ORIGINAL PAPER

Teacher, Center, and Neighborhood Characteristics Associated with Variations in Preschool Quality in Childcare Centers

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Abstract

Background Childcare programs serving preschool children are generally of poorer quality than publicly-funded preschools both in terms of their classroom processes and structural features. Research on childcare programs has typically collapsed them into a single group, yet these programs vary greatly in neighborhood disadvantage and organization as they are managed by for-profit chains, non-profit community organizations, faith-based organizations, or individual owners. Little is known about variations in childcare program quality and what factors are associated with quality.

Objective The current study utilized latent profile analysis (LPA) with classroom process, structural features, and neighborhood disadvantage indicators to identify patterns of quality and neighborhood disadvantage within a diverse sample of childcare programs serving preschool children.

Methods Classroom processes (instructional support, emotional support, classroom management, positive discipline) and structural features (teacher age, experience, education, and satisfaction) data was collected from preschool teachers ($N=127$) from 76 childcare programs. Neighborhood disadvantage (median income; rates of unemployment, single parents, and education) was measured using census tract data.

Results LPA indicated two profiles of childcare programs with high-quality classroom processes and two with poorer processes. Both of the high-quality profiles were in low-to-moderate income neighborhoods and the two low-quality profiles were in more affluent neighborhoods. Subsequent analyses suggested quality covaried with management type with the lowest quality centers often run by for-profit chains.

Conclusions Connections between classroom processes, structural features, and neighborhood disadvantage are complex making it extremely challenging for parents to identify high-quality care for their children.

Keywords Early childhood education · Childcare program quality · Neighborhood disadvantage · Latent profile analysis

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A higher percentage of American children are attending center-based early childhood education [(ECE) programs than ever before (McFarland et al. 2019). In 2017, 68% of four-year-olds and 86% of five-year-olds not yet in kindergarten attended an ECE program, with the total number of 3- to 5-year olds served nearing 5 million (NCES, 2019). These programs are characterized by significant diversity in structure, organization, and quality, with a particular contrast existing between publicly-funded prekindergarten (pre-K) programs, including Head Start and school district pre-K programs, and the range of decentralized and privately-run childcare centers that serve preschool children (Ackerman et al. 2009; Hillemeier et al. 2013). Managed by for-profit companies, non-profit community organizations, faith-based organizations, or individual owners, childcare programs tend to be poorly-regulated and under-resourced businesses, but remain attractive to many families who do not have access to publicly-funded pre-K or who prefer the location, costs, or hours of the childcare center (Ackerman et al. 2009).

Despite their prevalence and concerns raised about uneven and poor quality (Bassok et al. 2016; Dowsett et al. 2008), childcare programs serving preschool children remain understudied. Understanding more about variations in the quality of these programs is particularly important in economically-disadvantaged neighborhoods, where ECE programs in general tend to be lower in quality than in more affluent communities (Burchinal et al. 2008) and where children are most likely to benefit from attending a high-quality ECE program (Gormley et al. 2005; Ryan et al. 2006). While quality rating and improvement systems (QRIS) have been implemented in many states across the U.S. in an effort to improve the quality of ECE programs, it is not clear how they are associated with center profiles defined by high-quality classroom processes and structural characteristics. In addition, it remains unclear how neighborhood disadvantage is associated with childcare quality indicators. In the current study, we address these gaps in the existing research base by using a person-centered analytical approach (Latent Profile Analysis; LPA) to identify patterns of classroom processes, structural characteristics, and neighborhood disadvantage in a large convenience sample of childcare programs serving preschool children from ten counties in Pennsylvania. We also examine how different childcare profile classes are associated with management type and QRIS ratings.

Quality of Childcare Programs

The quality of ECE programs is typically assessed along two dimensions: classroom processes (i.e., process quality) and structural characteristics (Valentino 2018). Classroom processes reflect the quality of day-to-day experiences in the classroom, including the quality of teacher–child interactions, classroom climate, and classroom instruction (Anders et al. 2013). Structural characteristics include organizational and staffing features thought to support and underly classroom processes, including teacher preparation (education, training, and experience) and organizational support (benefits, teacher–child ratios, workload, and the amount of turnover among teachers within the center). Past research suggests that both process quality and structural characteristics can affect child learning and later academic success (e.g., Meisels 2007), with process quality exerting direct effects on learning and social-emotional outcomes (e.g., Mashburn et al. 2008; Pianta 2006) and structural characteristics exerting indirect effects mediated by their association with process quality (Justice et al. 2008).

