

Through race-colored glasses: Preschoolers' pretend play and teachers' ratings of preschooler adjustment[☆]



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ARTICLE INFO

Article history:

Received 5 August 2012

Received in revised form 14 August 2013

Accepted 5 September 2013

Keywords:

Pretend play

Imagination

Race

Interaction effect

Preschool

Teacher bias

ABSTRACT

This study investigated relations between preschoolers' pretend play, examiner-rated adjustment, and teachers' reports of educational and social adjustment in a large and racially diverse sample. Preschoolers ($N = 171$; $M_{\text{age}} = 49.25$ months, $SD = 2.76$; 89.5% non-White; 50.9% female) completed a standardized assessment of pretend play during a laboratory visit and teachers rated their academic and relational adjustment 3 months later. Interactive effects by child race were evaluated in light of prior suggestions that relations between children's creative expression and teacher-rated adjustment may vary by child race. There were no significant race differences in observers' ratings of preschoolers' pretend play, examiners' ratings of child adjustment, or teachers' ratings of child adjustment. Imaginative and expressive play features were positively related to examiners' ratings of child ego-resilience for all children in the laboratory setting. However, child race moderated relations between these same play features and teachers' ratings of preschooler adjustment in the classroom, even after child age, child IQ, family socioeconomic status, teacher-child racial congruence, teacher familiarity with the child, and child gender were held constant. Among Black preschoolers, imaginative and expressive pretend play features were associated with teachers' ratings of less school preparedness, less peer acceptance, and more teacher-child conflict, whereas comparable levels of imagination and affect in pretend play were related to positive ratings on these same measures for non-Black children. These results suggest that teachers may ascribe differential meaning to child behaviors as a function of child race. Implications for child development, teacher training, and early education are discussed.

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1. Introduction

Between the sensorimotor play behaviors of infancy and the rule-governed exchanges of childhood lie the fantastical machinations of preschoolers' pretend play (Piaget, 1962). In pretend play, children treat one thing "as if" it were another (Fein, 1981; Lillard, 2001). In doing so, they can metabolize overwhelming affects, negotiate problems and challenges "as if" they were happening, and generate novel narratives to support a host of positive cognitive and affective developmental outcomes (Göncü & Gaskins, 2007;

Pellegrini, 2011; Russ, 1993, 2004; Singer, Golinkoff, & Hirsch-Pasek, 2006).

Although theory and research suggest that culture influences the expression of pretend play as a context for development, the majority of extant research has focused on White European American children (Gaskins, Haight, & Lancy, 2007; Rogoff, 2003; Roopnarine, Johnson, & Hooper, 1994). Thus, little is known about if or how pretend play features vary across racial groups within the United States, and even less is known about if or how the developmental correlates and consequences of pretend play vary across racial groups. This investigation sought to fill this gap by evaluating the form and meaning of pretend play across groups of Hispanic, Black, White, and bi/multiracial preschoolers.

This study employed multiple methods and informants to examine preschoolers' pretend play and its adaptive correlates in a large and racially diverse sample. The first goal of this investigation was to explore whether or not central features of preschoolers' pretend play with respect to expressed imagination and affect during a standardized play task varied across Hispanic, Black, White, and bi/multiracial preschoolers. The second goal of this study was to determine whether preschoolers' imagination and affect expression in pretend play were associated with children's adaptive

[☆] Author note: Preparation of this work was supported by a grant from the National Science Foundation Developmental and Learning Sciences (ID 091775). Portions of this work were presented at the 2009 Biennial Meeting of the Society for Research in Child Development, Montreal, Canada. The authors are grateful for the support and contributions of the research team who assisted with data collection and coding. We further extend our deepest appreciation to the families and teachers who shared their time and experience with us.

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functioning as rated by school teachers and laboratory examiners. Finally, given evidence that the meaning ascribed to children's behavior and creative expressions by others can vary across racial groups (Chang & Demyan, 2007; Chang & Sue, 2003; Downey & Pribesh, 2004; Scott, 1999; Sonuga-Barke, Minocha, Taylor, & Sandberg, 1993), the third goal of this study was to explore these relations across racial groups.

1.1. Pretend play, pretense, and positive development

Heralded as the "leading activity" of the preschool period (Duncan & Tarulli, 2003), classical and contemporary theories emphasize the role of pretend play as a powerful mechanism of and context for child development (Freud, 1961; Göncü & Gaskins, 2007; Piaget, 1962; Russ, 1993, 2004; Singer et al., 2006; Vygotsky, 1967; Winnicott, 1971). Studies employing varied designs and methods converge to suggest that pretend play facilitates cognitive and socio-affective development by creating a safe space for children to express their interest in and achieve comfort with novel ideas, divergent perspectives, and a range of emotional experiences and expressions. Both correlative and training studies support the salience of pretend play for emerging literacy skills, divergent thinking, problem solving, and coping (Christiano & Russ, 1996; Roskos & Neuman, 1998; Russ, Robins, & Christiano, 1999; Wywer & Spence, 1999; Zigler, Singer, & Bishop-Josef, 2004). Similarly, pretend play may support children's socioemotional development, including their comfort with emotion expression, capacity to access and apply emotion to solve problems, perspective taking skills, and behavioral adjustment (Bretherton, 1989; Connolly & Doyle, 1984; Galyer & Evans, 2001; Lindsey and Colwell, 2003; Seja & Russ, 1999; Youngblade & Dunn, 1995).

Ongoing controversies regarding the importance and impact of pretend play on development highlight the need for clarity regarding the specific play constructs under investigation in empirical studies (Lillard et al., 2013). This investigation focused on preschoolers' pretend play, specifically cognitive expressions of imagination and emotional expressions of affect in play. Moreover, we examined solitary pretend play using a standardized laboratory task to assess preschoolers' capacities for imaginative and expressive pretend play as distinct from the socially embedded manifestations of these same features in peer play.

Importantly, our focus on solitary pretend play also differentiates this study from the broader literature on pretense. Theorists and researchers often refer to pretense and pretend play interchangeably because both represent symbolic activities that subserve shared developmental functions (Bretherton, 1989; Fein, 1989). However, pretense embodies a broader construct than pretend play. Although pretense shares the "as-if" character of pretend play, it does not necessarily share the same motivational and behavioral features that characterize pretend play (Bergen, 2013; Friedman & Leslie, 2007). In pretend play, pretense is self-directed and behaviorally expressed. However, beyond the context of play, pretense may be other-directed (e.g., a child may be instructed to make believe that her/his finger is a toothbrush, which would be pretense, but not play) and "although action generally accompanies pretense, action is optional" (Lillard, 2001, p. 497; see also Friedman & Leslie, 2007; Lillard et al., 2013). Thus, while pretend play is an expression of pretense, not all pretense constitutes pretend play.

