

## Profiles of Social Competence among Low-Income African American Preschool Children

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### **Abstract:**

Relations between children's personal attributes and peer play competence were investigated in a sample of 141 African American preschool children who participated in Head Start. Variable-oriented analyses confirmed that dispositions of temperament, emotion regulation, autonomy, and language were related to children's peer play competence in the classroom. Person-oriented analyses revealed distinctive profiles of personal attributes linked to adaptive preschool social functioning. A small group of resilient children whose profile was characterized by highly adaptable temperament, ability to approach new situations, and above average vocabulary development evidenced the greatest social competence with peers. Children who were disruptive with peers were equally divided between two profiles characterized by inattention and activity, but with differential performance on vocabulary tasks. A profile containing calm, reticent children was the group least likely to engage in disruptive peer play. Inspection of the six profiles revealed the within-group variability for this economically disadvantaged sample and illustrated the differential importance of temperament, regulation, and language constructs. Findings from the profile analyses and relations with peer competence inform the study of resilience in social development for urban African American children who participate in early intervention preschool programs.

### **Article:**

#### **INTRODUCTION**

Within urban centers, many preschool-age children face stressful and "socially toxic" environments that place them at-risk for poor school adaptation (Garbarino, 1995). Although poverty rates have improved somewhat in recent years, children under the age of 6 remain highly vulnerable, with approximately one out of five children today living in poverty (National Center for Children in Poverty, 1999). Membership in low-income families is cited repeatedly as a major risk factor for poor developmental and educational outcomes for young children (Brooks-Gunn, Duncan, & Aber, 1997; Duncan & Brooks-Gunn, 1997; Duncan, Brooks-Gunn, & Klebanov, 1994; Huston, McLoyd, & Garcia Coll, 1994), particularly for children from ethnic minority communities (McLoyd, 1990, 1998; Swanson & Spencer, 1991).

The disproportionate impact of poverty is one factor that heightens risk for poor adaptation among persons from minority populations. In addition, the historical context of stigmatization and discrimination against members of ethnic minority groups, particularly for urban families who are lacking in resources, has led some scholars to argue that positive adaptation by minority youth can be considered a resilient outcome (Burlaw, Banks, McAdoo, & Azibo, 1992; Spencer, 1990; Spencer & Dupree, 1996). Others have argued that because of the multiple environmental risk factors that minority children encounter, both actual and perceived, it is necessary to identify more precisely the factors that promote positive educational outcomes for minority children (Boykin, 1986; McLoyd, 1998; Ogbu, 1986; Spencer, 1999). These investigators generally caution against interpreting differences among cultural groups as deficiencies (Garcia Coll et al., 1996; Ogbu, 1988; Spencer, 1999).

In response to heightened risk for economically disadvantaged minority children, theory and research on resilience has guided understanding of how children develop and thrive despite adverse life circumstances

(Cicchetti & Garmezy, 1993; Cicchetti & Rogosch, 1997; Garmezy, 1985; Masten & Coatsworth, 1998). Two major features characterize competent children who meet developmental challenges despite extreme adversity. First, children draw upon their own attributes, including intelligence, persistence, self-control, and problem solving (Hart, Olsen, Robinson, & Mandelco, 1997). Second, research highlights the supportive role that members of proximal systems to the young child—namely, family and school—can play (Garmezy, 1988; Henderson & Berla, 1994). The multidimensional nature of resilience dictates that resilience emerges as children's cognitive, behavioral, and emotional capacities transact with the surrounding context (Cicchetti & Lynch, 1993; Luthar, Cicchetti, & Becker, 2000).

Research-based understanding of resilience for

preschool children requires that school entry be conceptualized as a significant developmental marker (Cicchetti & Lynch, 1993). Preschool children are often challenged for the first time with the task of forming new relationships outside of the family system, including sustaining peer interaction and adjusting to teacher expectations (Eccles & Roeser, 1999; Ladd & Price, 1987; Parke & Ladd, 1992). The process of school entry is further complicated for culturally and linguistically diverse children, because competencies promoted within minority families may be different from those required at school (Fantuzzo, Mendez, & Tighe, 1998; Garcia Coll et al., 1996; Slaughter-Defoe, 1995). Early intervention programs are in a unique position to alter the potential trajectory toward negative school outcomes for children from impoverished communities by designing programming that supports children's developmental capacities (Reynolds, 1991; Shirk, 1988; Toth & Cicchetti, 1999).

Presently, Head Start is the largest federally funded early childhood program designed to enhance the development of low-income preschool children (Ripple, Gilliam, Chanana, & Zigler, 1999). African American children currently comprise the largest population of Head Start children, especially within large urban settings, yet these children remain an understudied cultural group (Brody & Flor, 1997; Fantuzzo, McDermott, Manz, Hampton, & Burdick, 1996; Graham, 1992). The present study was designed to begin to fill gaps in the knowledge base with regard to competencies of African American children. The present research concentrated on recruiting minority families from Head Start centers in a particular area of a large urban center. Families who participated in this research were residents of communities characterized by extreme poverty and isolation, high levels of neighborhood violence, and the lowest percentiles for reading and mathematics achievement by eighth-grade students (Fantuzzo, 1997).

Within Head Start and other similar preschool programs, the promotion of social competence as a protective factor for young children is a key area of educational programming (Raver & Zigler, 1997). In particular, classroom teachers provide numerous opportunities for peer interactions, because quality peer relationships are considered an indicator of healthy adjustment for children (Cicchetti & Schneider-Rosen, 1986; Rubin & Coplan, 1998; Waters & Sroufe, 1983). The development of positive peer relationships during preschool is predictive of better adjustment in kindergarten (Ladd & Price, 1987). In contrast, peer rejection in childhood has been linked with detrimental consequences during later developmental periods, including emotional maladjustment, delinquency, and school failure (Denham & Holt, 1993; DeRosier, Kupersmidt, & Patterson, 1994; Parker & Asher, 1987; Parker, Rubin, Price, & DeRosier, 1995). The importance of peer competence is widely recognized (Hartup & Moore, 1990; Parke & Ladd, 1992); however, a comprehensive picture of child attributes across emotional, behavioral, and cognitive domains that contribute to peer competence is currently lacking with respect to economically disadvantaged preschool children (Cavell, 1990; Garner, Jones, & Miner, 1994; Raver & Zigler, 1997).

