MULTIPLE R          .49280       ANALYSIS OF VARIANCE
R SQUARE            .24285                       DF       SUM OF SQUARES      MEAN SQUARE
ADJUSTED R SQUARE   .16173       REGRESSION        3         353.07157        117.69052
STANDARD ERROR     6.27012       RESIDUAL         28        1100.80343         39.31441

                                 F =     2.99357       SIGNIF F =  .0476


------------------ VARIABLES IN THE EQUATION ------------------        ------------ VARIABLES NOT IN THE EQUATION -------------

VARIABLE          B           SE B        BETA        T   SIG T        VARIABLE     BETA IN   PARTIAL  MIN TOLER        T  SIG T

V9          4.156596    2.101065    .344191     1.978   .0578          V2          -.043228  -.043696  .355860      -.227  .8219
V4         -2.647727    1.796594   -.380631    -1.474   .1517          V3           .040964   .039179  .297011       .204  .8401
V5          2.271533    2.243977    .253960     1.012   .3201          V6           .106664   .113608  .386709       .594  .5573
(CONSTANT)  23.816170   9.576701                2.487   .0191          V7          -.218378  -.178219  .373756      -.941  .3550
                                                                       V8          -.245335  -.227374  .301910     -1.213  .2355
                                                                       V10          .119211   .133076  .405373       .698  .4913
```

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* * * *   M U L T I P L E   R E G R E S S I O N   * * * *
```

EQUATION NUMBER 1    DEPENDENT VARIABLE..    V23    PLAY STYLE


VARIABLE(S) ENTERED ON STEP NUMBER  4..    V8          PERSISTENCE


MULTIPLE R            .53103       ANALYSIS OF VARIANCE
R SQUARE             .28199                      DF      SUM OF SQUARES      MEAN SQUARE
ADJUSTED R SQUARE    .17562 .     REGRESSION       4          409.98201       102.49550
STANDARD ERROR      6.21793       RESIDUAL        27         1043.89299        38.66270

                                  F =      2.65102      SIGNIF F =   .0549


------------------ VARIABLES IN THE EQUATION ------------------          ------------ VARIABLES NOT IN THE EQUATION ------------

VARIABLE          B          SE B        BETA        T   SIG T          VARIABLE    BETA IN   PARTIAL  MIN TOLER       T   SIG T

V9          4.593921     2.114527    .380404     2.173   .0388          V2          .034894   .034186   .288744     .174   .8629
V4         -3.695585     1.979946   -.531268    -1.867   .0729          V3          .058809   .057603   .246199     .294   .7709
V5          4.027562     2.654593    .450286     1.517   .1408          V6          .088761   .096715   .272590     .495   .6244
V8         -2.932331     2.416925   -.245335    -1.213   .2355          V7         -.146127  -.116446   .288066    -.598   .5551
(CONSTANT) 28.918462    10.386479                2.784   .0097          V10         .117201   .134345   .301762     .691   .4955


              * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


VARIABLE(S) ENTERED ON STEP NUMBER  5..    V10         THRESHOLD


MULTIPLE R            .54309       ANALYSIS OF VARIANCE
R SQUARE             .29495                      DF      SUM OF SQUARES      MEAN SQUARE
ADJUSTED R SQUARE    .15937       REGRESSION       5          428.82282        85.76456
STANDARD ERROR      6.27894       RESIDUAL        26         1025.05218        39.42508

                                  F =      2.17538      SIGNIF F =   .0879


------------------ VARIABLES IN THE EQUATION ------------------          ------------ VARIABLES NOT IN THE EQUATION ------------

VARIABLE          B          SE B        BETA        T   SIG T          VARIABLE    BETA IN   PARTIAL  MIN TOLER       T   SIG T