In sum, as an intrinsically motivated behavioral expression of pretense, pretend play has long been recognized as important for child development by developmental theorists (Freud, 1961; Piaget, 1962; Vygotsky, 1967; Winnicott, 1971). Moreover, a growing body of research points to its positive developmental correlates and consequences, at least in the predominantly White samples studied thus far (Göncü & Gaskins, 2007; Pearson, Russ, & Spannagel, 2008; Pellegrini, 2011; Russ, 1993, 2004; Singer et al.,

2006). Because pretend play is a central context for the practice of pretense with enduring developmental effects, research should explore if and how pretend play features and/or their adaptive correlates vary across racial groups.

1.2. Racial differences in pretend play and its correlates

Play is a culturally embedded phenomenon; thus, everyday tools and traditions influence the form and meaning of children's pretend play (Gaskins et al., 2007; Rogoff, 2003; Roopnarine et al., 1994). Cross-cultural studies reveal significant differences in the quality of children's pretend play with respect to imagination, affect expression, and complexity across countries and cultures (Bornstein, Haynes, Pascual, Painter, & Galperin, 1999; Chessa et al., 2012; Farver & Howes, 1993; Gaskins & Miller, 2009). Similar variability may exist within countries. For example, Brazilian children from communities characterized by less formal schooling and earlier transitions to work engage in lower levels of pretend play relative to their higher income Brazilian peers in urban communities (Gosso, Morais, & Otta, 2007). Yet there is a notable dearth of research evaluating the form and meaning of solitary pretend play across racial groups in the United States.

Albeit an imperfect and socially constructed proxy, race is a marker of culture, ethnicity, and related constructs; one that is correlated with cultural values and practices, and one that is undeniably tied to our views of one another and our children (Major, Spencer, Schmader, Wolfe, & Crocker, 1998; Smedley & Smedley, 2005; Steele, 1997). Thus, in this study, we examined patterns and correlates of pretend play among Hispanic, Black, White, and bi/multiracial preschoolers. While cultural norms may influence how children express pretend play, sociocultural constructions of race and racial stereotypes may influence the meaning ascribed to children's playful expressions of pretend by significant others, including teachers.

A large body of research has evaluated the operation and developmental implications of racial bias in educational settings. These studies suggest that teachers may perceive and interpret child characteristics and behaviors differently as a function of the child's race (Chang & Demyan, 2007; Chang & Sue, 2003; Downey & Pribesh, 2004; McGrady & Reynolds, 2013; Scott, 1999; Sonuga-Barke et al., 1993). These differential perceptions or biases exact a painful toll on children's development in both devalued and overly valued groups (Major et al., 1998; Rosenthal & Jacobson, 1968; Steele, 1997). The present study contributes to this literature by exploring relations between imaginative and expressive pretend play features and child adjustment in a racially diverse preschool sample as rated by early childhood teachers in educational settings and by examiners in the laboratory setting.

Most play studies have employed small, racially homogenous samples that preclude the evaluation of questions regarding the form or meaning of preschoolers' play across racial groups. Even in sufficiently diverse samples, these questions have rarely been addressed. In contrast to studies of pretend play in different countries (Bornstein et al., 1999; Chessa et al., 2012; Farver & Howes, 1993; Gaskins & Miller, 2009), there is little evidence that either imagination or affect expression in play varies across racial groups within the United States (Cote & Bornstein, 2009; Farver, Kim, & Lee-Shin, 2000; Gaskins & Miller, 2009). However, to the best of our knowledge, no studies have tested whether the correlates of these play features are consistent across racial groups and/or developmental settings.

The current study explored racial differences in preschoolers' pretend play and its correlates in both school and laboratory settings. Given the scholastic emphasis on comparative evaluation, as well as the presence and likely influence of intergroup dynamics in the classroom, racial bias may be especially salient in school

settings. Indeed, several studies have shown that constructs related to pretend play, such as activity level, creativity, and learning styles, are differentially valued as a function of race in the school setting (Chang & Demyan, 2007; Chang & Sue, 2003; Downey & Pribesh, 2004; Scott, 1999; Sonuga-Barke et al., 1993).

The possibility that pretend play (and related constructs, such as creativity) may be differentially perceived and valued across groups of children and/or in different settings warrants immediate attention, particularly given the likelihood that these biases will have significant developmental ramifications over the long-term (e.g., children disengaging from the educational milieu in response to perceived devaluation; Major et al., 1998). Amidst rising academic pressures and testing demands, efforts to preserve and promote play in early childhood learning are on the rise (Ginsburg & The Committee on Communications and the Committee on Psychosocial Aspects of Child and Family Health, 2007; Playful Learning as an Academic Yardstick (PLAY) Interagency Workgroup and Consortium, 2011). However, these efforts may have iatrogenic effects if the meaning ascribed to children's pretend play by others systematically varies across racial groups. Moreover, evidence that the same cognitive and affective qualities may be differentially valued by teachers as a function of child race would amplify ongoing calls for greater cultural sensitivity in educational training and practice.

1.3. Study overview

Preschoolers' pretend play is multidimensional, involving cognitive and affective components, and multi-consequential, affecting various aspects of child development (Göncü & Gaskins, 2007; Pearson et al., 2008; Pellegrini, 2011; Russ, 1993, 2004; Singer et al., 2006). However, extant research has been limited by over-reliance on shared method designs (e.g., use of single informants or settings), failure to account for confounding influences on play and child adjustment (e.g., intelligence, socioeconomic status), and a tendency to either employ racially homogenous samples, or to overlook the potential influence of cultural or contextual factors on the form or meaning of pretend play in sufficiently diverse samples. Thus, we employed multiple methods and informants to evaluate associations between preschoolers' pretend play, teachers' reports of school adjustment, and examiners' ratings of ego-resilience.