Classroom Processes in Childcare Programs

Process quality can be assessed in terms of emotional, behavioral, and cognitive support (Burchinal 2018). Classrooms characterized by high-quality processes have teachers who are sensitive, encourage appropriate behaviors, and support children emotionally as well as provide an environment that is cognitively stimulating, rich in language, and supportive of children's learning (Romano et al. 2010). Process quality is typically assessed with observational measures such as the Classroom Assessment Scoring System for Pre-K (CLASS Pre-K; Pianta et al. 2008) and the Teacher Style Rating Scale (TSRS; Domitrovich et al. 2000) both of which consist of standard observer ratings on multiple dimensions of teacher-student interactions. For example, the CLASS Pre-K includes scales reflecting emotional and instructional support which are intended to capture the tone of the classroom and teachers' competencies in promoting social-emotional skills and cognitive growth (LaParo and Pianta 2003). The TSRS includes scales that capture behavior management, routines in the classroom, and emotional support (Domitrovich et al. 2000).

Observational methods have documented lower process quality in childcare programs relative to Head Start (Bassok et al. 2016; Burchinal et al. 2008; Hillemeier et al. 2013). For example, compared to Head Start teachers, childcare program teachers had lower overall quality ratings on observational measures (Bassok et al. 2016; Hillemeier et al. 2013) and lower levels of observed nurturance and cognitive stimulation (Dowsett et al. 2008).

Structural Characteristics in Childcare Centers

Structural characteristics can support or hinder process quality, thus indirectly impacting children's outcomes (Justice et al. 2008; Valentino 2018). Although the findings are somewhat inconsistent across studies (see Pianta et al. 2016), some evidence suggests that more experienced preschool teachers perform better on process quality measures than less experienced teachers (LoCasale-Crouch et al. 2007) and preschool teachers with college degrees tend to perform better on measures of instructional quality than teachers with less education (Valentino 2018). Additionally, teachers who are stressed, burnt out, or unsatisfied with their role tend to have less effective interactions with children than teachers who are satisfied and their students are more likely to struggle with regulating their behaviors as a result (Roberts et al. 2016).

Existing research suggests that the structural features supporting ECE quality in childcare programs are generally inferior to those supporting Head Start or public pre-K programs. For example, most childcare teacher salaries and benefits are well below the levels in publicly-funded programs, with salaries often half as much (Ackerman et al. 2009; National Survey of Early Care and Education Project Team 2013; Whitebook et al. 2018). Preschool teachers in childcare programs also have lower levels of formal education and training than teachers in public school pre-K programs (Bassok et al. 2016; National Survey of Early Care and Education Project Team 2013; Whitebook et al. 2018). Not surprisingly, childcare teachers are more stressed and less satisfied than public pre-K teachers, and their low pay often incentivizes teachers to find another line of work or move into a public school position, increasing teacher mobility in childcare settings (Ackerman et al. 2009; Zaslow et al. 2010).

Association of ECE Quality and Neighborhood Contexts

Low quality preschools are of particular concern in economically-disadvantaged communities. Children growing up in poverty are more likely than their economically advantaged peers to enter school without the language and social-emotional readiness skills they need to adapt and achieve, placing them at risk for lower academic attainment and increased behavioral difficulties that have long-term deleterious effects (Rimm-Kaufman et al. 2000). In addition to delays in the acquisition of emergent literacy skills, children from low-income families often show less adaptive learning behaviors, reflected in difficulties following classroom rules and low rates of "on task" learning engagement (McClelland et al. 2006). These skill deficits contribute to a gap in early school adjustment and achievement that widens over time, resulting in large disparities in high school graduation and long-term employment (Ryan et al. 2006). Hence, children in more economically-disadvantaged communities stand to benefit the most from high-quality preschool programs (Gormley et al. 2005). In fact, Camilli et al. (2010) proposed that high-quality preschool education could reduce achievement gaps between economically-disadvantaged and their more economic advantaged peers by as much as 50%.

