

Teacher Ethnicity and Variation in Context: The Implications for Classroom Quality

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Abstract:

Research Findings: The current study examined the differences in global quality between classrooms with African American teachers and European American teachers. The study included 1,687 classrooms (802 with African American teachers and 885 with European American teachers). Initial analyses revealed significant differences in overall global quality as well as on 2 factor scores: Language/Interactions and Activities/Materials. However, when an analysis of covariance was conducted controlling for numerous structural variables (i.e., level of education, years of experience in early childhood, total number of teachers in the classroom, teacher-child ratio, proportion of children on subsidy, proportion of African American children in the class, and ethnicity of the observer), no differences by race were found. *Practice or Policy:* Findings are discussed with regard to the contextual constraints experienced by African American teachers in preschool classrooms to create high-quality learning environments. Policy implications of classroom inequities by racial/ethnic background are examined.

Keywords: Education | Teachers | Race | Ethnicity | Classroom Quality

Article:

Introduction

Accountability through classroom assessment is increasing within the early childhood field. Many states have established tiered reimbursement in conjunction with a quality rating and improvement system that often includes a global measure of classroom quality. The intention of accountability is worthy: to provide high-quality care and education to all young children while best preparing them for academic success. However, there is concern about the extent to which high-quality classrooms are available to all children and equitable resources to all teachers. Ladson-Billings (1995) eloquently laid out the issues of inequity in public school classrooms that contribute to differential success of students by race. Does the child care system suffer from a similar malady? The current study explored the contextual variables affecting African American

teachers and children in child care classrooms and the impact of these variables on classroom quality.

CLASSROOM QUALITY AND ETHNICITY OF TEACHERS AND CHILDREN

Most research has indicated that children (regardless of ethnicity) who have been in high-quality child care classrooms perform better on measures of social and cognitive development compared to children in lower quality child care (Burchinal & Cryer, 2003). Although research demonstrates that higher quality care is beneficial for all children, the reality is still that many children experience low-quality child care environments. Indeed, large-scale studies have indicated that children of color are often in lower quality classrooms than are European American children (Helburn, 1995; Howes, Sakai, Shinn, & Phillips, 1995; Kontos, Howes, & Shinn, 1997; National Institute for Child Health and Human Development Early Child Care Research Network, 1997). Furthermore, some research has indicated that behavior problems and vocabulary skills for African American children are more strongly associated with classroom quality than for European American children (Burchinal, Ramey, Reid, & Jaccard, 1995; Burchinal et al., 2000).

When considering issues of achievement of minority children in early childhood classrooms, many educators have recommended the need for an ethnic match between the teacher and the majority of children in a classroom. However, findings are mixed with regard to the effectiveness of teacher-child ethnic match. Burchinal and Cryer (2003) reported that the match between race of children and race of teachers did not contribute to child outcome scores in secondary data analyses of the Cost, Quality, and Child Outcomes Study and the NICHD Study of Early Child Care. It is important to note that the number of African American and Latino children included in these analyses were quite low. However, Dee (2001) reported that White and Black kindergarten children who were part of Project Star and had a teacher of the same race had significantly higher math and reading scores than did children who were not assigned a teacher of the same race. The findings were particularly strong in large classrooms where contact between children and teachers was limited and in racially segregated schools.

In response to such findings, Johnson et al. (2003) proposed several criticisms of the research that has been conducted on children of color in child care environments. One concern is the extent to which current measures of quality are able to measure constructs such as racial socialization. Most scales of quality require some measurement of the diversity of classroom materials but do not attempt to measure the extent to which these materials are intentionally incorporated into discussions of the children's ethnic and family background. Scales measuring quality also do not capture the coherence between family values and classroom practices for children of color (Lamb, 1999). Educators have long recognized that this match between classroom and home values often does not occur for children of color.

With a need to create “more specific and culturally relevant definitions of quality” (Johnson et al., 2003, p. 1239) in child care, current measures of child care quality should be examined in a variety of contexts. However, if teachers utilize methods that are considered to be culturally appropriate but do not meet the dominant culture's ideas of quality, then pressure to conform to Euro-centric standards of quality challenges culturally relevant pedagogy in early childhood classrooms. Rather than accepting that children of color experience low-quality care, whether due to measurement issues or other reasons, the aforementioned findings should initiate further inquiry that questions why this is occurring. For example, what is the context in which teachers of color are working? And what are the challenges they might face in establishing higher quality care?