Given known correlates of individual differences in play, and the tendency for child race to covary with sociodemographic factors, such as socioeconomic status (SES), we evaluated expected relations between play and adjustment while holding relevant covariates constant. First, we included child age as a covariate in all analyses because capacities for pretend play undergo rapid development across the preschool years (Fromberg & Bergen, 2006). Second, although empirical findings regarding the relation between intelligence and pretend play are mixed (Taylor & Carlson, 1997; Tamis-LeMonda, Shannon, Cabrera, & Lamb, 2004), we incorporated measures of intellectual functioning in these analyses. Third, amidst mixed evidence regarding potential deficits in pretend play among low-income children (McLoyd, 1982), and given known racial gradients in SES, we controlled for family SES in all analyses. Fourth, several studies have demonstrated that racial congruence between teachers and students can influence teachers' evaluations of student conduct and achievement (Downey & Pribesh, 2004; McGrady & Reynolds, 2013; Oates, 2003; Pigott & Cowen, 2000; Ramirez & Shapiro, 2005; Saft & Pianta, 2001). Thus, we covaried child-teacher racial congruence in these analyses. Fifth, we controlled for the number of months the teacher had worked with the child because research suggests that interpersonal familiarity may alter the propensity to rely on stereotypes when processing information (Häfner & Stapel, 2009). Finally, gender patterns in children's imagination in play are mixed (Gosso

et al., 2007; Lindsey and Colwell, 2003), but, with respect to affect, girls generally express more affiliative content and positive emotion, whereas boys display more aggression and negative affect (Jones & Glenn, 1991; Libby & Aries, 1989; Muthukrishna & Sokoya, 2008). Therefore, child gender was entered as a final covariate in all analyses.

1.4. Aims and hypotheses

The first aim of this investigation was to examine individual differences in preschoolers' imagination and affect expression during a standardized assessment of solitary pretend play. We expected that children from different racial groups would evidence largely comparable patterns of pretend play in the laboratory setting, but boys of all races would express less positive affect and more negative affect relative to girls. The second aim of this study was to clarify relations among children's laboratory pretend play behavior, teachers' ratings of their adjustment in school (i.e., school preparedness, peer acceptance, and teacher-child conflict), and concurrent laboratory ratings of cognitive flexibility and self-regulation (i.e., ego-resilience; J. H. Block & Block, 1980). We hypothesized that imaginative and expressive play would be associated with positive adjustment across contexts. The third aim of this study was to explore if and how expected relations between pretend play and adjustment varied across racial groups and developmental settings. Given prior evidence of teacher bias against the creative expressions of minority youth (Downey & Pribesh, 2004), we expected that preschoolers' imagination and affect in play would be less strongly associated with teacher-reports of positive adjustment among Black and Hispanic students, relative to their White peers. Moreover, prior research suggests that these discrepancies may be especially pronounced among Black, relative to Hispanic, students (McGrady & Reynolds, 2013). Finally, we explored relations between pretend play features and examiner-rated adjustment in the laboratory to test our hypothesis that racial differences would be magnified by the school setting.

2. Method

2.1. Participants

The sample was drawn from the first wave of an ongoing study of representation and regulation among 250 preschoolers in Southern California. Participants were excluded from these analyses if they were not attending school ($n = 44$), their teacher did not return the school questionnaire ($n = 28$), or we could not obtain accurate school information at the time of the teacher data collection ($n = 7$). The subsample used in these analyses consisted of 171 preschoolers who were attending school and for whom we had complete teacher data. The current subsample of preschoolers was 50.9% female with a mean age of 49.25 months ($SD = 2.76$). The children were 46.2% Hispanic, 18.7% Black, 10.5% White, .6% Asian, 14% biracial, and 9.9% multiracial. Ninety three teachers across 47 schools provided reports on the 171 children examined here. The 93 teachers were 96.8% female and 54.9% identified as Hispanic, 4.4% as Black, 35.2% as White, and 5.5% as biracial (2 teachers did not report their race/ethnicity). Of the teacher-child dyads examined here, 32.5% were racially congruent. Questionnaires were mailed to teachers 1–3 months after the laboratory assessment and at least 1 month after the child's entry into the classroom to ensure that the teacher was familiar with the child's behavior. Teachers' familiarity with the participating child ranged across a 5 point scale, from 1 to 2 months (1) to more than 24 months (5) with an average duration of 6–12 months (3).

2.2. Procedure

Families were recruited to participate in a study of children's early learning and development via flyers placed in community-based child development centers and preschool programs. Flyers were printed in English due to limited interpreter resources. Caregivers completed a brief intake screening by phone before scheduling the laboratory visit. Exclusionary criteria included children with diagnosed developmental disabilities and delays, children outside the target age range of 45–54 months, and children who were not able to understand English.

The majority of caregivers were biological mothers (91.2%). Using the federal income-to-needs ratio (U.S. Census Bureau, 2011b), 37.6% of the families resided below the poverty line and/or were receiving Temporary Assistance for Needy Families (TANF), and an additional 9.2% were on the verge of poverty as defined by an income that was less than 130% of the poverty line. Education levels were variable (19.8% of caregivers had not completed high school, 17.3% had a high school diploma or GED, 62.9% had some kind of technical training or college coursework). Just over half the caregivers were employed (55.6%). The majority of caregivers were married (61.6%) or in a committed relationship (18.8%). More than half the children (55%) resided with both biological parents. The sample was demographically representative of the southern California community from which it was drawn (U.S. Census Bureau, 2011b).

Caregiver–child dyads completed a 3-h assessment in a child-friendly university laboratory. Caregivers completed narrative assessments, a semi-structured clinical interview, and questionnaires while the child completed standardized testing in an adjacent room. All assessments of the caregiver and child were audio and video recorded, respectively. Examiners were doctoral students in developmental psychology and advanced research assistants who had completed their Bachelor's degree in psychology. All examiners had extensive experience working with children from diverse populations in empirical and applied settings, and were trained and supervised by the first author who is a clinical and developmental psychologist to ensure standardized and culturally sensitive task administration. Teachers provided questionnaire data by mail approximately 3 months following the laboratory visit. Informed consent was obtained in writing from the participating caregiver. Caregivers were compensated with \$75 for their participation, children received a small gift bag of age-appropriate toys totaling \$5, and teachers received a \$15 gift card. All procedures were approved by the Human Research Review Board of the participating university.

2.3. Measures

2.3.1. Child IQ

The Vocabulary and Block Design subtests of the Wechsler Preschool and Primary Scale of Intelligence-III yielded an abbreviated assessment of child IQ (Wechsler, 2002). Verbal IQ was assessed using the Vocabulary subtest, which includes a receptive vocabulary test in which the child points at pictures to identify orally presented words for children who are less than 48 months of age and an expressive vocabulary test in which the child verbally explains what orally presented words mean for children who are 48 months or older. Performance IQ was assessed using the Block Design subtest in which the child was asked to assemble blocks to match models. A composite of Verbal and Performance IQ scores was used in these analyses ($M = 96.44$, $SD = 13.33$).