A developmental ecological perspective organizes this investigation of minority children's attributes in the areas of temperament, emotion regulation, autonomy, and language, as related to adaptive functioning within an age-appropriate social context (Garcia Coll et al., 1996). With respect to temperament, certain dispositions of children, such as sociability or initiation of interpersonal contact, have been conceptualized as reflecting children's biological predisposition for social interaction (Buss & Plomin, 1984; Kagan, 1994, 1997; Thomas & Chess, 1977). Specific temperament constructs such as activity, adaptability, and approach/ withdrawal have been investigated with infant, toddler, preschool, and school-age children (Goldsmith, Buss, & Lemery, 1997;

Presley & Martin, 1994). Activity refers to motoric vigor of children, whereas adaptability encompasses the ease and speed with which a child adjusts to new social situations. Approaching new social situations involves children's predisposition to be socially outgoing and embraced novel experiences (Kagan, 1997; Martin, 1988). Research shows that easy-temperament children interact positively with peers and are desirable playmates, whereas the interactive style of difficult-temperament children prevents them from experiencing positive peer contacts (Farver & Branstetter, 1994). Among a group of diverse Head Start children, adaptability was associated with children's adjustment to school after 1 year (Taylor & Machida, 1994).

The emergence of children's heightened regulatory processes is also implicated in children's successful social relationships (J. H. Block & J. Block, 1980; Sroufe, 1996). Specifically, multiple researchers have acknowledged that regulation of emotional states is critical for young children to engage in successful peer interaction (Cassidy, 1994; Cicchetti, Ganiban, & Barnett, 1991; Eisenberg et al., 1993; LaFreniere & Dumas, 1996). Emotion regulation has been described as the "capacity to modulate one's emotional arousal such that an optimal level of engagement with one's environment is fostered" (Shields & Cicchetti, 1997, p. 907). Furthermore, young children's capacity to regulate emotion becomes increasingly complex and organized throughout the preschool years and into elementary school (Fox, 1994; Shields & Cicchetti, 1997). The "twin tasks" of emotional development during the toddler and preschool periods are to express affect directly during appropriate situations, while also demonstrating control and modulation of emotion (Sroufe, 1996).

The development of an autonomous self is yet another important issue of ontogenic development (Cicchetti, 1990; Cicchetti & Schneider-Rosen, 1986; Sroufe, 1990). Deci and Ryan (1985) specify that the criteria of an optimally autonomous child involves the display of qualities of initiative, agency, and self-determination. Research confirms that the autonomous self emerges from and is refined within the caregiver-child relationship (Sroufe, 1996). Ultimately, it is the "new understanding of self" that allows for more complex and new emotions, such as guilt, shame, or pride (Sroufe, 1996). Although autonomy first begins to play an important role at approximately 18 to 24 months, children must negotiate issues of independence within a social context throughout development; therefore, autonomy is also considered a foundational component of social competence during the preschool period (Crockenberg & Litman, 1990).

Third, the development of children's communicative competence is associated with enhanced social relationships (Gallagher, 1993). Language use facilitates children's sharing of information about their own emotional states, as well as likes and dislikes (Dunn & Brown, 1991; Sawyer, 1997). Corsaro (1985) observed that concern for other children was evidenced through verbalizations commonly heard when a child was injured. Connected communication and verbal interaction between friends is also associated with more advanced social-cognitive abilities (Slomkowski & Dunn, 1996). In contrast, Howes (1992) reported that children with delayed communication abilities showed less complex peer interaction.

Application of a developmental ecological perspective highlights children's play as the salient ecological context for examining the differential contributions of children's personal attributes to peer competence (Fantuzzo, Coolahan, Mendez, McDermott, & Sutton-Smith, 1998; Pelligrini, 1992). During peer play, children are exposed to the implicit rules that guide play interaction and begin to navigate the give-and-take nature of peer relationships (Hartup & Moore, 1990; Howes & Tonyan, 1999; Rubin & Coplan, 1998). Gaskins (1994, p. 313) captured the importance of the natural play context for minority children by describing the influence of "particular cultural meaning systems for the course or outcome of children's development." Because a goal of developmental research is to understand social behavior within a relevant social context, consideration of children's play as an influential cultural context is essential (Farver & Howes, 1993; Rubin, 1998). Unfortunately, a number of studies in the play literature employ methods, most notably observational coding systems, that were derived with middle-class children from majority group backgrounds. The majority of conclusions that claim deficits in play of children from non-European cultures and economically disadvantaged environments are therefore considered to be unfounded, placing limitations on what is actually known about the play behavior of African American children (Fein, 1981; McLoyd, 1985; Sawyer, 1997).

Recent literature has examined competent social behaviors within a natural play context by using an emic approach with low-income African American children (Fantuzzo, Coolahan, et al., 1998; McLoyd, 1985). In general, these empirical studies seek to examine culture-specific aspects of behavior (emic aspects), and are less focused on comparisons across ethnic groups (etic aspects; Gonzales, Hiraga, & Cauce, 1998). For example, a naturalistic study of play within Head Start classrooms documented the diverse play types of African American children, with pretend play being short in duration but high in quality (Weinberger & Starkey, 1994). A series of studies (Coolahan, Fantuzzo, Mendez, & McDermott, 2000; Fantuzzo, Coolahan, et al., 1998; Fantuzzo et al., 1995; Mendez, McDermott, & Fantuzzo, 2002) examined three dimensions of peer play behavior in relation to other school-readiness constructs. Children who were rated high in interactive peer play by teachers were associated with high social-skills ratings, positive sociometric nominations from peers, and the greatest amounts of observed collaborative play. Interactive peer play was also correlated with active engagement in classroom learning activities and task persistence. In contrast, disconnection from peer play was linked to inattention, passivity, and lack of motivation, as well as low peer ratings. Ratings of disruption in play were associated with ratings of classroom conduct problems, hyperactivity, and noncompliance. Children who disrupted the play of others were also more likely to play alone.