Several studies suggest that the ECE quality experienced by children from low-income families is significantly lower than that experienced by their more economically advantaged peers. For example, using the Head Start Impact Study, McCoy et al. (2015) found that neighborhood poverty was directly related to the observed quality of classroom processes in Head Start programs. Valentino (2018) and LoCasale-Crouch et al. (2007) reported similar economic disparities in the quality of public pre-K, with the classrooms characterized by the lowest quality scores serving the highest proportion of children from low-income families. Researchers have speculated that the high levels of regulation that govern Head Start and public pre-K programs are not enough to protect classroom quality in economically-disadvantaged neighborhoods because centers in these locations have trouble attracting high-quality teachers and suffer elevated rates of teacher turnover undermining teaching effectiveness (Hale-Jinks et al. 2006; Luschei and Jeong 2018; Tran and Winsler 2011; Whitebook and Sakai 2003).

Less research is available regarding the association between neighborhood disadvantage and the quality of childcare programs. Studies that combine multiple forms of childcare suggest disparities in quality associated with family income. For example, Torquati et al. (2011) found that family and center-based childcare programs serving a higher proportion of low-income families had lower observed quality than programs serving fewer low-income families. However, two other studies suggest that associations between neighborhood disadvantage and childcare quality exist primarily at younger ages rather than during preschool (Burchinal et al. 2008; Dowsett et al. 2008). For example, Burchinal et al. (2008) reported no overall associations between neighborhood disadvantage and observed quality in childcare programs and similarly, Dowsett et al. (2008) documented non-significant associations between family income and quality of childcare for the preschool children in their sample (although associations existed at the younger ages). The researchers speculated that income disparities may diminish by preschool because low-income children often attend publicly-supported programs (i.e., Head Start, public pre-K) that are of higher-quality than childcare programs. However, it is also possible that the association between neighborhood disadvantage and classroom quality diminishes because childcare programs attended by higher income families are not necessarily of high quality.

A study completed by Sosinsky et al. (2007) highlights the heterogeneity of quality evident in childcare programs which might disrupt the expected association between neighborhood disadvantage and preschool quality. In secondary analyses of National Institute of Child Health and Human Development Study of Early Child Care and Youth Development data, Sosinky et al. (2007) compared measures of process quality and structural characteristics for four types of childcare programs: (1) nonprofit organizations with no religious affiliation, which were typically sponsored by a community organization or in the public sector (e.g., run by local government); (2) nonprofit with a religious affiliation (faith-based); (3) for-profit independent providers, which were primarily owned and operated by a single family; and (4) for-profit national chains (e.g., KinderCare, Bright Horizons Family Solutions). The researchers found that the highest quality centers were run by nonprofit organizations with no religious affiliation and the lowest quality emerged in centers run by for-profit chains, with centers run by faith-based organizations or independent owners ranking intermediate in quality. Reflecting on their findings, the researchers hypothesized that childcare centers focused on serving middle class working families (which included the majority of faith-based, independently owned, and for-profit chain centers) operate without the benefit of supplemental childcare subsidies or charitable contributions and so may reduce their financial investments in teaching salaries and classroom resources contributing to lower-quality preschool classrooms located in more well-off neighborhoods. Additionally, the authors highlighted that quality of care is influenced by multiple factors, with substantial variation in quality found within each center ownership type (Sosinsky, et al. 2007). Given the influence early educational experiences have on development as well as the heterogeneity found in childcare programs it is paramount to gain a more comprehensive understanding of how process quality, structural characteristics, neighborhood contexts, and childcare type relate to one another.

The Present Study

Although differences between childcare programs and publicly-funded preschools have been examined, less is known about variation in quality within childcare programs that serve preschool children. As noted, these programs do not represent a single cohesive or centralized organization that is parallel to Head Start or a public school district, but rather a set of decentralized programs that vary considerably in size and managerial structure. Hence, there is likely to be substantial heterogeneity within the preschool programs run by childcare centers that may have important implications for variations in the quality of education that children receive. Researchers have speculated that lower quality teaching is a function of lower levels of teacher education, benefits, and stability, but these associations have not been examined within childcare programs serving preschool children, nor have associations with neighborhood disadvantage. Although states have developed QRIS systems to help parents identify higher-quality childcare centers the degree to which these ratings differentiate centers that vary in different dimensions of quality has not been well studied (Goffin and Barnett 2015). Additionally, the limited research on QRIS and classroom quality does not appear to be straightforward. For example, in a study by Hong et al. (2015) the authors found a continuous positive association between QRIS rating and classroom processes, but this is inconsistent with work by Hestenes et al. (2015) who found that QRIS was unrelated to classroom processes, except in terms of differentiating between the lowest and highest quality centers (Hestenes et al. 2015; Tout et al. 2010). Similarly, QRIS