V9          4.255186     2.190775    .352355     1.942   .0630          V2          .076512   .072953   .286921     .366   .7176
V4         -3.695475     1.999372   -.531252    -1.848   .0760          V3          .181756   .152621   .224564     .772   .4473
V5          3.986553     2.681294    .445701     1.487   .1491          V6          .073019   .079509   .272451     .399   .6934
V8         -2.915585     2.440758   -.243934    -1.195   .2431          V7         -.226026  -.171651   .283847    -.871   .3919
V10         1.628822     2.356189    .117201      .691   .4955
(CONSTANT) 24.032904    12.647224                1.900   .0685
```

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                         * * * *   M U L T I P L E   R E G R E S S I O N   * * * *

EQUATION NUMBER 1    DEPENDENT VARIABLE..   V23   PLAY STYLE


VARIABLE(S) ENTERED ON STEP NUMBER  6..    V7      MOOD


MULTIPLE R          .56189        ANALYSIS OF VARIANCE
R SQUARE            .31573                      DF     SUM OF SQUARES    MEAN SQUARE
ADJUSTED R SQUARE   .15150        REGRESSION      6         459.02497       76.50416
STANDARD ERROR     6.30825        RESIDUAL       25         994.85003       39.79400

                                  F =     1.92250      SIGNIF F =  .1164
```

```
----------------- VARIABLES IN THE EQUATION -----------------        ------------ VARIABLES NOT IN THE EQUATION ------------

VARIABLE           B          SE B       BETA        T    SIG T       VARIABLE   BETA IN   PARTIAL   MIN TOLER      T   SIG T

V9            3.419433    2.400983    .283150    1.424   .1668        V2         .098537   .094735   .281674     .466   .6453
V4           -3.003380    2.160095   -.431758   -1.390   .1767        V3         .212654   .179651   .210879     .895   .3799
V5            4.374281    2.730328    .489050    1.602   .1217        V6         .135432   .142209   .267305     .704   .4883
V8           -2.171691    2.596569   -.181696    -.836   .4109
V10           2.347055    2.506644    .168881     .936   .3581
V7           -2.406314    2.762117   -.226026    -.871   .3919
(CONSTANT)   27.093002   13.182837               2.055   .0505
```

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                         * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


VARIABLE(S) ENTERED ON STEP NUMBER  7..    V3      RHYTHMICITY


MULTIPLE R          .58121        ANALYSIS OF VARIANCE
R SQUARE            .33781                      DF     SUM OF SQUARES    MEAN SQUARE
ADJUSTED R SQUARE   .14467        REGRESSION      7         491.13307       70.16187
STANDARD ERROR     6.33358        RESIDUAL       24         962.74193       40.11425

                                  F =     1.74905      SIGNIF F =  .1449
```

```
* * * *  M U L T I P L E   R E G R E S S I O N  * * * *

LISTWISE DELETION OF MISSING DATA

EQUATION NUMBER 1    DEPENDENT VARIABLE..   V23    PLAY STYLE

BEGINNING BLOCK NUMBER  1.  METHOD:  STEPWISE

VARIABLE(S) ENTERED ON STEP NUMBER  1..    V22       FACES ADAPT

MULTIPLE R            .41032        ANALYSIS OF VARIANCE
R SQUARE             .16836                        DF    SUM OF SQUARES    MEAN SQUARE
ADJUSTED R SQUARE    .14064        REGRESSION       1       244.78113      244.78113
STANDARD ERROR      6.34847        RESIDUAL        30      1209.09387       40.30313

                                   F =     6.07350       SIGNIF F =  .0197

------------------ VARIABLES IN THE EQUATION ------------------      ------------ VARIABLES NOT IN THE EQUATION -------------

VARIABLE            B        SE B      BETA       T   SIG T      VARIABLE    BETA IN  PARTIAL  MIN TOLER       T   SIG T

V22             -.536360   .217639   -.410323   -2.464  .0197     V21        .281210  .308361   .999975    1.746   .0915
(CONSTANT)     52.108418  5.808859              8.971  .0000