Cross-cultural researchers have noted the utility of the emic approach, which sometimes includes establishing the relevance of constructs in empirical investigations with culturally diverse populations, prior to conducting more in-depth study (Garcia-Coll, Akerman, & Cicchetti, 2000; Gonzales et al., 1998; Guerra & Jagers, 1998; Knight & Hill, 1998). Multivariate research methods are also recommended for examining indicators of resilience for minority preschool children across domains of development (Cicchetti & Rogosch, 1999; Fantuzzo, Mendez, & Tighe, 1998). Such research strategies preserve the study of the whole child in context, and do not artificially break down child adaptation into fragments (Stattin & Magnusson, 1996). Finally, the use of variable-centered and person-centered data-analytic approaches often yields different insight into the nature of resilience for a specific period of the life course, such as early school experiences (Bergman & Magnusson, 1997; Luthar et al., 2000). For example, cluster analytic techniques are able to reveal unique patterns of adaptation across individuals within certain at-risk groups, such as maltreated children (Bergman & Magnusson, 1997; Cairns, Bergman, & Kagan, 1998; Cicchetti & Rogosch, 1999).

The present study used varied methods to explore relations among multiple dimensions of preschool social competence in African American children who were attending Head Start. Resilience researchers recommend that an important initial step is to establish relations among certain constructs that are reliably linked with positive outcomes for at-risk groups (Luthar et al., 2000). Therefore, a prerequisite step was to check the accuracy of the measurement, or establish functional equivalence, for each of the constructs employed in this study (Knight & Hill, 1998). Second, variable-centered analyses compared children's personal attributes—namely, dispositions of temperament, emotion regulation, autonomy, and language—with dimensions of peer play competence. Lastly, similarities among individual children were explored to generate profiles of personal attributes. We hypothesized that these personality profiles would differentially relate to African American children's peer competence.

## METHOD

### *Participants*

Participants for this study included 141 African American children drawn from 11 urban Head Start classrooms. This sample was recruited from representative Head Start centers within a major metropolitan area in the Northeast. Demographic composition of the program matched national proportions for urban Head Start programs, with income for 90% of families below \$12,000 and most families (64%) having incomes below \$6,000. The children in the study ranged in age from 42.1 months to 65.1 months ( $M = 56.1$ ,  $SD = 6.5$ ). Males comprised 51.4% of the sample. Participation rates for the study were excellent, with a majority of African American parents approached (97%) agreeing to participate.

Demographic information provided further description of the degree of risk that characterized this sample of families. The majority of respondents were mothers (73%), although fathers ( $n = 12$ ), grandparents ( $n = 11$ ), and other relatives ( $n = 14$ ) also participated in the study. Caretaker age ranged from 18 to 74, with a mean age of 32 years ( $SD = 11$ ). Sixty percent of the sample was age 30 or younger. Caretaker education levels ranged from 10th grade or below (7%) to a college degree (3%). Almost 15% of the sample had attended vocational school, an additional 26% had attended some college, and approximately 60% of the sample had received a high school diploma or graduate equivalency diploma. With respect to family composition, 71% of the respondents were single and 13% were married. The remainder of the sample were widowed, separated, or divorced. The number of children living within the home ranged from 1 to 8, and the number of adults in the home ranged from 1 to 6. Half of all single-parent households reported more than one adult in the home, suggesting the presence of other residential adults who might have been involved in childrearing. Lastly, employment status data was consistent with the economic disadvantage of this sample. Although 25% of caretakers reported full-time employment, 46% reported no employment. 22% worked part-time, and approximately 7% received disability benefits.

### *Measures*

*Temperament.* The Temperament Assessment Battery for Children–Teacher Form (T-ABC; Martin, 1988) is designed to rate basic temperament dimensions of children from 3 to 7 years old. The teacher form consists of 48 items that describe child behaviors reflecting temperament dimensions that occur in the school setting. Each item is rated on a 7-point scale ranging from “Never” to “Always.” This measure contains six subscales: activity, adaptability, approach/ withdrawal, emotional intensity, distractibility, and persistence (Presley & Martin, 1994). Reported coefficients ranged from .69 to .86. Test–retest reliability over 6 months ranged from .70 to .80. A construct validity study that used the T-ABC with urban Head Start teachers (Mendez, 1998) determined that adequate internal consistency existed for only the four subscales of adaptability, approach /withdrawal, activity, and emotional intensity (.86, .86, .86, and .72, respectively). Therefore, only these subscales were deemed reliable and appropriate for use within the present study.

Concurrent validity was established using observational data and teacher ratings. Positive correlations between the activity subscale and gross motor inappropriate behavior were reported (Martin, 1988). Adaptability was associated with constructive self- directed activity. With regard to the approach/withdrawal subscale, negative correlations were reported with nonconstructive activity and peer interaction. Comparisons of temperament ratings with teacher ratings on the Bristol Social Adjustment Guides showed that the adaptability and approach/ withdrawal sub- scales demonstrated negative correlations with under- reaction whereas the activity subscale was positively correlated with overreaction.

*Emotion regulation and autonomy.* The California Child Q-sort (CCQ; J. Block & J. H. Block, 1980) is a 100-item measure that was used by Shields and Cicchetti (1997) to develop both the emotion regulation and autonomy criterion Q-scales. The CCQ is an observational tool in which raters are unaware of the target constructs and are required to place items into a fixed distribution. Observers complete the entire 100-item CCQ for each child; subsequently, researchers derive the criterion scores of interest, either emotion regulation or autonomy, from these observations.

The emotion regulation criterion sort was developed from ratings of 17 noted experts in the study of emotional development who created a personality profile that is reflective of an optimally well-regulated child. Emotion regulation was defined in terms of lability, flexibility, and modulation of one’s emotions (Shields & Cicchetti, 1997). Ten items that were rated as highly salient comprise the emotion regulation criterion Q-scale, and interrater reliability was reported as high among the expert raters. Construct validity was established through comparisons of children’s emotion regulation Q-scale scores with additional teacher checklists and observations. Internal consistency as assessed through Cronbach’s  $\alpha$  was reported as .98 (Shields & Cicchetti, 1997).