2.3.2. Family socioeconomic status (SES)

Family SES was scored using the Hollingshead Four-Factor Index of Social Status (Hollingshead, 1975). Education codes ranged from

1 (less than 7th grade) to 7 (graduate or professional training). Occupational scores ranged from 1 (farm laborers and unskilled service workers) to 9 (executives and major professionals). Education codes were multiplied by 3 and occupation codes were multiplied by 5. Scores were summed within caregiver and then averaged across caregivers (in cases with 2 caregivers in the home) to yield a family SES score ($M = 32.56$, $SD = 11.97$).

2.3.3. Pretend play

The Affect in Play Scale – Preschool version (APS-P, Kaugars & Russ, 2009) is a 5-min standardized play measure that was adapted from the Affect in Play Scale for school-aged children (APS, Russ, 1993, 2004) to measure affective and cognitive processes in preschoolers' play. The APS-P has demonstrated strong reliability and validity in early studies and across racially diverse samples (Fehr & Russ, 2013; Kaugars, 2001; Kaugars & Russ, 2009). Further, evidence points to concurrent validity between the APS-P and Russ' well-established APS scale (Mazzeschi, Salcuni, Di Riso, Lis, & Bonucci, 2008).

Whereas the APS uses two human puppets to inspire play, the APS-P uses a standardized set of toys that are designed to activate a range of aggressive, neutral, and affiliative themes. Children were presented with the following toys in a scripted fashion: five small stuffed animals (i.e., hippo, bear, big dog, little dog, shark), three plastic cups, one small car, four plastic zoo animals (i.e., elephant, giraffe, zebra, and tiger), and one small, colored, squishy ball with bumps. After presenting the toys to the child, the examiner narrated a vignette in which the bear toy looked in one cup and found "good food to eat" and then looked in another cup and "found food s/he did not like." The examiner then instructed the child to keep playing and make up a story.

Children were encouraged to play freely for 5 min. If the child did not play after the first 30 s, s/he was encouraged to "go ahead, play with the toys and make up a story." The same prompt was used again if the child continued not to play for an additional 60 s. The task was discontinued after 2 min if the child did not play. Examiners repeated each child utterance to facilitate coding accuracy and encourage ongoing play, as is often done in play assessments with young children (Emde, Wolf, & Oppenheim, 2003).

APS-P administrations were video recorded and transcribed for coding. The second author coded all the cases, and an additional 30% were scored by a second coder for reliability. Both coders were females of Filipina descent who were blind to teacher ratings. Although the second author conducted 18.1% of the child assessments 1 year prior to the APS-P coding, the majority of child assessments and examiner ratings were completed by other examiners.

A global rating of the child's *imagination* in play (i.e., the extent to which the child depicted novel and unique themes with high levels of pretend play) was rated from 1 (*low*) to 5 (*high*). The child's verbal and nonverbal affect expressions in the play narrative (e.g., "They are saved [the little dog and the big dog hug];" "You ate all my grass and I kick your butt with my tail") were coded as present/absent across 11 categories (e.g., happy/pleasure, sad/hurt, anger/aggression, nurture/affection) during each 10-s play interval. As noted above, behavioral depictions of affect were transcribed and coded when the nature of the expressed affect was clear. In addition, all vocalizations (e.g., grunts, laughter, kissing noises) were transcribed and coded. Frequencies of positive and negative affect were summed to yield separate ratings of positive and negative affect expression in play. Interrater reliabilities across 30% of the sample were excellent for ratings of imagination ($ICC = .91$), positive affect frequency ($ICC = .95$), and negative affect frequency ($ICC = .97$).

2.3.4. School preparedness

Teachers rated the child's school preparedness in four domains to describe how prepared the child was when s/he first came into the classroom. Preparedness in cognitive/academic, social, emotional, and behavioral domains was rated from 0 (*not at all prepared*) to 4 (*extremely prepared*) (e.g., "when this child first came into this school/child care setting, how prepared would you say s/he was socially?"). Ratings across the four items were summed to yield a global school preparedness score ($\alpha = .84$).

2.3.5. Peer acceptance

Teachers reported on the child's experiences with peers using the MacArthur Health and Behavior Questionnaire (HBQ, Armstrong, Goldstein, & The MacArthur Working Group on Outcome Assessment, 2003; Boyce et al., 2002; Essex et al., 2002). The HBQ has been deemed valid and reliable for use in racially diverse samples of young children (Ablow et al., 1999; Lemery-Chalfant et al., 2007). The peer acceptance scale consisted of 10 items (e.g., "has lots of friends at school;" "is liked by other children who seek him/her out for play") that were rated on a 4-point scale from 1 (*not at all like*) to 4 (*very much like*; $\alpha = .89$).

2.3.6. Teacher-child conflict

Teachers reported on levels of perceived conflict with each child using a shortened version of the Student-Teacher Relationship Scale (STRS, Pianta, 2001; Pianta & Stuhlman, 2004) that is included in the HBQ (Armstrong et al., 2003). The STRS has been used extensively with diverse populations and evidences strong psychometric properties (Decker, Dona, & Christenson, 2007; Saft & Pianta, 2001). The teacher conflict scale included five items (e.g., "this child and I always seem to be struggling with each other;" "this child drains my energy"), which were rated on a 5-point scale from 1 (*definitely does not apply*) to 5 (*definitely applies*). The obtained reliability estimate in this sample ($\alpha = .86$) was comparable to prior research using the HBQ ($\alpha = .81$, Armstrong et al., 2003).

2.3.7. Child ego resilience

The California Child Q-Set (J. Block & Block, 1980) was scored based on the child's 3-h laboratory assessment using the common language adjustments provided by Caspi et al. (1992). Children were rated on 100 personality descriptors using a 9-point scale from 1 (*extremely uncharacteristic*) to 9 (*extremely characteristic*) in a forced distribution. Ratings were made using the computerized Riverside Accuracy Project (2010) Q-Sorter Program. In addition to ratings by the child examiner, 48.4% of the children were rated by a second independent observer based on the video recording. Scores were averaged across observers to yield individual child profiles across the 100 items. Examiners and independent observers were from varied racial backgrounds.

Ratings of each child across the 100 items were correlated with the ego-resilient prototype to yield a single concordance score with positive values reflecting higher ego resilience (i.e., the global capacity to negotiate challenges in a way that is flexible, resourceful, and adaptive by effectively modulating one's expression and inhibition of emotions and impulses) and lower scores reflecting lower concordance with the prototype, or ego-brittleness (see Block, 2008; J.H. Block & Block, 1980). Prior research has demonstrated the validity of the CCQ profiles in diverse samples (Arend, Gove, & Sroufe, 1979; Block, 2008) and interrater reliabilities in this sample ($M_{ICC} = .52$, $SD = .23$) were comparable to or higher than other Q-sort studies (Nave, Sherman, & Funder, 2008).