CLASSROOM QUALITY AND SOCIOECONOMIC STATUS

It is important to note that race is inextricably confounded with family income in early childhood classrooms. Ladson-Billings (2006) described the “education debt” that exists in the United States from years of funding deficits to schools in low-income areas composed of students of color, including those of African American, Latino, and Native American descent. According to economist Robert Haveman (as cited in Ladson-Billings, 2006),

The education debt is the foregone schooling resources that we could have (should have) been investing in (primarily) low income kids, which deficit leads to a variety of social problems (e.g., crime, low productivity, low wages, low labor force participation) that require on-going public investment. This required investment sucks away resources that could go to reducing the achievement debt. Without the education debt we could narrow the achievement gap. (p. 5)

Although Ladson-Billings and Haveman were referring primarily to schools that have historically served elementary-age children, a recent study by Pianta and his colleagues (2005) demonstrated that the situation is similar for preschool children in public schools. In their study of 238 pre-kindergarten classrooms, quality was lower in classrooms that served primarily low-income children. These classrooms were also more likely to have teachers who had less education. Canella (1997) reminds us that early childhood education has long been a two-tiered system, with one form provided to the poor and children of color and another to middle-class and upper middle-class children.

CHILD CARE CONTEXT—STRUCTURAL QUALITY

Structural quality was described by Phillips and Howes (1987) as aspects of the child care environment that include indicators such as group composition and staff qualifications. Historically, structural indicators of quality were labeled *regulatable*. That is, they were considered to be variables that could be easily regulated via the state regulatory or licensing process (Howes, Phillips, & Whitebook, 1992). For example, teacher–child ratio and group sizes can be easily mandated as part of licensing requirements. The structural dimensions of quality are influenced by the macrosystem, including government regulations, center policies, and

economic climate (Phillipsen, Burchinal, Howes, & Cryer, 1997). Therefore, structural characteristics typically are considered to be more distal indicators of child care quality with less direct impact on child outcomes. However, Phillipsen and colleagues argued that structural indicators of quality can affect child care quality at the program or center level and at the classroom level. For example, program policies affect the child indirectly, whereas classroom-level variables such as group size may have a more immediate and direct impact on child outcomes. These structural factors may vary from state to state, as well as from county to county, and no doubt from neighborhood to neighborhood. Although structural quality may have less direct impact on child outcomes compared to teachers' immediate interactions with children, it influences the interactions that teachers are able to establish with the children in their care.

A variety of societal determinants may account for differences in structural quality. For example, economic factors such as tuition rates that families are able to pay may impact group size, teacher-child ratio, and teacher salaries. Also, teachers' ability to access and pay for further education contributes to their ability to provide appropriate curriculum and interactions for the children in their classrooms (Cassidy, Vardell, & Buell, 1995). The relationship between economic factors and child care quality has long been accepted (Helburn, 1995), as has the relationship between structural variables and process quality (Phillipsen et al., 1997). However, the distinctions in structural indicators of quality have not been compared by the race/ethnicity of the teacher. It is critical to examine these variations to reveal and begin to resolve inequities that may exist.

CHILD CARE CONTEXT—PROCESS QUALITY

Process quality is primarily focused on the relationships between teachers and children and the specific content of that which is taught in early childhood classrooms. Phillips and Howes (1987) described process quality as the “dynamic environment that captures children's actual experiences in child care” (p. 9). Recent research has emphasized the critical importance of process quality as a component of the learning environment (Mashburn & Pianta, 2006), in particular the critical role of the teacher in establishing quality within the classroom environment. It is important to note the relationship between structural and process quality. For example, many studies have demonstrated the relationship between education (a structural variable) and teacher-child interactions (a process variable; NICHD ECCRN, 2002; Phillipsen et al., 1997). Indeed, these two dimensions of quality are highly interdependent but also valuable as independent constructs as we examine the complex picture of child care quality.

The current study examined contextual variables that constrain structural, process, and global quality in classrooms with African American and European American teachers. The study utilized the Early Childhood Environment Rating Scale-Revised (ECERS-R; Harms, Clifford, & Cryer, 1998), which is based on a standard of quality held by the dominant early childhood culture. The scale has been found to have two factors: Language/Interactions and Activities/Materials (Cassidy, Hestenes, Hegde, Hestenes, & Mims, 2005). Examination of

differences by ethnicity in relation to the ECERS-R as well as the Activities/Materials and Language/Interactions factors will provide additional depth and focus the lens on specific aspects of quality.