participation (i.e., any QRIS rating vs no rating) has been found to be positively associated with global process quality, but in the same study there was no difference between programs that were level 1 or 2 compared to level 3 centers on global process quality and educators from level 3 centers performed only marginally better than level 1 or 2 educators in terms of instructional support ($p < 0.10$; Jeon et al. 2014). Finally, there is research to suggest that QRIS may be more relevant for structural quality than classroom processes (Hestenes et al. 2015; Tarrant and Huerta 2015). More work is needed to better understand how QRIS ratings align with both classroom processes and structural characteristics.

Existing research that has established links between neighborhood disadvantage, teacher characteristics, and the quality of preschool programs (both classroom processes and structural characteristics) has generally relied on variable-centered analyses. The alternative approach taken in the present study was to use person-centered analyses (i.e., LPA). Person-centered analyses allow for the identification of patterns based on multiple variables in a given sample. This is meaningful in the current study as person-centered analyses enabled us to explore the heterogeneity within a large sample of preschool programs run by childcare centers and identify unique subgroups characterized by different combinations of process quality, structural characteristics, and neighborhood disadvantage. Specifically, the current study utilized LPA with measures of classroom processes (i.e., classroom management, positive discipline, instructional support, emotional supports), structural characteristics (i.e., teacher experience and education, risk for turnover), and neighborhood disadvantage (i.e., census tract data on median income, percent of single parents, percent of residents with a college degree, unemployment rate) to provide a descriptive view of the childcare programs serving preschool children in a convenience sample in ten of the 67 counties in the state of Pennsylvania.

While little is known about the associations between process quality, structural characteristics, and neighborhood disadvantage within childcare programs serving preschool children, we formulated general hypotheses based on the available literature. Given the extreme variability within childcare programs in terms of quality, structure, and neighborhood disadvantage we hypothesized that latent profiles would differentiate from one another across the process, structural, and neighborhood measures (hypothesis 1). Additionally, because structural characteristics have been shown to support process quality (e.g., Justice et al. 2008) we expected that at least one profile would demonstrate high quality both in terms of classroom processes and structural characteristics (hypothesis 2). Finally, consistent with Sosinsky et al. (2007) we hypothesized that classrooms with higher quality classroom processes would be more likely to be run by non-profit programs without a religious affiliation and the classrooms with the lowest process quality would be more likely to be run by for-profit chain programs (hypothesis 3). Given the lack of research linking QRIS ratings to profiles of childcare quality indicators, no hypothesis was made, but associations were explored.

Method

Study Recruitment

Childcare programs licensed in the state of Pennsylvania were recruited for an intervention study using a three-step process. Potential programs were identified from the state database in counties that were contiguous to three data collection sites located in

the central (3 counties), southeastern (6 counties), and northeastern (1 county) regions of the state. Emails and follow-up phone calls describing the study were sent to these childcare centers. Interested programs returned a brief survey that was used to certify eligibility. Inclusion requirements included: (1) at least one classroom that served at least five children who were eligible to start kindergarten the following year; (2) a full-time director; (3) an organized, regular daily schedule of activities (e.g., not a drop-in center or unstructured day care); and (4) not a Head Start or public pre-K program. Eligible programs received a personal visit and full explanation of the program and the study. New centers were recruited for each of three successive cohorts that participated during the academic years beginning in the falls of 2015, 2016, and 2017 (see Fig. 1 for a flow chart describing center recruitment).