For the autonomy criterion Q-scale (Shields & Cicchetti, 1997), 18 psychologists who specialized in motivation and/or self-development produced descriptors of an optimally autonomous child. These experts endorsed items

indicative of a child's initiative, agency, choice, and self-endorsement during motivated behavior. Ten items rated as highly salient comprised the autonomy Q-scale, and interrater reliability was high among expert raters. Cronbach's  $\alpha$  for the autonomy Q-scale was reported at .98. Comparisons of teacher ratings and the autonomy scale show significant correlations ranging from .82 to .91 (Shields & Cicchetti, 1997). Support for the autonomy Q-scale also emerged within confirmatory factor analyses of several measures of autonomous functioning.

*Expressive language.* Two vocabulary measures were selected to sample aspects of language development for preschool children: receptive and expressive vocabulary development. The Expressive One-Word Picture Vocabulary Test-Revised (EOWPVT-R; Gardner, 1990) contains 143 items that assess a child's verbal expression of words. The scale was designed for children age 2 to 12 years. Internal consistency estimates using Kuder-Richardson-20 coefficients ranged from .84 to .92, with a median reliability of .90. Concurrent validity was demonstrated by correlations (.41-.61) with the Peabody Picture Vocabulary Test-Revised (PPVT-R; Dunn & Dunn, 1981) and the vocabulary subscales of the Wechsler Preschool and Primary Scale of Intelligence-Revised (Wechsler, 1989) and the Wechsler Intelligence Scale for Children-Revised (Wechsler, 1974). Additional concurrent validity analyses conducted with a prior sample of 100 African American children who were attending Head Start found significant correlations with a teacher report of communication skills on the nationally normed Vineland Adaptive Behaviors Scale (Mendez, 1998).

*Receptive language.* The PPVT-Third Edition (PPVTIII; Dunn & Dunn, 1997) is a 204-item test designed to assess receptive vocabulary for individuals ages 2.5 years through adulthood. The PPVT-III was nationally standardized on a stratified normative sample of 2,000 children and adolescents. Internal consistency is reported as Spearman-Brown split half reliability coefficients ranging from .92 to .98. Test-retest reliability for a 1-month interval in four different age groups ranged from .91 to .93. Construct and criterion-related validity was demonstrated through correlations with the Wechsler Verbal IQ, Performance IQ, and Full-Scale IQ (.82-.92); the Kaufman Brief Intelligence Test (.62-.82); and the Oral and Written Language Scales (.63-.83). The test manual reports that the PPVT-III is an improvement over the PPVT-R, primarily due to a more inclusive normative sample and adequate representation of African American children.

*Peer play competence.* The Penn Interactive Peer Play Scale (PIPPS; Coolahan et al., 2000) was developed in collaboration with Head Start teachers and parents to describe peer play interactions of African American children. The teacher version consists of 32 items that identify common play behaviors that facilitate or interfere with prosocial peer interactions in the classroom. Multiple factor analytic studies (Coolahan et al., 2000; Fantuzzo, Coolahan, et al., 1998; Fantuzzo et al., 1995) yielded three underlying dimensions of children's play behaviors: play interaction, play disruption, and play disconnection. The play interaction factor consists of items that reflect creative, cooperative, and helpful behaviors that facilitate successful peer play interactions; play disruption captures children's aggressive and antisocial play behaviors; and play disconnection accounts for withdrawn and avoidant behaviors that impede active participation in play. Internal consistency using Cronbach's  $\alpha$  showed strong reliability for these factors,  $r = .92, .91, \text{ and } .89$ , respectively. Interrater reliability between teachers and teacher assistants was .85, indicating strong agreement between teachers who received formal training and assistants who were predominantly African American and parents of former Head Start children. This finding supports the validity of the PIPPS to capture children's social behaviors, whether observed by adults who had varied levels of training or who were of the same or different cultural background.

Concurrent validity was established using teacher rating scales, peer nominations, and observations of classroom free play. Children who showed high ratings for play interaction also received high ratings from teachers on the Social Skills Rating Scale (Gresham & Elliot, 1990). Interactive children were accepted by peers and observed as engaged in peer play. Play interaction correlated with positive learning styles, as measured by the Preschool Learning Behaviors Scale (McDermott, Green, Francis, & Stott, 1996). Children who were rated high on the play disconnection factor were not accepted by peers, and received teacher ratings of passivity, inattentiveness, and lack of motivation. Children who received high ratings for play disruption received high scores for classroom conduct problems on the Connors Teacher Rating Scale-28 (Connors, 1990).

## *Procedure*

Predominantly African American Head Start classrooms were selected in conjunction with the Head Start director and educational coordinators. The objectives of the project were reviewed with parents and teachers from participating centers during regularly scheduled meetings. Benefits of participation for the children and Head Start were described, and 210 parents were invited to be involved in the project. Confidentiality procedures and the rights of participants were reviewed and parents and teachers were informed that participation was voluntary. Approximately 200 parents signed a consent form allowing their children to participate in the study. Children's verbal assent was also obtained prior to data collection and children were either tested in a quiet corner of their classroom or at a desk close to the room.

After obtaining parental consent, teachers were given the T-ABC and PIPPS to complete for each participating child. Research assistants answered any questions regarding the completion of these scales. Eleven classroom teachers were compensated for their time and effort through a gift certificate of \$10 per child used toward purchasing class materials. The majority of teachers ( $n = 9$ ) were of African American background; two teachers were of European American background. Concurrently, children whose parents had provided consent participated in vocabulary testing. Six graduate students served as test administrators and completed the vocabulary testing within a 1-month period. Each child was given the EOWPVT-R and the PPVT-III on separate days, to minimize fatigue factors. Observations for the Q-sort ratings were conducted within the classroom setting by graduate students, most of whom were of European American background. However, each graduate student participated as a classroom volunteer for at least 60 hr before ratings occurred; therefore, these observers had sufficient familiarity with children in their classroom. The Q-sorts were collected by the end of the vocabulary- testing period, such that all child data was obtained within a 1-month period. No graduate student tested any child they were assigned to observe.