METHOD

Observations were conducted using the ECERS-R (Harms et al., 1998) in 1,687 preschool classrooms (802 classrooms with African American teachers and 885 classrooms with European American teachers) throughout North Carolina (see Table 1 for descriptives of the sample). Due to small sample sizes, classrooms including teachers of other ethnic minorities were not a part of the current study. These assessments were completed as part of North Carolina's Star Rated License process. The classrooms assessed for this project came from a variety of programs, including for-profit child care programs, nonprofit child care programs, Head Start centers, public school programs, and church-sponsored programs. During the time of data collection, child care facilities in North Carolina could earn from 1 to 5 stars depending on outcomes in three domains (i.e., program standards, staff education levels, and compliance history). One portion of the program standards requirement for centers striving to achieve a higher star rating was the completion of a global quality assessment using one of the Environment Rating Scales (i.e., the ECERS-R, Infant/Toddler Environment Rating Scale, Family Day Care Rating Scale, or School Age Care Environment Rating Scale). The ECERS-R assessments used in this study were completed only in programs that were striving for higher star ratings (typically 4 or 5 stars). Thus, this data set most likely represents only the higher quality programs in the state. Although only programs striving for higher star ratings received the assessment, there was still a wide range of scores that were normally distributed. ECERS-R assessments were completed in 92% of the counties in North Carolina.

Table 1. Descriptive Information for Covariates by Teacher Ethnicity

<i>Covariate</i>	<i>African American Teachers</i>				<i>European American Teachers</i>			
	<i>n</i>	<i>%</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>%</i>	<i>M</i>	<i>SD</i>
Education level of teachers	230	30.30	4.5	1.94	171	19.7	5.21	2.19
NC EC credential/CDA	188	24.77			210	24.19		
Some college	163	21.48			177	20.39		
2-year degree	96	12.65			141	16.24		

<i>Covariate</i>	<i>African American Teachers</i>				<i>European American Teachers</i>			
	<i>n</i>	<i>%</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>%</i>	<i>M</i>	<i>SD</i>
4-year degree in other field	82	10.80			169	19.47		
BA, BS, or MA in ECE								
Total number of teachers in classroom	221	27.56	1.82	0.60	215	24.29	1.97	0.74
1	510	63.59			510	57.63		
2	64	7.98			136	15.37		
3	6	0.75			16	1.81		
4	1	0.12			8	0.90		
5								
Proportion of children receiving subsidy	79	11.43	0.63	0.37	198	25.16	0.39	0.36
0%	104	15.05			206	26.18		
Less than 33%	136	19.68			184	23.38		
33%–67%	151	21.85			96	12.20		
More than 67%	221	31.98			103	13.09		
100%								
Years of experience in early childhood	799		8.72	5.90	880		8.16	5.56

<i>Covariate</i>	<i>African American Teachers</i>				<i>European American Teachers</i>			
	<i>n</i>	<i>%</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>%</i>	<i>M</i>	<i>SD</i>
Teacher-child ratio	794		7.99	2.43	882		7.55	2.73
Proportion of African American children	802		0.73	0.31	885		0.12	0.18

Note. NC EC = North Carolina Early Childhood Credential (NCECC); CDA = Child Development Associate credential; BA = bachelor of arts degree; BS = bachelor of science degree; MA = master's degree; ECE = early childhood education.

ECERS-R

The ECERS-R (Harms et al., 1998) is a 43-item observational instrument. Each item is rated from 1 (*inadequate*) to 7 (*excellent*) based on indicators that are descriptions of quality listed below the 1, 3, 5, and 7 ratings. The scale contains seven subscales: Space and Furnishings (8 items), Personal Care Routines (6 items), Language Reasoning (4 items), Activities (10 items), Interaction (5 items), Program Structure (4 items), and Parents and Staff (6 items). An overall score is created by taking the average of all of the items except those from the Parents and Staff subscale. This subscale is not used when calculating points for the North Carolina Star Rating process.

Additionally, two factors, Activities/Materials and Language/Interactions (Cassidy, Hestenes, Hegde, et al., 2005), which included 16 items, were used in the current study. The two factors more reliably measure the materials and activities present in the classroom as well as the interactions between teachers and children than do the subscale scores (Cassidy, Hestenes, Hegde, et al., 2005). The Activities/Materials factor provides a specific look at many of the structural features of the classroom, whereas the Language/Interactions factor gives a clearer picture of the process quality between teachers and children (Cassidy, Hestenes, Hansen, et al., 2005). The Activities/Materials factor includes the following items:

3. Furnishings for relaxation and comfort
5. Space for privacy
15. Books and pictures
19. Fine motor
20. Art

- 22. Blocks
- 24. Dramatic play
- 25. Nature/science
- 26. Math/number

The Language/Interactions factor includes the following items:

- 17. Using language to develop reasoning skills
- 18. Informal use of language
- 30. General supervision of children
- 31. Discipline
- 32. Staff–child interactions
- 33. Interactions among children
- 36. Group time

Using the global quality scores provides a coarse view of quality, whereas the two factor scores allow for more specific aspects of quality to be examined and compared.