Data for this study was collected from participating centers in the fall at the start of the school year before intervention activities were initiated. Directors and teachers were sent on-line questionnaires (programmed in Qualtrics) that they completed on their own. Trained researchers visited each classroom to conduct observations (described in more detail below). Census data were retrieved from federal databases. Directors and teachers participated only with their informed consent and were compensated financially for their participation. Study procedures were approved by the IRB of the university where the study was conducted.
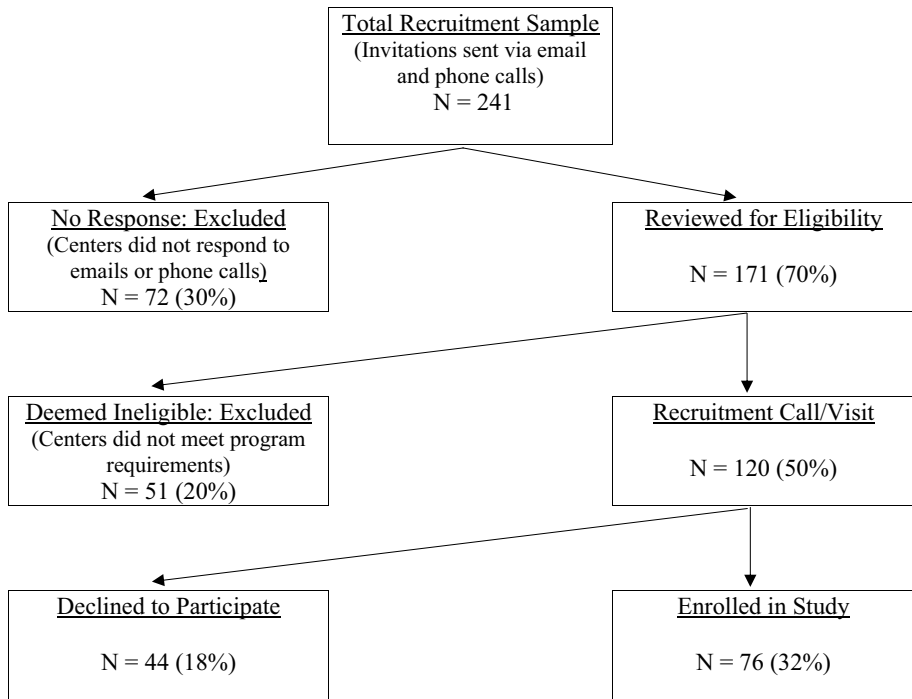

Fig. 1 Flow chart describing study recruitment of childcare centers

Participants

Preschool teachers ($N = 127$) from 76 childcare centers in ten Pennsylvanian counties consented to participate in the current study and provided data. Participants were predominantly female (96.5%) and White/European American (82%; 9% African American; 3% Latinx; 3% Biracial; 2% American Indian or Alaskan Native; less than 1% Asian). One center had 3 three participating classrooms; all others had one classroom (80%) or two classrooms (20%). All teachers were lead teachers and the majority had no co-teacher (91%).

Consistent with national data on childcare preschool programs (see Sosinsky et al. 2007), centers fell into four categories: nonprofit nonreligious (24%), nonprofit faith-based (29%), for-profit independently owned (37%), and for-profit chain (10%). Additionally, centers varied in terms of number of Keystone STARS, Pennsylvania's QRIS. Of the 76 centers in the current study four (5%) had not pursued a Keystone STARS rating, one (1%) was rated at level 1, 33 (43%) were rated at level 2, 14 (18%) were rated at level 3, and 24 (32%) were rated at level 4 (STARS $M = 2.85$, $SD = 0.91$). The percentage of childcare centers without a Keystone STARS rating in the current study was comparable to the percentage of programs without a rating in Pennsylvania (6%). Average Keystone rating for study childcare programs was a bit higher than the state average ($M = 2.19$), which appears to be largely due to the low percentage of 1-star centers in the current study (39.5% of childcare programs in Pennsylvania are rated at level 1; PA Compass 2020).

Measures

Three categories of latent profile indicators were selected: (1) observational measures of the quality of student–teacher interactions and classroom processes; (2) self-reported teacher characteristics reflecting structural features of the program; and (3) census tract indicators of neighborhood disadvantage. All indicators were continuous except for teachers' college degrees (no vs. yes). Indicators were selected based on previous research that has demonstrated their relevance for classroom processes, structural quality, and neighborhood disadvantage as well as their connection to preschool children's cognitive and social development (see reviews by Keys et al. 2013; Minh et al. 2017; Perlman et al. 2016). Classroom process indicators included the *Emotional Support* and *Instructional Support* scales of the CLASS Pre-K (Pianta et al. 2008; used to capture classroom processes in Domínguez et al. 2011) and the *Classroom Management* and *Positive Discipline* scales of the TSRS (Domitrovich, et al. 2000; used to capture process quality in Rimm-Kaufman et al. 2009). Structural features included teacher age and experience, education, and satisfaction (used to assess structural features in Wang et al. 2020). Neighborhood disadvantage indicators included census tract measures of median family income, unemployment rate, percentage of single parents (used as measure of disadvantage in May, Azar, & Matthews, 2018), and percentage of adults with a college degree (used as measure of disadvantage in Morrissey & Vinopal, 2018).