Data were collected on a total sample of 195 children; however, 47 children were eliminated from this study because of an incomplete vocabulary measure, Q-sort record, or teacher questionnaire. Seven children were also removed from the sample due to a different reported ethnic background. The final sample consisted of 141 African American children who were enrolled in Head Start. Incomplete data was attributed to a combination of ecological factors including graduate student availability, teacher instructional activity, and child absence. A review of the data on major demographic variables and school attendance showed no differences between the final sample and the children who had missing information.

## RESULTS

### *Integrity of Constructs*

To confirm the appropriateness of the measurement techniques with an African American population, a factor analysis was conducted. This preliminary step was to ensure that each variable included in the study contributed unique variance to the overall investigation of social competence. Findings showed that the majority of variables demonstrated appreciable variance, or specificity values, that supported the integrity of the constructs as measured with this sample of African American children. The emotional intensity temperament subscale was the only variable that was not deemed to be a valid indicator, and this subscale was omitted from further analytic procedures. The measures that were retained for analytical purposes included seven child attributes—specifically, three temperament subscales, two language measures, emotion regulation, and autonomy—and three measures within the domain of peer play. Bivariate correlations among these variables are presented in Table 1.

### *Variable-Centered Analysis of Children's Competence*

Canonical variance and redundancy analyses were conducted to examine the nature and the degree of relation between children's personal attributes and their peer play competence. Canonical correlational analysis is a robust multivariate procedure used to examine complex relations between two datasets contain multiple variables (Fantuzzo, Coolahan, et al., 1998; Weiss, 1972). Variate pairs convey the nature of relations that emerge among subsets of variables, whereas redundancy values indicate the total overlap among the two domains of variables. In this study, we were interested in exploring multidimensional relations between the

domain of peer competence and the domain of children's personal attributes. Table 2 reports the pattern of loadings associated with two significant canonical correlations, canonical  $R = .80$  and  $.75$ ,  $p < .001$ . The first variate pair, called Interactive Competence, was characterized by strong positive relations among play interaction and the majority of other constructs including adaptability, approach / withdrawal, receptive and expressive language, and emotion regulation. Additionally, play disconnection and activity level loaded negatively on this variate

**Table 1 Bivariate Correlations between the Child Attributes and Peer Play Competence**

Child Attributes	Play Disruption	Play Disconnection	Play Interaction
Expressive language	-.02	-.17	.37**
Receptive language	-.01	-.22*	.42**
Emotion regulation	-.14	-.05	.42**
Autonomy	.20*	-.13	.39**
Activity level	.65**	.19	-.39**
Adaptability	-.38**	-.44**	.64**
Approach/ withdrawal	.02	-.57**	.61**

Note:  $N = 141$ . Bonferonni corrections were utilized as a more conservative test of significance.

\*  $p < .05$ ; \*\*  $p < .001$ .

**Table 2 Canonical Structure of Relations among the Child Attributes and Peer Play Competence**

Variable	Canonical Variates	
	Interactive Competence	Overactive-Disruptive
Child attributes		
Adaptability	<b>.87</b>	-.17
Approach/ withdrawal	<b>.81</b>	<b>.47</b>
Activity level	<b>-.59</b>	<b>.74</b>
Autonomy	<b>.39</b>	<b>.41</b>
Emotion regulation	<b>.44</b>	-.10
Receptive language	<b>.52</b>	.17
Expressive language	<b>.42</b>	.12
Peer play competence		
Play interaction	<b>.96</b>	.07
Play disruption	<b>-.37</b>	<b>.84</b>
Play disconnection	<b>-.65</b>	-.23

Note:  $N = 141$ . Loadings  $\geq .40$  are considered appreciable and are boldfaced.

pair. The squared canonical correlation indicated that 64% of the variance in one variate or set of variables is predictable from the other variate, indicative of strong relations among these variables.

The second variate pair, called Overactive- Disruptive, was defined by a strong positive relation between play disruption and activity level. In addition, the constructs of approach/ withdrawal temperament and autonomy were also related to disruptive peer play. The squared canonical correlation indicated that 56% of the variance was shared, indicative of strong relations among these variables. Canonical redundancy estimates reflected the total variance that an entire multivariate dataset could explain within the other set. Children's personal attributes explained 48% of the variance within the peer play competence domain whereas the peer competence variables accounted for 33% of the other domains, Wilks's  $X = .15$ ,  $F(25, 488) = 12.94$ ,  $p < .001$ . This finding revealed that this set of children's personal attributes combined to explain an appreciable amount of variation in children's peer competence.

### Person-Centered Analyses of Personality Variables

We also were interested in determining profiles of children's personal attributes that may be more or less indicative of adaptive functioning among children. Ward's minimum variance cluster analysis was conducted on the 141 participants using the same seven child attributes—adaptability, approach/withdrawal, activity, emotion regulation, autonomy, and

**Table 3 Six-Cluster Solution for the Child Profiles**

	Profiles					
	Verbal Competence	Inattentive–Active	Task Persistent	Prosocial–Resilient	Dysregulated	Calm–Reticent
Adaptability	49.2	47.1	50.7	62.7	40.4	55.6
Approach/withdrawal	48.4	46.8	50.9	64.8	45.0	48.3
Activity level	46.5	53.7	50.9	42.9	56.8	40.0
Emotion regulation	65.9	65.4	46.5	65.5	45.6	58.9
Autonomy	66.2	66.6	48.4	67.9	47.1	51.2
Receptive language	95.1	81.6	92.6	105.6	77.9	80.4
Expressive language	90.3	75.0	96.4	95.9	72.8	73.9

*Note:* *T* scores ( $M = 50$ ,  $SD = 10$ ) were used for the temperament variables of adaptability, approach/withdrawal, and activity level. Emotion regulation and autonomy variables had a mean of 58 ( $SD = 11$ ). Vocabulary scores were also standardized, with a sample mean for receptive language of 86 ( $SD = 12$ ) and a sample mean for expressive language of 81 ( $SD = 12$ ).

receptive and expressive language. Table 3 displays the six profiles that emerged using this person-centered analytic approach. This cluster solution maximized the  $R^2$  statistic while minimizing error variance due to combination of dissimilar clusters of children. Interpretation and profiles names were derived by inspection of the mean scores for each profile's attribute in relation to the overall sample mean for that attribute.