Procedures

Highly trained assessors completed the ECERS-R in each classroom during a 3- to 4-hr observation session. At the end of each observation, a teacher interview was used to clarify demographic information and to complete the items that could not be observed. Interviews lasted approximately 30 minutes. In addition to completing the ECERS-R, assessors also collected background information on teachers, group size, and teacher–child ratio during their observation. Teachers' level of education was coded into 1 of 12 categories from 1 = *did not complete high school* to 12 = *graduate degree*. Each level represented increasing years of general education and amounts of child development/early childhood specialized training.

Assessor Training

Each assessor was a trained staff member of the North Carolina Rated License Assessment Project. The assessors received extensive and ongoing training on the instrument as part of their job. Each assessor was trained to at least an 85% agreement level (based upon consensus scoring within one rating point) across programs that differed by level of quality, ethnicity, age, special needs, and program type. Reliability was maintained at that level via checks after approximately every sixth assessment. Highly reliable assessors (i.e., those maintaining a 90% agreement level

over three consecutive reliability checks) were reevaluated for reliability after every 10th assessment. Each assessor received updated training and clarification on items quarterly, as well as feedback at each reliability check.

RESULTS

Initial analyses were performed to determine if classrooms differed in quality by race of the teacher. The results revealed a statistically significant difference in the mean scores on the ECERS-R between classrooms with African American teachers ($M = 4.84$, $SD = 0.70$) and classrooms with European American teachers ($M = 5.12$, $SD = 0.62$), $F(1, 1685) = 83.85$, $p < .0001$. Additionally, there were statistically significant differences on the Activities/Materials factor, $F(1, 1685) = 71.42$, $p < .0001$; and the Language/Interactions factor, $F(1, 1685) = 90.11$, $p < .0001$. Classrooms with African American teachers had lower mean scores (Activities/Materials, $M = 4.71$, $SD = 1.04$; Language/Interactions, $M = 5.37$, $SD = 1.03$) than classrooms with European American teachers (Activities/Materials, $M = 5.13$, $SD = 0.99$; Language/Interactions, $M = 5.82$, $SD = 0.95$).

Although simple t tests indicated mean differences by ethnicity, it was determined that to best understand these associations, a number of controls needed to be included. Therefore, an analysis of covariance (ANCOVA) was conducted using a variety of structural variables commonly associated with quality, including as covariates level of education, years of experience in early childhood, total number of teachers in the classroom, teacher–child ratio, proportion of children on subsidy, proportion of African American children in the class, and ethnicity of the observer. Three different ANCOVAs were computed, one for each of the dependent variables (i.e., the overall ECERS-R mean score, Activities/Materials factor, and Language/Interactions factor). When the covariates were included in the analyses, no differences by ethnicity were found. All of the covariates except observer ethnicity and teacher–child ratio were significantly related to classroom quality based on the overall ECERS-R scores. Likewise, when examining the Activities/Materials and the Language/Interactions factors, observer ethnicity and teacher–child ratio were not statistically significant variables. In addition, proportion of children on subsidy was not statistically related to the Activities/Materials factor. Tables 2, 3, and 4 summarize the ANCOVA results for the overall ECERS-R, Factor 1 (Activities/Materials), and Factor 2 (Language/Interactions).

Table 2. Analysis of Covariance of ECERS-R Means as a Function of Race of Teacher, With Multiple Classroom Variables as Covariates

Source	df	SS	MS	F	p
Teacher education	1	17.57	17.57	45.04	<.0001
Teacher experience	1	3.76	3.76	9.65	.0019
Total teachers	1	13.93	13.93	35.70	<.0001
Teacher–child ratio	1	1.59	1.59	4.08	.0436
Subsidy children	1	3.20	3.20	8.21	.0042
African American children	1	4.98	4.98	12.77	.0004
Race of observer	1	0.48	0.48	1.23	.2670
Race of teacher	1	0.11	0.11	0.27	.6016
Error	1435	559.83	0.39	-	-
Total model	8	93.04	11.63	29.81	<.0001

Note. ECERS-R = Early Childhood Environment Rating Scale–Revised.