2.4. Analytic plan

All variables were sufficiently normal to render parametric statistics valid (Affifi, Kotlerman, Ettner, & Cowan, 2007). There

were no significant differences across the subsample with teacher data ($N = 171$) and the broader sample with respect to child age, family SES, marital status (i.e., whether the caregiver was married, engaged/committed, or single), parenting status (i.e., whether the child lived with biological parents, one biological parent and her partner, or a single parent), child race, child gender, or the play variables. However, children in the current subsample earned higher IQ scores ($t[248] = 2.93$, $p < .001$; Cohen's $d = .40$) and were rated as more ego-resilient ($t[248] = 3.52$, $p < .001$; Cohen's $d = .47$) than those not included here. Missing data within the school subsample were estimated using maximum likelihood estimation with the EM algorithm in SPSS 20.0 for teacher familiarity ($n = 8$), school preparedness ($n = 4$), and peer acceptance ($n = 1$) as supported by Little's (1988) MCAR test; $\chi^2(21) = 52.16$, $p = .214$.

Descriptive analyses included a multivariate analysis of variance (ANOVA) to test for mean differences in continuous study variables as a function of child gender, child race, and their interaction. Chi-square analyses evaluated group differences in marital status, parenting status, and teacher-child racial congruence by child gender and child race. Bivariate relations among study variables further informed our selection of covariates for the regression analyses.

A series of hierarchical linear regressions evaluated unique relations between preschoolers' play features and adjustment as rated by teachers (i.e., school preparedness, peer acceptance, teacher-child conflict) or examiners (i.e., ego-resilience). Main and interactive effects of child race were tested using effect coding with bi/multiracial as the discarded group. Interaction terms between each play feature and three child race effects (i.e., Hispanic, Black, and White) evaluated conditional effects of child adjustment on play features as moderated by child race. Continuous predictors were centered to minimize collinearity (Holmbeck, 2002; Kraemer & Blasey, 2004). All predictors and adjustment ratings were standardized ($M = 0$, $SD = 1$) to facilitate comparative evaluations across outcomes. Significant interaction terms were probed to evaluate group-specific simple slopes (Bauer & Curran, 2005; Preacher, Curran, & Bauer, 2006). Select covariates were entered in the first block of each regression. Effect codes for child race and the relevant play variable were entered in the second and third blocks, respectively. The fourth block included the three race-by-play interaction terms.

We also evaluated the potential for systematic variation in study variables as a function of children's nesting within teachers ($N = 93$) or educational facilities ($N = 47$) using the PROC MIXED command in SAS (Raudenbush & Bryk, 2002; Singer, 1998). Unconditional means models indicated that neither teachers nor schools differed in their average ratings of school preparedness, peer acceptance, or teacher-child conflict. We did not evaluate three-level models due to sample constraints.

3. Results

3.1. Descriptive statistics

A multivariate ANOVA evaluated mean differences in child age, child IQ, family SES, teacher familiarity, play features, and adjustment ratings by child gender, child race, and their interaction (see Table 1). The multivariate main effect for gender was significant (Wilks' $\lambda = .77$, $F[11,153] = 4.111$, $p < .001$; $\eta^2 = .23$). Follow-up univariate ANOVAs indicated that boys came from families of higher SES than did girls; $F(1, 163) = 4.22$, $p = .04$; $\eta^2 = .03$. Boys expressed lower rates of positive affect ($F[1,163] = 6.69$, $p = .01$; $\eta^2 = .04$) and higher rates of negative affect ($F[1,163] = 21.59$, $p < .001$; $\eta^2 = .12$) in play relative to girls. Teachers reported more

Table 1
Descriptive statistics and bivariate correlations among study variables.

	M (SD), range	1	2	3	4	5	6	7	8	9	10
1. Child age	49.25 (2.76) 44–55	–									
2. Child IQ	96.44 (13.33) 62–145	–.12	–								
3. Family SES	32.56 (11.97) 13–66	–.10	.19*	–							
4. Teacher familiarity	2.91 (1.10) 1–5	.02	–.05	.17*	–						
5. Imagination	2.99 (1.30) 1–5	–.07	.12	.08	–.08	–					
6. Positive affect	6.41 (5.77) 0–33	–.09	.05	.15	.02	.48***	–				
7. Negative affect	8.67 (8.05) 0–34	.06	.05	.03	–.12	.60***	.06	–			
8. School preparedness	7.68 (2.83) 0–16	.01	.31***	.19*	–.08	.22**	.07	.12	–		
9. Peer acceptance	32.86 (5.59) 15–40	.00	.15	.09	–.13	.09	–.03	.02	.48***	–	
10. Teacher conflict	8.66 (4.06) 5–23	–.07	–.16*	.00	.03	.06	.03	.07	–.36***	–.50***	–
11. Ego resilience	.34 (.31) –.48–.76	.17*	.29***	.27***	–.06	.34***	.25***	.28***	.35***	.21**	–.13

Note:

- * $p < .05$,
- ** $p < .01$,
- *** $p < .001$.

conflict with boys than girls; $F(1,163) = 6.31, p = .01; \eta^2 = .04$. Neither the main effect for race, nor the multivariate interactive effect between child gender and race attained significance; Wilks' $\lambda_{\text{race}} = .76, F(33, 451.70) = 1.37, p = .11$ and Wilks' $\lambda_{\text{gender} \times \text{race}} = .76, F(33, 451.70) = 1.33, p = .11$.

Chi-square analyses revealed no significant differences in child gender across racial groups. Marital status and parenting status did not vary by child gender or race. Although teacher–child racial congruence was comparable for boys and girls, there was systematic variation by child race ($\chi^2 [3, 169] = 66.16, p < .001$) with higher rates among Hispanic children (64.1%), than among Black (6.2%), White (11.2%), or bi/multiracial (2.4%) children.

Univariate ANOVAs evaluated mean differences in study variables as a function of marital status and parenting status. Only family SES varied by marital status with single caregivers reporting lower SES than married caregivers; $F(2, 168) = 5.25, p < .01; \eta^2 = .06$. No variables varied by parenting status. Teachers in racially incongruent dyads rated children as more prepared for school ($t[167] = 2.17, p = .03$; Cohen's $d = .37$), but also as greater sources of teacher–child conflict ($t[167] = 2.15, p = .03$; Cohen's $d = .36$) than did teachers in racially congruent dyads.