Cluster 1 ( $n = 29$ ; 20.6%) and Cluster 2 ( $n = 34$ ; 24.1%) were quite similar and only differed with respect to language development. Cluster 1 was named Verbal Competence due to higher than average scores for expressive and receptive language. Cluster 2 was named Inattentive–Active due to lower than average verbal performance and slightly elevated activity ratings. Cluster 3 ( $n = 14$ ; 10%) contained children who demonstrated poor self-regulation despite average teacher ratings and verbal performance. We described these children as Task-Persistent, and speculated that they were successful at adult-directed tasks, but performed less well during unstructured classroom activities or playtime.

The most adaptive profile for the entire sample can be seen in Cluster 4 ( $n = 11$ ; 7.8%). This profile contained children who were highly adaptable and approachful within their classroom context. These children were likely outgoing and engaging in their interactions with other children, and refrained from overexcitement or overactivity. They also had the highest mean vocabulary scores for the sample. This profile of children was labeled as Prosocial–Resilient. In contrast, children in Cluster 5 ( $n = 31$ ; 22%) evidenced higher than average activity levels and correspondingly low emotion regulation and adaptability scores, accompanied by poor vocabulary. This profile of children could be characterized as undercontrolled and was named Dysregulated. Finally, Cluster 6 ( $n = 22$ ; 15.6%) showed interesting patterns, marked by adequate levels of adaptability and outreach to new experiences, while demonstrating considerably lower activity level. Because of a lethargic style and low levels of expressive vocabulary associated with some adaptive interpersonal tendencies, this profile was called Calm–Reticent. Figure 1 offers a visual representation of the range of attributes that comprise the six distinctive profiles evident within this economically disadvantaged sample of preschool children.

Next determined was whether children's personality profiles were differentially related to peer competence. Table 4 reports the contrasts between the six profiles obtained using ANOVA procedures. The three peer play dimensions—play interaction, play disruption, and play disconnection—served as the within-subjects factor, whereas cluster was used as a blocking factor. The Greenhouse-Geisser Conservative  $F$  test was utilized due to

assymetry of the variance in the distribution. This procedure yielded a significant Play x Cluster within-subjects effect,  $F(10, 270) = 10.33, p < .001$ . Tukey's post hoc analyses revealed that the Prosocial-Resilient profile received significantly higher teacher ratings of play interaction as compared with all other profiles,  $p < .05$ . The Dysregulated profile received significantly lower ratings for play interaction than all other clusters,  $p < .05$ . With respect to play disruption, the Inattentive-Active and Dysregulated profiles received significantly higher teacher ratings than did several other profiles (Prosocial-Resilient and Calm-Reticent),  $p < .05$ . The Calm-Reticent profile received the lowest mean rating for teacher ratings of play disruption. Differences were also found for play disconnection, with the Prosocial-Resilient profile receiving significantly lower teacher ratings than all other profiles,  $p < .05$ .

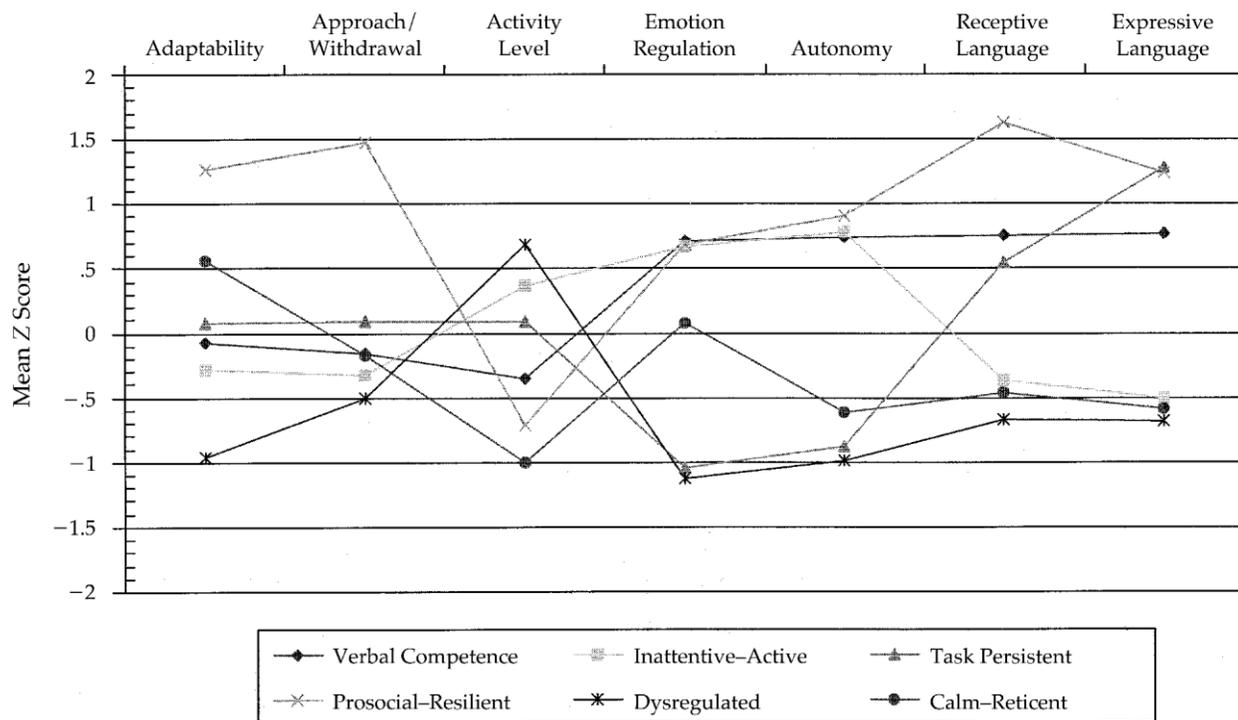


Figure 1 Mean Z scores for children's personal attributes across the six profiles.