Table 3. Analysis of Covariance of ECERS-R Factor 1 (Activities/Materials) as a Function of Race of Teacher, With Multiple Classroom Variables as Covariates

Source	df	SS	MS	F	p
Teacher education	1	25.23	25.23	26.57	<.0001
Teacher experience	1	4.77	4.77	5.03	.0251
Total teachers	1	20.54	20.54 2	1.63	<.0001
Teacher–child ratio	1	0.029	0.029	0.031	.5776
Subsidy children	1	1.13	1.13	1.20	.2774
African American	1	14.1	14.1	14.85	.0001

children					
Race of observer	1	0.0004	0.0004	0.00	.9840
Race of teacher	1	0.32	0.32	0.34	.5604
Error	1435	1362.23	0.949		
Total model	8	147.85 18.48	19.47	<.0001	

Note. ECERS-R = Early Childhood Environment Rating Scale–Revised.

Table 4. Analysis of Covariance of ECERS-R Factor 2 (Language/Interactions) as a Function of Race of Teacher, With Multiple Classroom Variables as Covariates

Source	df	SS	MS	F	p
Teacher education	1	36.02	36.02	39.55	<.0001
Teacher experience	1	11.43	11.43	12.55	.0004
Total teachers	1	19.24	19.24	21.12	<.0001
Teacher–child ratio	1	2.04	2.04	2.24	.1344
Subsidy children	1	11.37	11.37	12.49	.0004
African American children	1	10.99	10.99	12.07	.0005
Race of observer	1	0.056	0.056	0.06	.8044
Race of teacher	1	0.49	0.49	0.54	.4621
Error	1435	1306.81	0.091		
Total model	8	195.36	24.42	26.82	<.0001

Note. ECERS-R = Early Childhood Environment Rating Scale–Revised.

Because the covariates eliminated the ethnic differences in ECERS-R scores, we examined the covariate means for each group to better understand the contextual variables influencing the

apparent differences between the classrooms with teachers of different ethnic backgrounds. Specifically, African American teachers had less education (averaging between “some college coursework: <30 credit hours” and “1-year community college diploma”), whereas European American teachers had between 1 and 2 years of college, $t(1681) = 7.55, p < .0001$. African American teachers also had worse teacher– child ratios (1:8 vs. 1:7.5), $t(1674) = 3.51, p < .001$; fewer teachers in their classrooms (1.82 vs. 1.97), $t(1667) = 4.60, p < .0001$; a greater proportion of children on subsidy (63% vs. 39%), $t(1476) = 12.64, p < .0001$; and a higher proportion of African American children in their classrooms (73% vs. 12%), $t(1269) = 49.35, p < .0001$. Similar outcomes were found for both factors of the ECERS-R (Activities/Materials and Language/Interactions) with the exception of ratio (which did not predict either factor) and proportion of children on subsidy (which was not a significant predictor of Factor 1 [Activities/Materials] but was a predictor of Factor 2 [Language/Interactions]). There was also a trend with regard to teaching experience, with African American teachers having more years of teaching experience than European American teachers (8.72 years vs. 8.16 years), $t(1677) = 1.97, p < .05$. Table 1

summarizes the means and standard deviations for each covariate by teacher ethnicity.

DISCUSSION

Initial analyses indicated that classroom quality was higher in classrooms taught by European American than African American teachers. Furthermore, European American teachers had higher scores on both the Activities/Materials factor and the Language/Interactions factor. However, there were rather dramatic differences in the contexts of the classrooms in this study, which resulted in differences in the quality of the learning environments provided to the children in these classrooms. Erwin (1998) argued that until we thoroughly examine the sociohistorical contexts of early childhood classrooms, “the field will continue to serve the needs of children and families of diverse ethnic, cultural, linguistic, gender, and ability groups poorly” (p. 328). In the current study, African American teachers had fewer total teachers in the classroom. Having fewer teachers means that children were likely not receiving the same type of individualized attention as when more teachers are available to fewer children. Less individualized care and attention may explain some of the differences found in scores on the Language/Interactions factor. That is, teachers may spend more time managing overall group behavior when there are fewer teachers and may have less opportunity to engage children in individual activities compared to in classrooms with more teachers.

It is particularly notable that African American teachers also worked with far more children who were on subsidy, an indicator that these children may be in need of high-quality child care for school readiness. Specifically, 63% of children in classrooms taught by African American teachers were on some type of subsidy, whereas only 39% of children working with European American teachers received subsidy. A good deal of research indicates that family income is the strongest predictor of academic achievement (McLoyd, 1998; Smith, Brooks-Gunn, & Klebanov,

1997). Therefore, it is likely the children receiving subsidy are academically at risk and in need of greater intervention from the teacher.