                    * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

VARIABLE(S) ENTERED ON STEP NUMBER  2..    V21       COHESION

MULTIPLE R            .49744        ANALYSIS OF VARIANCE
R SQUARE             .24744                        DF    SUM OF SQUARES    MEAN SQUARE
ADJUSTED R SQUARE    .19554        REGRESSION       2       359.74962      179.87481
STANDARD ERROR      6.14235        RESIDUAL        29      1094.12538       37.72846

                                   F =     4.76762       SIGNIF F =  .0162

------------------ VARIABLES IN THE EQUATION ------------------

VARIABLE            B        SE B      BETA       T   SIG T

V22             -.538181   .210575   -.411716   -2.556  .0161
V21              .413167   .236685    .281210    1.746  .0915
(CONSTANT)     34.648139  11.473083             3.020  .0052
```

**\* \* \* \* MULTIPLE REGRESSION \* \* \* \***

LISTWISE DELETION OF MISSING DATA

EQUATION NUMBER 1    DEPENDENT VARIABLE..    V18    ORIGINAL TOTAL

BEGINNING BLOCK NUMBER  1.  METHOD:  STEPWISE

VARIABLE(S) ENTERED ON STEP NUMBER  1..    V4          APPROACH

| | | ANALYSIS OF VARIANCE | | | |
|---|---|---|---|---|---|
| MULTIPLE R | .16306 | | | | |
| R SQUARE | .02659 | | DF | SUM OF SQUARES | MEAN SQUARE |
| ADJUSTED R SQUARE | -.00586 | REGRESSION | 1 | 121.31078 | 121.31078 |
| STANDARD ERROR | 12.16711 | RESIDUAL | 30 | 4441.15797 | 148.03860 |

F =      .81945      SIGNIF F =   .3726

------------------ VARIABLES IN THE EQUATION ------------------          ------------- VARIABLES NOT IN THE EQUATION -------------

| VARIABLE | B | SE B | BETA | T | SIG T | VARIABLE | BETA IN | PARTIAL | MIN TOLER | T | SIG T |
|---|---|---|---|---|---|---|---|---|---|---|---|
| V4 | -2.009351 | 2.219696 | -.163061 | -.905 | .3726 | V5 | -.054310 | -.037068 | .453450 | -.200 | .8431 |
| (CONSTANT) | 23.446189 | 7.141881 | | 3.283 | .0026 | V8 | -.094441 | -.095563 | .996673 | -.517 | .6091 |
| | | | | | | V9 | -.127493 | -.125478 | .942879 | -.681 | .5012 |
| | | | | | | V10 | -.097270 | -.098551 | .999231 | -.533 | .5979 |

END BLOCK NUMBER   1   PIN =      .500 LIMITS REACHED.

APPENDIX E

CONSENT LETTERS

**OSU**

*Oklahoma State University*

DEPARTMENT OF FAMILY RELATIONS
AND CHILD DEVELOPMENT
COLLEGE OF HOME ECONOMICS

STILLWATER, OKLAHOMA 74078-0337
241 HOME ECONOMICS WEST
(405) 624-5057

October 27, 1988

Dear CDL Parents:

Enclosed please find the following questionnaires which comprise the parent aspect of the CDL database:

1. One mother form and one father form of the Behavioral Style Questionnaire (children ages 3-5) or Toddler Temperament Survey (children less than 3 yrs.)

2. FACES

3. Adjective Checklist.

During the pre-enrollment period for your child you received a packet of materials, many of which you completed and returned to the classroom teachers. Included in that packet was a letter explaining the various types of research projects that are on-going at the CDL. Your responses on each of the enclosed surveys are critical for maintaining the research database so necessary to a progressive child development laboratory. Just as your child provides excellent learning experiences for our student teachers, both you and your child provide necessary information for our research function. For these reasons and many others, the CDL staff is appreciative of your commitment to the three functions that we share with OSU academic departments: service, instruction and research.

When data analysis is completed on projects related to the enclosed questionnaires and/or to the child data, results will be shared with you through parent meetings, newsletters or other means deemed appropriate for the particular project. Since this information will be used as group data, that is, comparisons will be made based on average scores, or analyzed blindly, that is through the use of code numbers, we prefer that you not request individual results. Additionally, each of the research instruments that we have chosen are reliable and valid for re-search purposes and not for clinical purposes.