3.2. Bivariate relations

Bivariate relations among continuous study variables are shown in Table 1. Child age was positively related to examiners' ratings of ego-resilience. Child IQ was related to higher family SES, better school preparedness, lower levels of teacher–child conflict, and greater ego-resilience. Family SES was positively related to teacher familiarity (i.e., duration teacher had instructed the child at the time of reporting), teachers' ratings of school preparedness, and examiner-rated ego-resilience. Imagination in play was associated with higher rates of positive and negative affect expression in play, as well as with teacher-rated school preparedness and examiner-rated ego-resilience. Affect expression in play

was related to ego-resilience. Teachers' ratings were correlated in expected directions, and with examiner-rated ego-resilience.

3.3. Regression analyses

As shown in Table 2, hierarchical multiple regression analyses evaluated three teacher-rated school outcomes (i.e., school preparedness, peer acceptance, and teacher–child conflict) and examiners' ratings of the child's ego-resilience on (1) covariates in block 1, including child age, child IQ, family SES, teacher–child racial congruence (0 = incongruent, 1 = congruent), teacher familiarity, and child gender (male = 0, female = 1); (2) race effects for Hispanic, Black, and White in block 2; (3) a play variable in block 3 (i.e., imagination, positive affect, or negative affect in play); and (4) interactions between each child race effect and the play variable in block 4.

Results of regressions of teacher-rated adjustment outcomes on children's imagination in play, positive affect in play, and negative affect in play are shown in Table 2. After controlling for all covariates, child race did not evidence a main effect on any outcomes. Child play effects on teacher-reports of child adjustment were similarly absent, except for imagination in play, which was associated with higher ratings school preparedness. However, these patterns were qualified by significant interactions between preschoolers' pretend play features and child race. Teachers rated Black children who were imaginative players as less prepared for school, less accepted by peers, and greater sources of teacher–child conflict relative to non-Black children who were imaginative players (see Fig. 1). Although interactive effects by race were absent for positive affect expression in play, negative affect expression in play evidenced similarly differential relations with Black children who expressed relatively more negative affect in play being rated as less prepared for school and less accepted by peers relative to non-Black children with comparable levels of negative affect expression in play (see Fig. 2). Interactive effects between child race and negative affect did not explain significant variance in teacher–child conflict. In contrast to teacher-reported adjustment outcomes,

Table 2
Coefficients for regressions of adjustment outcomes on preschoolers' pretend play features.

Predictor	School preparedness			Peer acceptance			Teacher–child conflict			Ego resilience		
	Imag. β	Pos. β	Neg. β	Imag. β	Pos. β	Neg. β	Imag. β	Pos. β	Neg. β	Imag. β	Pos. β	Neg. β
Child age	.11	.10	.11	.04	.02	.05	-.13	-.12	-.13	.25***	.26***	.25***
Child IQ	.27***	.28***	.26**	.13	.11	.11	-.19*	-.17*	-.16*	.21**	.25***	.22**
Family SES	.13	.16*	.17*	.09	.12	.12	.01	-.03	-.03	.22**	.23**	.24***
Teacher familiarity	-.11	-.13	-.10	-.16*	-.17*	-.15	.09	.10	.08	-.10	-.11	-.07
Racial congruence	-.13	-.17	-.17	.15	.13	.13	-.09	-.06	-.07	.04	-.02	-.02
Female gender	.10	.07	.11	.02	.00	-.01	-.17*	-.17*	-.15	.08	.02	.16*
Block 1 ΔR^2	.16***	.16***	.16***	.06	.06	.06	.09*	.09*	.09*	.19***	.19***	.19***
Race – Hispanic	.04	.06	.08	.00	.00	.03	-.15	-.19	-.19	-.07	-.04	-.04
Race – Black	.02	.13	-.01	-.07	-.19	-.11	-.05	.03	.06	.06	.08	.08
Race – White	-.14	-.12	-.13	-.12	-.05	-.12	.14	.08	.10	-.04	-.03	-.05
Block 2 ΔR^2	.01	.01	.01	.05	.04	.04	.02	.02	.02	.01	.01	.01
Play variable	.17*	.08	.14	.10	-.01	.02	.02	.01	-.02	.30***	.23**	.30***
Block 3 ΔR^2	.03*	.00	.02	.01	.00	.00	.00	.00	.00	.09***	.05**	.07***
Hispanic \times Play variable	.01	-.02	-.01	.06	-.04	.03	-.17	-.06	-.02	-.05	.07	.09
Black \times Play variable	-.26**	-.22	-.19*	-.27**	.04	-.24*	.36***	.07	.17	-.11	-.06	-.13
White \times Play variable	.13	.01	.13	.08	-.14	.16	-.16	.05	-.06	.17	-.01	.10
Block 4 ΔR^2	.04	.02	.02	.04	.02	.03	.07**	.01	.02	.01	.00	.02
Total R^2	.23	.19	.21	.15	.12	.13	.18	.11	.13	.29	.24	.28
$F(13, 155)$	3.58***	2.74**	3.07***	2.08*	1.61	1.81*	2.56**	1.50	1.70	4.96***	3.80***	4.66***

Note: Regression coefficients are from the final step of hierarchical linear models using an effect coding scheme to evaluate Hispanic, Black, and White groups. Coefficients reflect the estimated difference between the grand mean and the ethnicity group coded 1. Child gender (male = 0, female = 1). Racial congruence of the teacher–child dyad (incongruent = 0; congruent = 1). Imag. = imagination in play; Pos. = positive affect in play; Neg. = negative affect in play.

* $p < .05$,
** $p < .01$,
*** $p < .001$.

preschoolers' pretend play features were positively and consistently associated with higher examiners' ratings of ego-resilience.

4. Discussion

Amidst ongoing debate about the centrality of pretend play for children's education and adaptation (Fisher, Hirsh-Pasek, Golinkoff, Singer, & Berk, 2011; Lillard et al., 2013; Singer et al., 2006), the

need to clarify if and how play effects may be qualified by child or setting characteristics has never been greater. This study evaluated preschooler's imagination and affect expression in laboratory pretend play as related to teachers' reports of children's adjustment in the school setting and observers' ratings of adjustment in the laboratory using a large and racially diverse sample. Girls and boys were similarly imaginative in their observed pretend play. However, consistent with widely replicated findings on gender differences in play content (Jones & Glenn, 1991; Libby & Aries, 1989;