Studies also demonstrate a positive relationship between teacher education and classroom quality (Brown et al., 2006; Stipek & Byler, 1997): Teachers with associate's and bachelor's degrees tend to have higher quality classrooms compared to teachers with less education. In the current study, African American teachers had less education than European American teachers, and education level served as one of the positively related covariates that contributed to the differences in quality scores. Considering that the African American teachers in the current study had significantly less education than the European American teachers, it must be acknowledged that African Americans have historically been denied access to higher education and have received lower quality education at all levels (Ladson-Billings, 2006).

Not surprisingly, African American teachers worked with far more African American children than did European American teachers. Although we cannot assert a causal relationship between race and fewer resources based on the findings of the current study, the results certainly raise an important question. Ladson-Billings (2006) suggested that "... we must ask ourselves why the funding inequities map so neatly and routinely align with the racial and ethnic realities of our schools" (p. 6). Ladson-Billings further contended, "Even if we cannot prove that schools are poorly funded *because* Black and Latina/o students attend them, we can demonstrate that the amount of funding rises with the rise in White students" (p. 6). Although such a systematic examination of child care programs has not been conducted, based on the present findings one must question if similar inequities exist. Just as good things go together in child care (e.g., teachers with more education work in classrooms with lower ratios), risk factors that compromise child care quality seem to go together as well.

The conditions under which these two groups of teachers function should receive further attention. In the quest for quality we must continue to examine the contextual factors that constrain or enhance teacher classroom performance. If African American teachers are less likely to have the supports that are defined by the dominant culture as being associated with high-quality child care (e.g., more education and more teachers), it is not surprising that they will perform less well on measures of classroom quality. The resulting lower scores on a global measure of classroom quality may raise doubts about their ability as classroom teachers. However, any teacher (regardless of ethnicity), when faced with less support in the form of fewer teachers in the classroom, less education, and working with the complexities of having higher numbers of children on subsidy, would struggle to perform as well as teachers with more supports. Disproportionately, we find the teachers who endure these poorer conditions are teachers of color.

Practical Implications of Lower Scores

Star ratings

The African American teachers in the study earned an average score of 4.84 on the ECERS-R, whereas the European American teachers earned an average score of 5.12. The lower scores for the African American teachers could result in lower star ratings in the child care rating system. The contextual variables (e.g., fewer teachers, more children on subsidy, lower education levels) that accounted for lower scores on the ECERS-R in classrooms with African American teachers are not considered when assigning scores or the number of stars for the rated license. In fact, lower education levels independent of the ECERS-R assessment result in fewer points toward the star rating, creating double jeopardy for African American teachers.

In North Carolina, where the study was conducted, licensed child care programs participate in a rated license system earning from 1 to 5 stars. At the time of the study, star ratings were partially based on the lowest classroom score received in a program on the Environment Rating Scale assessments, and the rated license was based on three components (program standards, staff education, and compliance history) for which programs could earn up to 15 points (5 points in each category). The Environment Rating Scale assessments partially inform the program standards score. For example, a score of 5.0 or above on the Environment Rating Scales is required to receive all 5 points in the area of program standards. A low score of 4.5 to 4.99 on the rating scales equates to 4 points, and a low score of 4.0 to 4.49 equates to 3 points.

Subsidy rates

In the state of North Carolina, subsidy rates are tied to child care program star ratings. That is, the more stars, the higher the subsidy reimbursement per child in a child care facility. Based on the findings of the current study, the programs with African American teachers (who scored lower on the ECERS-R, resulting in fewer stars) will receive fewer dollars for each child on subsidy compared to the classrooms with European American teachers (who had higher ECERS-R scores, resulting in more stars). That is, the mean difference in ECERS-R scores was enough to alter the star rating of the child care programs, lowering subsidy rates received by the programs with African American teachers. This is especially alarming when considering that the African American teachers worked with 24% *more* children receiving subsidy than the European American teachers. This lack of resources and support available to African American teachers perpetuates a cycle of inequity, with more affluent programs receiving more resources and the programs with a greater number of low-income and African American children continuing to receive less funding, thereby resulting in poorer quality. Lubeck (1988) argued that the complexities according to which opportunities and resources are allocated does not seem to come under scrutiny. She further stated that “adults simply have different resources at their disposal, and schools have tended to educate children for different places in the social order” (p. 56). It seems that this process begins far earlier than elementary school, during the critically formative years of early childhood.