Please return the questionnaires no later than Monday, November 14. You may return them in the orange envelope or one of your choosing that may provide more confidentiality. Boxes for return will be available in the west entrance of the CDL. If you prefer, you may send them by campus mail or leave them with Mary Wilson in 101.

Thank you for your prompt attention to this matter. As always, your commitment to each function of the CDL is acknowledged and appreciated.

Sincerely yours,

Donna Couchenour, Ph.D.
Director, CDL and
Assistant Professor, FRCD

**CENTENNIAL**
1890-1990

Celebrating the Past ... Preparing for the Future

DC:m

Enclosures (4)

# Oklahoma State University

**DEPARTMENT OF FAMILY RELATIONS AND CHILD DEVELOPMENT**
College of Home Economics
(405) 624-5057
Stillwater, Oklahoma 74078-0337

November 15, 1988

Dear CDL Parents:

This is a reminder that we are in need of your completed questionnaires for our research database. We are counting on you to return these so that we can accomplish our mission as a laboratory school. Some of our students will be analyzing this data for class projects that are due at the beginning of December.

If you have misplaced your questionnaires, or for some other reason, need an additional copy, please request one from Mary or Donna.

Thanks for your prompt attention to the return of these questionnaires.

Sincerely,

Donna Couchenour, Ph.D.
Director, CDL & Assistant
Professor, FRCD

**CENTENNIAL DECADE**
1980 · 1990

# 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

November 28, 1988

Dear CDL Parents:

Even though the deadline for the Child Development
Laboratories' database questionnaires was November 14,
university students will be able to use your responses for
their work during the Spring semester.

I have enclosed new copies of the questionnaires for your
convenience. Please take some time to complete and return
the enclosed forms. We rely on and appreciate your support
of our laboratory responsibilities.

Sincerely,

Donna Couchenour, Ph.D.
Director, CDL and Assistant Professor

CENTENNIAL
1890 • 1990

Celebrating the Past . . . Preparing for the Future

VITA

Anne K. Bomba

Candidate for the Degree of

Doctor of Philosophy

Thesis:   THE RELATIONSHIP AMONG TEMPERAMENT DISPOSITION,
          FAMILIAL STYLE, ORIENTATION TO TASK, AND CREATIVE
          POTENTIAL IN PRESCHOOL CHILDREN

Major Field:   Home Economics

Area of Specialization:   Family Relations and Child
          Development

Biographical:

    Personal Data:   Born in Port Lavaca, Texas, September
        12, 1959, the daughter of John G. and Jane
        Killingsworth Bomba.

    Education:   Graduated from Memorial High School, Tulsa,
        Oklahoma, in June 1977; received Bachelor of
        Science Degree in Home Economics: Family Relations
        and Child Development with an N-K teaching
        certificate in 1981; received Master of Science
        Degree in Family Relations and Child Development
        from Oklahoma State University in 1987; completed
        requirements for the Doctor of Philosophy degree
        at Oklahoma State University in July, 1989.

    Professional Experience:   Kindergarten teacher, Tulsa
        Public Schools, Tulsa, Oklahoma, 8/81-7/85;
        teaching and research assistant, Department of
        Family Relations and Child Development, Oklahoma
        State University, 4/86-5/87; teaching and research
        associate, Department of Family Relations and
        Child Development, Oklahoma State University,
        6/87-8/89.

    Professional Affiliations:   American Home Economics
        Association; Society for Research in Child
        Development; National Association for the
        Education of Young Children; National Council on
        Family Relations; Association for Childhood
        Education International; Southwestern Society for
        Research in Human Development; Southern

Association on Children Under Six; Oklahoma Home
Economics Association; Oklahoma Association for
the Education of Young Children; Oklahoma Council
on Family Relations; Oklahoma Association on
Children Under Six; Omicron Nu.