Observational Measures of Classroom Process Quality

Teachers were observed by trained research staff using the CLASS Pre-K (Pianta et al. 2008) and the TSRS (Domitrovich et al. 2000). The CLASS Pre-K is a widely-used direct observational measure designed to assess the quality of teacher-student interactions within preschool classrooms, with established reliability and validity (Sandilos and DiPerna, 2011). Research assistants in the current study were trained by a certified CLASS trainer, completed a reliability observation with videotaped classrooms at 80% agreement within one scale point, and demonstrated the same reliability in the field prior to collecting data. For this study, research assistants observed each classroom for four 20-min epochs, completing the 10-item CLASS Pre-K after each one, considering the behavior of any adults in the classroom, but weighing the behavior of the lead teacher most heavily. Item ratings were averaged across the four epochs. During data collection, inter-rater reliability was estimated on 20% of the observations coded independently by two raters. ICCs reflected strong inter-rater reliability for each of the 10 items (median ICC = 0.83, range 0.60 to 0.89). Items were summarized in scores reflecting the subscales of *Emotional Support* (positive climate, negative climate—reversed, teacher sensitivity, respect for student perspectives, $\alpha = 0.79$, inter-rater ICC = 0.88) and *Instructional Support* (concept development, quality of feedback, language modeling, $\alpha = 0.94$, inter-rater ICC = 0.90).

Teachers' *Classroom Management* and *Positive Discipline* were assessed using the TSRS, another widely-used observational measure with established reliability and validity (Domitrovich et al., 2009). Training occurred at the same time and in the same manner as the CLASS training, and the TSRS was rated during the same observation periods as the CLASS. Inter-rater reliability at the item level based on 20% of the observations rated independently was adequate (ICCs ranged from 0.73 to 0.87, with a median of 0.82). Items were scored to reflect dimensions of teacher-student interaction: *Positive Discipline* (positive behavior support, absence of negative behavior management, proactive behavior management, $\alpha = 0.85$, inter-rater ICC = 0.81) and *Classroom Management* (consistency and routines, effective limit-setting, preparedness, $\alpha = 0.90$, inter-rater ICC = 0.89).

Teacher Report of Center Structural Features

Preschool teachers reported their age ($M = 36.33$; $SD = 11.04$; range 20–69), the number of years they taught in a preschool classroom ($M = 7.14$; $SD = 6.13$; range 1–27), and their highest educational degree earned (responses ranged from high school degrees to graduate degrees). Consistent with studies examining associations between teacher education and quality (Early et al. 2007) responses about education were dichotomized to reflect having a 4-year college degree or not (44% did not have a 4-year degree; 56% had at least a 4-year degree). Additionally, teachers completed an 11-item measure describing their satisfaction with their job (Gill et al. 2007). Sample items rated on a 5-point scale (1 = very dissatisfied; 5 = very satisfied) included: "how satisfied are you with your workload?", "how satisfied are you with your role as a preschool teacher?", and "how satisfied are you with your salary?". The scale is psychometrically valid with good reliability ($\alpha = 0.85$ in the current study). Scores were averaged across the 11-items ($M = 3.62$; $SD = 0.60$).

Census Data Reflecting Neighborhood Characteristics

Addresses were used to identify the census tract where each center was located (U.S. Census Bureau, 2011). Census tracts represent neighborhoods and typically include 2500 to 8000 individuals. In the current study, median family income ($M = \$63,844$; $SD = 22,377$), unemployment rate ($M = 4.77$; $SD = 3.25$), percentage of single parents ($M = 38.75$; $SD = 20.82$), and percentage of adults with a college degree ($M = 15.54$; $SD = 6.68$) were included for each census tract to reflect the degree of neighborhood disadvantage.