## DISCUSSION

The present investigation enhanced the understanding of social competence among urban African American children enrolled in Head Start. Empirical evidence supported the integrity of a comprehensive set of social competence constructs that are theoretically salient for preschool children. Both variable-centered and person-centered analytic strategies revealed interesting patterns that complement each other and inform the literature with regard to African American children's personal attributes and dimensions of their peer play.

Variable-centered analyses were useful in revealing multivariate relations among aspects of children's social competence. Two significant variates emerged in the study: Interactive Competence and Overactive-Disruptive. Interactive Competence was characterized by children's successful peer play interactions and positive temperament qualities, including children's adaptability within classroom situations and children's tendencies to approach social situations. Receptive and expressive language abilities also positively contributed to this variate, as did children's emotion regulation. Additionally, disconnection from peer play and active temperament were negatively associated with the aforementioned child capacities. Clearly, children who are meeting the developmental challenge of sustaining peer play interaction are utilizing a variety of abilities during this process.

This picture of interactive competence reveals that social competence is indeed a multifaceted con-

**Table 4 Significant Differences among Profiles for Peer Social Competence**

	Verbal Competence	Inattentive– Active	Task Persistent	Prosocial– Resilient	Dysregulated	Calm– Reticent	F
Play interaction	49.97 <sub>b</sub>	46.62 <sub>b</sub>	46.57 <sub>b</sub>	60.73 <sub>a</sub>	38.81 <sub>c</sub>	48.45 <sub>b</sub>	14.38
Play disruption	49.66 <sub>abc</sub>	55.29 <sub>a</sub>	49.79 <sub>ab</sub>	43.91 <sub>bc</sub>	53.03 <sub>a</sub>	41.67 <sub>c</sub>	8.37
Play disconnection	50.97 <sub>a</sub>	51.24 <sub>a</sub>	49.14 <sub>a</sub>	25.73 <sub>b</sub>	49.77 <sub>a</sub>	47.14 <sub>a</sub>	6.73

Note: All *F* ratios are significant at  $p < .001$ . Groups with different subscripts are significantly different from each other. For the peer play constructs, *t* scores ( $M = 50$ ,  $SD = 10$ ) were used.

struct, as children draw upon multiple capacities during their social interaction (Howes, 1987; Raver & Zigler, 1997). Preschool children demonstrate interactive styles—such as tendencies to approach other children and exhibit calm demeanor—that are associated with greater levels of interactive peer play. Socially competent children also use their skills to adapt to a particular social situation or play partner to sustain the play activity (Goncu, 1993; Howes, 1992). Additionally, the association between language development and peer play signifies that children with more advanced communication skills are also engaging in higher levels of social interaction. Vygotsky’s sociocultural theory of development has long noted the importance of children’s communication with others as being critical for social exchange and learning. Although the present findings were based on a limited assessment of children’s language skills, this study highlights the salience of language during the preschool period for competence among peers as well as for preacademic success.

The second canonical variate, called Overactive– Disruptive, was comprised of behaviors that disrupt peer interaction. The canonical correlation revealed a strong positive association between children’s temperamental predisposition toward overactivity and problematic peer interactions during play. Disruptive play actions of children included refusing to share toys, grabbing others’ things, or whining and exhibiting temper. Observations and ratings of children also revealed attributes of autonomy and an outgoing temperament. A possible explanation may center on a mismatch or lack of fit between disruptive children’s choice patterns and those of significant others (e.g., playmates or teachers) in the classroom environment. Overactive children seem to be expressing their autonomy without the accompanying capacity for regulation, resulting in considerable risk for manifesting disruptive peer play and classroom conduct problems. A previous study with this population showed that children with high ratings of disruption also received teacher endorsements for classroom conduct problems and hyperactive behavior (Coolahan et al., 2000). Other research has confirmed these relations among hyperactivity, peer aggression, and problematic peer relationships with nonminority samples (LaFreniere & Dumas, 1996; Patterson, Kupersmidt, & Vaden, 1990).

Taken together, the findings of this study are consistent with a body of work on this topic with nonminority samples. Across multiple studies, preschool children who were rated high in social competence were characterized as “flexible” and “emotionally mature,” while demonstrating a “prosocial pattern of social adaptation” (LaFreniere & Dumas, 1996, p. 373). Howes (1992, p. 962) indicated that children who are engaging in complex play interaction must “be sufficiently verbally fluent, coherent, and articulate to coordinate the planning and maintenance of the play.” However, the present study enhances previous literature in two important ways. First, this study empirically supports the theoretical importance of temperament, verbal skills, and emotional maturity through a multivariate portrayal of social competence with a sample of African American children enrolled in Head Start. Second, the study serves to bring to light individual differences present within a group of economically disadvantaged children. As Vaughn et al. (2000) noted in research on friendship formation for children attending Head Start, studies that document basic social processes across minority and majority samples serve to confirm the generalizability of the proposed conceptual models for explaining peer competence for all children.

The use of a person-centered profile approach revealed individual differences in the personal attributes of African American children that related to their peer social competence. These within-group differences may be critical for identifying and promoting resilience for a sample of children that are at risk for numerous negative

outcomes, given their economic disadvantage. The emergence of clusters or distinct profiles that were associated with adaptive and maladaptive outcomes in peer interaction may highlight unique developmental trajectories present within a vulnerable group of children exposed to environmental risk factors. The profiles that were generated in this study revealed that all children were not adapting at equal rates, nor were they equally thriving within their Head Start programs.

For example, children in the Prosocial–Resilient cluster ( $n = 11$ ) demonstrated the greatest success within their peer play. These 11 children were rated by teachers as highly adaptable, flexible, and willing to approach and engage new situations. Their vocabulary development was significantly above average when compared with that of their peer group, and also would be considered average in comparison to national normative data. Observers also identified these children as having the greatest capacity for self-regulation. Closer inspection of this resilient group revealed an equal distribution across gender (6 boys) as well as membership in one of seven different classrooms across three schools. Competence across multiple child attributes is suggestive of a cross-domain competence that children bring with them to a school setting (Luthar et al., 2000). We hypothesize that this profile would remain relatively stable across time in the face of continued adversity; the exceptionality of these children in comparison with their peers suggests that they possess numerous personal resources to access during navigation of stage-salient tasks.