Implementing standardized measures to assess child care quality as a part of a state regulatory system assumes that all teachers are on an equal playing field to create quality environments for

the children they serve and that all teachers subscribe to early childhood practices that are reflective of the dominant culture. An alternative explanation to lower scores may be that African American teachers interact with groups of children in ways that are reflective of their ethnic backgrounds. These practices, although supportive of children in the contexts in which they live, may not be positively captured in the measures that have been developed based on the dominant culture's ideas of early childhood education (Lubeck, 1988). Although the data in the current study do not support this theory, further research is needed to examine measurement sensitivity to cultural differences in classroom quality.

Educational Implications

Based upon the assumption that quality is quality for all children, and the evidence that poor-quality classrooms equal poor outcomes for children (Burchinal & Cryer, 2003), the goal should be simple: continue to improve the quality of classrooms by providing technical assistance, educational opportunities, and other classroom supports for teachers so that they can create good to excellent environments. With the same level of support in structural variables, there is no difference in quality for children in classrooms of African American and European American teachers. Therefore, to ensure quality for all children, particularly children of color, who have long been in lower quality care (Helburn, 1995), attention should be focused on equalizing the support provided for all teachers across settings. To ensure high-quality care and education for all children, resources need to be provided to improve the structural supports for African American teachers in order to provide the same opportunities that European American teachers receive.

Improving these contextual factors is a commitment that requires increased funding for programs serving children of color and for teachers of color to pursue their education. Such efforts should come from a variety of directions, including, but not limited to, scholarships to finance education for teachers of color, higher education programs that are flexible enough to accommodate working teachers' schedules (e.g., by bringing classes to centers, offering online classes), subsidized programs to improve teacher-child ratios and decrease group sizes, and substantial supports to teachers working with children facing economic adversity. Equalizing supports to teachers across the field creates a foundation for children to experience the best quality care and education regardless of the context in which they live.

Future Research

As noted above, a systematic investigation of current funding realities in child care in terms of teachers' ethnicities is essential to understanding the association among quality, race, and subsidy rates. These studies may also examine this relationship in terms of type of child care setting, such as the funding differences and structural inequalities in Head Start and various not-for-profit organizations, public school programs, and private centers. Furthermore, as accountability increases, future research should focus on revising current instruments and creating new scales to

measure child care quality in a more culturally responsive manner. It is necessary to address the external validity of such scales in order to best serve children and families from various cultural and ethnic backgrounds.

Also worth considering in future research is the fact that the assessments for this study were completed only in programs that were striving for 4 or 5 stars in the rated license system. If these contextual differences by teacher ethnicity are found in these higher quality classrooms, one can only conjecture what might be found in classrooms of lower quality. Future research should include varying levels of quality in order to further examine this issue.

Future qualitative efforts could include examining teachers' perceptions of their resources and supports in teaching as well as the current licensing/funding system and places in which they encounter inequality. In-depth interviews with teachers could also help us understand the child care practices of various ethnicities including the social and cultural goals behind those practices. Additionally, studies on teacher preparation should address current societal barriers in order to create opportunities for teachers of color to further their education. Some questions to explore may include issues of articulation and access to 4-year colleges, as well as culturally appropriate ways in which to engage in teacher preparation and continued education. If we truly desire equal levels of quality in the early education of all children, then it is necessary to continually examine the contextual factors that may differentially influence teachers and children based upon their race, ethnicity, and socioeconomic status.

REFERENCES

1. Brown, G., Scott-Little, C., McIntee, C., Hooks, L., Marshall, B. J., Weisner, A. 2006. *The South Carolina classroom quality research project: Final report*, Greensboro: University of North Carolina at Greensboro, SERVE.
2. Burchinal, M. R. and Cryer, D. 2003. Diversity, child care quality, and developmental outcomes. *Early Childhood Research Quarterly*, 18: 401–426.
3. Burchinal, M. R., Ramey, S. L., Reid, M. K. and Jaccard, J. 1995. Early child care experiences and their association with family and child characteristics during middle childhood. *Early Childhood Research Quarterly*, 10: 33–61.
4. Burchinal, M. R., Roberts, J. E., Riggins, R., Zeisel, S. A., Neebe, E. and Bryant, D. 2000. Relating quality of center-based child care to early cognitive and language development longitudinally. *Child Development*, 71: 339–357.
5. Canella, G. S. 1997. “Institutionalized stories of education and care”. In *Deconstructing early childhood education*, Edited by: Canella, G. S. 91–115. New York: Lang.