PRETEND PLAY & PRESCHOOL ADJUSTMENT

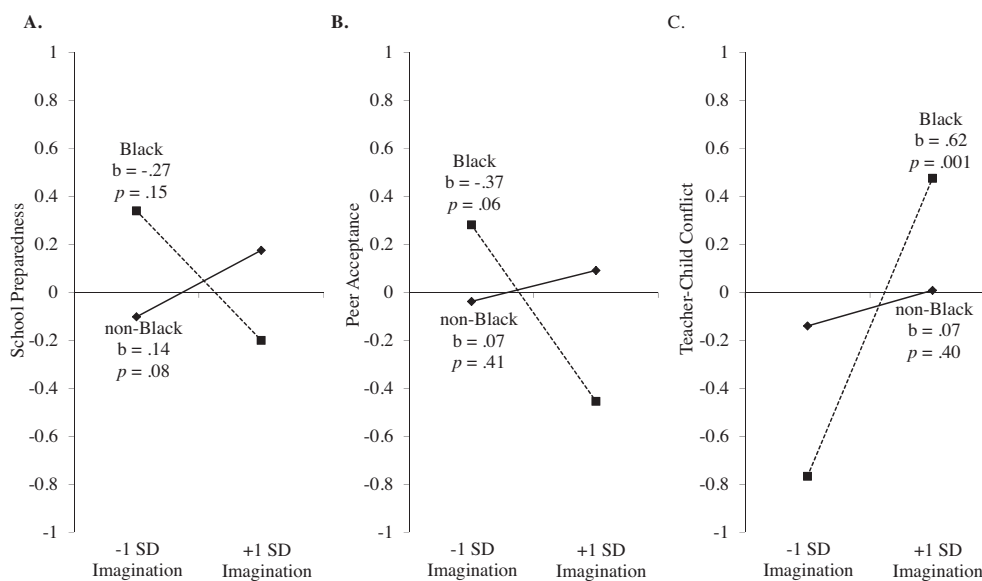


Fig. 1. Teacher ratings of (A) school preparedness, (B) peer acceptance, and (C) teacher–child conflict as a function of child imagination in play by the effect of child race for Black versus non-Black youth. b = unstandardized regression coefficient (i.e., simple slope); SD = standard deviation.

PRETEND PLAY & PRESCHOOL ADJUSTMENT

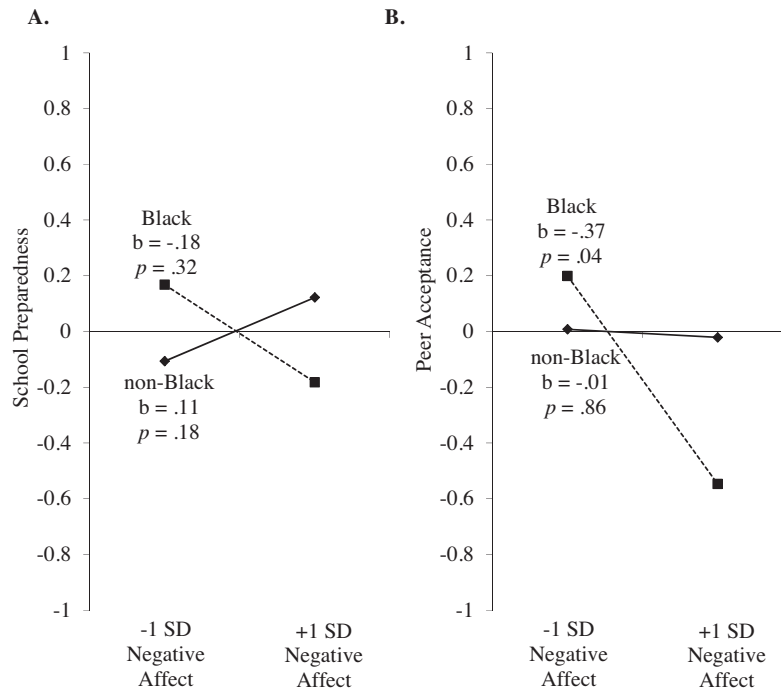


Fig. 2. Teacher ratings of (A) school preparedness and (B) peer acceptance as a function of child negative affect expression in play by the effect of child race for Black versus non-Black youth. b = unstandardized regression coefficient (i.e., simple slope); SD = standard deviation.

Muthukrishna & Sokoya, 2008), boys expressed higher rates of negative affect and lower rates of positive affect in pretend play relative to girls. As has been found in the few studies with diverse samples, Hispanic, Black, White, and bi/multiracial preschoolers exhibited similar levels of imagination and affect in their pretend play (Cote & Bornstein, 2009; Farver et al., 2000; Gaskins & Miller, 2009). Moreover, children of all races were rated as similarly competent on teacher reports of school preparedness, peer acceptance, and teacher-child conflict in the classroom, as well as on examiners' ratings of ego-resilience in the laboratory.

Although we expected that pretend play would be uniformly related to positive adjustment outcomes, this hypothesis was not supported in the school setting. Indeed, our findings suggest that heretofore unexamined interactive effects may explain at least some of the current controversy in the field regarding the developmental significance of pretend play. As described earlier, children in all racial groups were similarly imaginative and expressive players. Moreover, teachers did not differ in their average adjustment ratings across Hispanic, Black, White, and bi/multiracial groups of children. However, moderation analyses revealed that pretend play was differentially related to teachers' ratings of school adjustment as a function of the child's race. Specifically, Black children with imaginative and expressive pretend play skills were evaluated negatively, whereas non-Black children with similar play skills were evaluated positively. Of note, the absence of main effects by child race demonstrates that teachers did not perceive some races as better adjusted than others, which has been suggested by prior research (Tenenbaum & Ruck, 2007), but rather that teachers perceived different attributes as related to more or less positive adjustment in different racial groups.

Importantly, relations between pretend play features and examiners' ratings of global adjustment (i.e., ego-resilience) were comparable across children from different racial groups in this sample. Although the magnitude of these relations may be inflated

due to shared-method variance because the 5-min play assessment was part of the 3-h assessment on which observers based their Q-sort ratings, it is improbable that nearly a dozen raters, all but one of whom was blind to the meaning and coding of the APS-P, were unduly influenced by the child's behavior during the play task, which comprised just 3% of the observational period. This finding supports our expectations that pretend play would be associated with positive adjustment and that evidence for racial bias would be more pronounced in educational settings. However, further research is needed to clarify the causal processes that underlie this setting effect.

4.1. Strengths and limitations

This investigation advances research on children's pretend play in several ways, most notably by extending the lens of analysis across racial groups. In addition, the current design included multiple sources of information regarding children's adjustment in laboratory and school settings, data regarding cognitive and affective dimensions of pretend play, and measures of intelligence, family SES, and teacher-child familiarity and racial congruence. Yet these findings must be interpreted in light of several limitations.