Yet examination of descriptive data provided by caretakers for these highly adaptive children was also informative for understanding the dynamic nature of resilience. Although the children shared some characteristics, the striking point was the range of differences in their current home ecology. The 11 caretakers endorsed either single, widowed, or separated/divorced status; however, the number of adults in the home ranged from one to four. Only 2 of the 11 children's caretakers reported themselves alone as the residential caretaker; therefore, access to other adults could be an important aspect of the home ecology. Educational level seemed to be of higher quality for these children's caretakers, with 9 of 11 caretakers having a high school diploma and 4 caretakers having some college experience. One child's caretaker had just a 10th-grade education. Interestingly, employment status showed no clear pattern, with an equal number reporting full-time employment or no employment. Finally, caretaker age ranged from 23 to 74, with three caretakers reporting their relation to the child as grandparent or great aunt. These details suggest that resilience emerges within the context of different ecologies, and mediators are just beginning to be identified that resilient children such as these 11 preschoolers share. Specific examples of mediators might include co-parenting or other supportive caretaking arrangements among extended kin—particularly access to older, experienced caregivers.

In contrast, other profiles of children with less adaptive personal attributes were linked to peer difficulties. For example, children in the Dysregulated cluster ( $n = 31$ ) were significantly more likely to engage in disruptive peer play. The profile of high activity combined with poor regulation of emotion was linked to peer difficulties for a significant number (about 22%) of children in this sample. The long-term developmental implications for this profile of children are less certain, given the wide range of prevalence estimates that exist with respect to preschool behavior problems and later psychopathology (e.g., attention deficit–hyperactivity disorder and conduct disorder; Campbell, 2000). Yet, the likelihood that classroom teachers differ in their approaches to engage these children in academic and socially relevant tasks is high. We argue that alternative classroom arrangements may be necessary to allow Dysregulated children to experience successful peer interaction. For example, these children would likely benefit from teacher facilitation of dyadic play or implementation of other strategies designed to help these children regulate their emotions before they escalate into a disruptive peer conflict. It is noteworthy that children in the Calm–Reticent profile were least likely to engage in disruptive peer play. This provides further evidence of the problems that can occur when preschool children use an overactive style of engaging peers.

Inspection of the set of profiles reveals the differential importance of language and communicative competence in determining children's classroom competence. One third of the sample maintained above average verbal performance, whereas two thirds of the sample fell below the mean for both receptive and expressive vocabulary measures ( $M_s = 86$  and  $81$ , respectively). Children with successful adaptation in the domain of

language were clustered in the Prosocial– Resilient, Verbal Competence, and Task-Persistent profiles. In contrast, 87 children with poor communication skills were clustered in the Calm–Reticent, Dysregulated, and Inattentive–Active profiles. Closer comparisons among the language-impaired profiles revealed that Calm–Reticent children fared better on other attributes, especially emotion regulation and adaptability. However, Calm–Reticent children were less forthcoming on verbal tasks, had low activity levels, and demonstrated less autonomy. Although all three profiles had weaker performance on language tasks, only children in the Dysregulated profile failed to demonstrate peer play competence. It is likely that Calm– Reticent and Inattentive–Active children would be responsive to supportive interventions that promote dyadic play, such as repeated exposure to a preferred playmate, whereas Dysregulated children might require much more adult encouragement and supervision. Long-term adjustment for Calm–Reticent children may be positive if they are capable of compensating with their other personal attributes. Indeed, evidence from studies with middle-school children showed that shy children actually perform better academically than do their peers and are liked by teachers (Wentzel, 1999).

From a diagnostic perspective, this study highlights the utility of this profile approach in the identification of children who are failing to thrive within an early intervention program. However, a significant limitation of these data is that it was not possible to determine if these children were exposed to more extreme risk factors, such as maltreatment or birth trauma, than were their classmates who were thriving. However, the profile findings suggest that researchers can uncover patterns in differential adaptation among preschool children through classroom screenings. The present study's profile findings were multimodal, reinforcing the idea that no one child attribute seems to uniformly link to peer social competence. Ultimately, individual differences within samples may be best understood through use of profile analytical techniques.

The findings also suggest that constructs of adaptability or flexibility should be incorporated into existing culturally specific theoretical frameworks for African American children (Garcia Coll et al., 1996; Wachs, 1999). Adaptable temperament for this sample of Head Start children was strongly related to children's interactive peer play abilities. A possible explanation for the importance of adaptability is linked to differences that may occur across the home and school environments of low-income minority children. Because cultural belief systems operate to guide or influence a child's behavior, the potential for discontinuity in socialization experiences may occur if the school and family value different sets of competencies (Fantuzzo et al., 1998; Ogbu, 1988; Slaughter & Dombrowski, 1989; Slaughter-Defoe, 1995). Thus, minority children's flexibility in response to different demands of social situations is likely to contribute to their social competence. In this regard, adaptable temperament may represent a strong protective factor for African American children as they continually negotiate and transact with traditionally mainstream cultural institutions, such as schools, across the life span (Holliday, 1985). Head Start and other preschool programs could respond by offering teacher training that promotes supportive, flexible classroom structures for preschool children. This approach to providing high-quality early intervention would foster teacher experimentation with culturally relevant strategies for enhancing children's peer competence within school settings (Mendez et al., 2002).

This study represents a step toward providing more specific indicators of resilience for an urban, African American sample of children enrolled in Head Start. Only through refinement and longitudinal study of children's profiles of social competence can we more fully determine the impact of environmental structures on the expression of children's competence and problem behavior (Cicchetti & Richters, 1993; Richters & Cicchetti, 1993). We concur with Vaughn et al. (2000) that supportive environments found in Head Start and within children's home environments are a likely source of variance that contributes to children's peer competence. Armed with information about the diverse range of child attributes, prevention efforts such as Head Start can more precisely target indicated groups of children to alter potential negative trajectories during preschool. Monitoring of individual differences during the preschool period serves as a future foundation to examine processes that underlie resilient outcomes by including multiple assessment points as development proceeds. The utility of the within-group approach suggests that work with economically disadvantaged children must account for individual differences across valid constructs to enhance school adaptation and success for this population.

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