6. Cassidy, D. J., Hestenes, L. L., Hansen, J. K., Hegde, A., Shim, J. and Hestenes, S. 2005. Revisiting the two faces of quality: Structure and process. *Early Education and Development*, 16: 505–520.
7. Cassidy, D. J., Hestenes, L. L., Hegde, A., Hestenes, S. and Mims, S. 2005. Measurement of quality in preschool child care classrooms: The Early Childhood Environment Rating Scale-Revised and its psychometric properties. *Early Childhood Research Quarterly*, 20: 345–360.
8. Cassidy, D. J., Vardell, R. and Buell, M. J. 1995. If you don't know where you are, how can you get where you're going? A contextual examination of professional development in the early childhood field. *Child & Youth Care Forum*, 3: 151–169.
9. Dee, A. April 2001. *Teacher efficacy and diversity: Implications for teacher training* April, Paper presented at the annual meeting of the American Educational Research Association, Seattle, WA.
10. Erwin, E. J. 1998. Diversity in early childhood environments. *Educational Forum*, 62: 323–328.
11. Harms, T., Clifford, C. M. and Cryer, D. 1998. *Early Childhood Environment Rating Scale: Revised edition*, New York: Teachers College Press.
12. Helburn, S. W., eds. 1995. *Cost, quality and child outcomes in child care centers (Tech. Rep.)*, Denver: University of Colorado at Denver, Center for Research in Economic and Social Policy, Department of Economics.
13. Howes, C., Phillips, D. A. and Whitebook, M. 1992. Thresholds of quality: Implications for social development of children in center-based child care. *Child Development*, 63: 449–460.
14. Howes, C., Sakai, L. M., Shinn, M. and Phillips, D. 1995. Race, social class, and maternal working conditions as influences on children's development. *Journal of Applied Developmental Psychology*, 16: 107–124.
15. Johnson, D. J., Jaeger, E., Randolph, M., Cauce, A. M., Ward, J. and NICHD Early Child Care Research Network. 2003. Studying the effects of early child care experiences on the development of children of color in the United States: Toward a more inclusive research agenda. *Child Development*, 74: 1227–1244.
16. Kontos, S., Howes, C. and Shinn, M. 1997. Children's experiences in family child care and relative care as a function of family income and ethnicity. *Merrill-Palmer Quarterly*, 43: 386–403.
17. Ladson-Billings, G. 1995. Toward a theory of culturally relevant pedagogy. *American Educational Research Journal*, 32: 465–491.

18. Ladson-Billings, G. 2006. From the achievement gap to the education debt: Understanding achievement in U.S. schools. *Educational Researcher*, 35: 3–12.
19. Lamb, M. E. 1999. *Parenting and child development in “non-traditional” families*, Mahwah, NJ: Erlbaum.
20. Lubeck, S. 1988. “Nested contexts”. In *Class, race, and gender in American education*, Edited by: Weis, L. 43–62. Albany: State University of New York Press.
21. Mashburn, A. J. and Pianta, R. C. 2006. School relationships and school readiness. *Early Education and Development*, 17: 151–176.
22. McLoyd, V. 1998. Socioeconomic disadvantage and child development. *American Psychologist*, 53: 185–204.
23. National Institute for Child Health and Human Development Early Child Care Research Network. 1997. Familial factors associated with the characteristics of non-maternal care for infants. *Journal of Marriage and Family*, 59: 389–408.
24. National Institute for Child Health and Human Development Early Child Care Research Network. 2002. Child-care structure>process>outcome: Direct and indirect effects of child-care quality on young children's development. *Psychological Science*, 13: 199–206.
25. Phillips, D. and Howes, C. 1987. “Indicators of quality in child care: Review of research”. In *Quality in child care: What does research tell us?*, Edited by: Phillips, D. 1–19. Washington, DC: National Association for the Education of Young Children.
26. Phillipsen, L. C., Burchinal, M. R., Howes, C. and Cryer, D. 1997. The prediction of process quality from structural features of child care. *Early Childhood Research Quarterly*, 12: 281–303.
27. Pianta, R., Howes, C., Burchinal, M., Bryant, D., Clifford, R., Early, D. 2005. Features of pre-kindergarten programs, classrooms, and teachers: Do they predict observed classroom quality and child-teacher interactions?. *Applied Developmental Sciences*, 9: 144–159.
28. Smith, J., Brooks-Gunn, J. and Klebanov, P. 1997. “Consequences of living in poverty for young children's cognitive and verbal ability and early school achievement”. In *Consequences of growing up poor*, Edited by: Duncan, G. and Brooks-Gunn, J. 132–189. New York: Russell Sage Foundation.
29. Stipek, D. J. and Byler, P. 1997. Early child education teachers: Do they practice what they preach?. *Early Childhood Research Quarterly*, 12: 305–325. #9;#9;