Plan for Analysis

Preliminary analyses described the characteristics of the childcare classrooms serving preschool children. Then LPA was conducted to understand associations among the indicators of preschool classroom process quality, structural features, and neighborhood disadvantage. Participants' likelihood of membership in each profile was weighted using their posterior probabilities and weighted analyses were conducted to examine differences in means. Finally, the three-step weighted analysis suggested by Bolck, Croon, and Hagenaars (BCH; 2004) was used to examine the degree to which different preschool profiles were represented in different types of childcare centers. All analyses accounted for clustering of programs within counties.

Table 1 Mean, standard deviation, and range for childcare center characteristics

Characteristics	Mean	SD	Minimum	Maximum
Indicators of high-quality process				
Emotional support	5.73	.76	1.81	7.00
Instructional support	2.60	.96	1.00	5.50
Classroom management	4.24	.80	1.33	5.00
Positive discipline	4.22	.76	1.00	5.00
Indicators of high-quality structural features				
Teacher age	36.33	11.04	20	69
Years of experience	7.14	6.13	.50	27.00
4-Year degree	0.56	.50	0 ('no')	1 ('yes')
Job satisfaction	2.62	.60	1.36	4.00
Neighborhood characteristics				
Median family income	$63,844	$22,377	$21,458	$148,169
Unemployment rate	4.77	3.25	1.30	15.91
% Single parents	38.75	20.82	6.89	89.84
% College degree	15.54	6.68	2.94	32.65

Table 2 Correlations with childcare characteristics

	1	2	3	4	5	6	7	8	9	10	11
1. Emotional support											
2. Instructional support	.63***	–									
3. Classroom management	.68***	.56***	–								
4. Positive discipline	.78***	.61***	.81***	–							
5. Teacher Age	.11	.19	.02	.15	–						
6. Years of experience	– .05	.05	– .13	– .10	.52***	–					
7. 4-Year Degree	.03	.16	.13	.08	.02	.01	–				
8. Job Satisfaction	– .24*	– .25*	– .18	– .18	– .13	– .14	– .08	–			
9. Median Family Income	.14	– .00	.05	.10	.06	.05	– .06	.12	–		
10. Unemployment Rate	– .09	– .02	– .00	– .02	– .13	– .15	.07	– .12	– .67***	–	
11. % Single Parents	– .07	– .05	.02	– .06	– .13	– .05	.03	– .13	– .77***	.67***	–
12. % College Degree	– .02	– .13	– .05	.01	.00	.01	– .12	.16	.71***	– .63***	– .58***

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

Results

Preliminary analyses explored the characteristics of the childcare centers in the study; means, standard deviations, and ranges are included in Table 1. Correlations were also computed to understand the linear associations among the childcare center characteristics (see Table 2). Correlations documented cohesion among the various measures of classroom process quality and also among the various measures of neighborhood disadvantage. However, measures reflecting the structural characteristics of centers were not significantly correlated with each other, with the exception of age and experience. Almost all correlations involving measures from different construct areas (e.g., process quality, structural quality, neighborhood disadvantage) were nonsignificant, with the exception of job satisfaction, which was inversely correlated with the CLASS Emotional Support and Instructional Support scales.

LPA Model Analyses

Model Selection

LPA was conducted with four indicators reflecting the quality of classroom processes (observational ratings of emotional support, instructional support, classroom management, and positive discipline), four indicators reflecting structural characteristics of the center (teacher report of age, years of teaching experience, education levels, and job satisfaction), and four indicators of neighborhood disadvantage (census tract data reflecting median family income, unemployment rate, percentage of single parents, and percentage of adults with a college degree). We ran LPA models with 1 to 8 profiles using Latent GOLD version 5.1 (Vermunt and Magidson 2016) and assessed model fit using Bayesian information criterion (BIC), Akaike information criterion (AIC), and consistent AIC (CAIC). Table 3 includes fit indices for models with 1–8 profile solutions. While AIC continued to improve through model eight (AIC = 7757.32) both BIC and CAIC suggested the 4-profile solution fit the data best (BIC = 8157.76; CAIC = 8252.76). We chose to prioritize BIC over AIC as Monte Carlo analyses have shown BIC to be the most reliable fit index for model selection (see Nylund et al. 2007) and we selected the 4-profile solution.