First, the standardized assessment of pretend play in the laboratory presents a substantial threat to the ecological validity of our findings. The use of a standardized play assessment ensured that we assessed pretend play expression specifically, and rendered these observations independent from the relational dynamics of the classroom context where histories of dominance and submission among peers, as well as implicit messages about the value of play in the educational milieu may influence play patterns (Bergen, 2013; Gosso et al., 2007; Howes et al., 2011). At the same time, however, our laboratory play assessment was limited to a 5-min observation period of solitary pretend play using structured props and prompts, which necessarily limited our capacity to assess

spontaneous, naturalistic play and may have constrained our ability to observe racial differences in children's pretend play.

Second, the absence of independent observations of play and adjustment in the educational setting imposed a major constraint on our ability to interpret the obtained data. Prior research with the APS and APS-P has documented positive relations with children's observed play behavior in classroom settings (Kaugars & Russ, 2009; Seja & Russ, 1999). However, given evidence that children's play can vary across settings (Fein, 1981; Gosso et al., 2007; McLoyd, 1982), it is unclear whether or not children who were imaginative and expressive in the lab behaved similarly at school. Moreover, in the absence of school-based observations, we cannot ascertain why teachers provided more negative evaluations of Black children who exhibited imaginative and expressive solitary pretend play in the laboratory. It may be that teachers interpret creative expressions of Black children as disruptive and indicative of poor adjustment, and/or it may be that these children actually present with different behaviors in the educational milieu. For example, cultural differences in the socialization of affect expression (Cole & Tan, 2007) could influence children's capacities to modulate their expressiveness in accordance with the requirements of the classroom setting. Future research that includes multiple informants, settings, and racial groups will clarify whether the interactive effects observed in this study reflect teacher bias, teacher responsiveness to child effects, or a combination of both. Evidence for teacher bias has been mixed across the few studies that have examined teacher ratings across racial groups and objective classroom-based observations (Epstein et al., 2005; Hosterman, Dupaul, & Jitendra, 2008; Puig et al., 1999; Sonuga-Barke et al., 1993).

Third, this study did not attend to additional features of the educational milieu that may influence the operation of racial bias. Although the current study addressed major limitations in extant research by including measures of teacher-child racial congruence and familiarity, additional individual differences across teachers may clarify contexts of relative vulnerability or resilience to bias effects. For example, Ramirez and Shapiro (2005) found that teachers' acculturative status better accounted for racial differences in teachers' ratings of diverse students than did the race of the teacher. Similarly, Mashburn and Henry (2004) found that the accuracy of teachers' ratings of young children was associated with the teacher's prior education and economic background. Indeed, evidence suggesting that teacher training and program quality may influence teachers' propensities to act on racial stereotypes is a testament to the promise and power of teacher education initiatives (Mashburn, Hamre, Downer, & Pianta, 2006).

Fourth, the generalizability of our obtained findings may be limited by size and selection effects that are unique to the current sample. Although the present sample was quite large and notably diverse relative to prior play studies, the number of children within each racial group was variable with relatively few White children and a large number of Hispanic children. The degree of teacher-child racial congruence was similarly uneven across groups. These differences resulted in non-equivalent power to detect race and congruence effects across groups. Although the presence of a significant interaction with the relatively small sample of Black children, but not with the relatively large sample of Hispanic children, increased our confidence in these findings, research with larger and equal samples across racial groups is needed to clarify if and how the implications of children's pretend play may vary by race. Similarly, although post hoc analyses indicated that teacher-child racial congruence did not moderate relations between play features and child adjustment ($M_{p\text{-value}} = .56$), our capacity to evaluate these effects was necessarily limited by the unequal distribution of congruence across variably sized racial groups. This limitation is particularly salient given that the disproportionate degree of congruence between

Hispanic students and teachers may, in part, explain the nonsignificant race effect among Hispanic youth in this study (McGrady & Reynolds, 2013). Finally, given our limited sample sizes, we were unable to explore heterogeneous patterns within racial groups. There may be considerable variation in both the socialization and meaning of children's behavior within racial categories, and this warrants further investigation in future research (e.g., Black youth of Caribbean, African, or American descent; Puig et al., 1999).

Another threat to the generalizability of our findings stems from our restriction to English-speaking children who were attending preschool and for whom we obtained teacher ratings. As such, these findings may not generalize to preschool-aged children who are not yet attending school and/or to children who were attending schools with teachers who did not return their questionnaire packets. Similarly, our reliance on children with basic comprehension of English as a function of our limited interpreter resources biased our sample of Hispanic children such that these findings may not generalize to Hispanic preschoolers who do not speak English. That being said, it is important to note that our sample of Hispanic caregivers was representative of the broader Hispanic population in the United States (e.g., 64.6% reported that Spanish was a dominant language in their home and 35.9% were foreign born; U.S. Census Bureau, 2011a).

Finally, although this study included sufficient numbers of teachers and schools so as to mitigate nesting effects, the evaluation of such effects using larger, school-based samples would facilitate greater clarity regarding specific school or teacher characteristics that may contribute to appearance of these interactive effects. For example, teacher bias may vary as a function of classroom diversity (McKown & Weinstein, 2008) and/or teachers' education and experience (Mashburn et al., 2006). In addition, a larger sample would permit the evaluation of complex interrelations among teacher race, child race, child gender, and SES.

4.2. Implications and applications

These findings are provocative, but by no means definitive as a consequence of the study design and its limitations. Moreover, if replicated, ongoing research will be needed to understand when and why teacher bias may exist and to clarify its consequences for child development. Nevertheless, these findings raise significant concerns about if and how early bias may portend long-term differences in children's imagination, expressiveness, and/or adjustment as a function of their classroom experiences. In future research, for example, we will examine trajectories of pretend play over time to test whether developmentally normative declines in imaginative and expressive pretend play are accelerated among Black children relative to their non-Black peers.

Although the processes underlying these patterns warrant further investigation, the striking consistency of interactive effects as a function of child race suggests that Black children who are imaginative and expressive may be vulnerable in early childhood education settings, either because they are less well-suited to the classroom environment or because they are perceived to be less well-suited by teachers. Moreover, to the extent that these findings raise the possibility of teacher bias, and given its enduring negative effects (Major et al., 1998; Rosenthal & Jacobson, 1968; Smedley & Smedley, 2005; Steele, 1997), we must take necessary steps to mitigate the expression of unconscious, socially structured beliefs and expectations in our classrooms. Amidst increasing emphasis on multicultural teacher training and education (Middleton, 2002; Miller, Strosnider, & Dooley, 2000), these findings encourage educators and researchers to look beyond main effects and evaluate the potential for increasingly subtle, but equally silencing, ways that race may play out in early childhood education and development.

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