Table 3 Fit indices for LPA models one through eight

Number of Profiles	Number of Parameters	AIC	BIC	CAIC
1	23	8394.83	8459.88	8482.88
2	47	8130.90	8263.84	8310.84
3	71	7975.84	8176.65	8247.65
4	**95**	**7889.07**	**8157.76**	**8252.76**
5	119	7840.65	8177.22	8296.22
6	143	7813.02	8217.47	8360.47
7	167	7790.56	8262.89	8429.89
8	191	7757.32	8297.53	8488.53

Selected model in bold

Table 4 Means for 4-profile solution

Center characteristics	Experienced and skilled (40%)	Experienced but substandard (25%)	New and skilled (17%)	New and substandard (17%)
Indicators of High-Quality Process				
Emotional support	6.15[a]	4.92[c]	5.93[a]	5.68[b]
Instructional support	3.14[a]	1.76[c]	3.02[a]	2.13[b]
Classroom management	4.69[a]	3.19[c]	4.71[a]	4.22[b]
Positive discipline	4.68[a]	3.20[c]	4.70[a]	4.15[b]
Indicators of high-quality structural features				
Teacher age	40.55[a]	37.89[a]	31.14[b]	29.19[**b**]
Years of experience	9.03[a]	7.75[ab]	5.20[bc]	3.70[cd]
4-Year Degree (0 = no; 1 = yes)	0.58	0.47	0.75	0.51
Job Satisfaction	2.46[b]	2.79[a]	2.54[ab]	2.86[a]
Neighborhood characteristics				
Median family income	$68,832[b]	$58,387[c]	$35,938[d]	$86,854[a]
Unemployment rate	3.15[b]	5.56[c]	9.28[d]	2.98[a]
% Single parents	32.06[b]	43.91[c]	68.06[d]	18.20[a]
% College degree	16.40[b]	13.71[c]	9.06[d]	22.53[a]

Means with different superscripts indicate significant differences (e.g., a > b; ab not significanlty different from a or b), $p < .05$

Profile Characteristics

We then compared indicator means across profiles. We expected latent profiles to differentiate across process quality, structural characteristics, and neighborhood disadvantage (hypothesis 1). This hypothesis was supported as only teacher education (a single measure from structural characteristics) did not differ significantly across profiles. All four of the observational indices of classroom process showed coherence and agreement in differentiating the higher and lower quality classrooms. As shown in the first four rows of Table 4, observational measures of student–teacher quality and classroom processes revealed two profiles of relatively higher quality (columns 1 and 3) and two profiles of significantly lower quality (columns 2 and 4). Two profiles scored comparably or slightly above the national average from Head Start centers (Administration for Children and Families, 2019) on emotional support (Head Start $M = 6.08$, SD = 0.31) and instructional support (Head Start $M = 2.96$, SD = 0.55) and two had noticeably lower scores compared to Head Start. In some contrast with the classroom process measures, the indicators of structural quality varied considerably. Teacher age and experience were higher in two profiles relative to two others; consistent with our third hypothesis one of these was characterized by higher-quality classroom process and the other was characterized by lower-quality classroom process. Surprisingly, job satisfaction was highest among teachers in the two profiles characterized by lower classroom quality and lowest among teachers in the experienced, higher quality profile. Significant differences between profiles were consistent across the four indicators of neighborhood disadvantage with all profiles differing significantly from one another. Based on the median

family income in Pennsylvania at the time of neighborhood data collection ($59,195; U.S. Census Bureau, 2011) one profile consisted of centers in low to moderate income neighborhoods (50–80% of median income), two profiles consisted of centers in middle income neighborhoods (80–120% of median income), and one profile consisted of centers in high income neighborhoods (120% of median income; Bostic and Canner, 1998). Collectively, these features were used to name the four profiles: (1) Experienced and Skilled, characterized by experienced teachers who demonstrated higher quality classroom processes and taught in middle income neighborhoods (40% of the classrooms, column 1); (2) Experienced but Substandard, characterized by experienced teachers who demonstrated the lowest quality processes in this sample and taught in middle income neighborhoods (24% of the classrooms column; (3) New and Skilled, characterized by relatively younger and inexperienced teachers who demonstrated higher quality classroom processes and taught in low to moderate income neighborhoods (17% of the classrooms, column 3); and (4) New and Substandard, characterized by teachers who demonstrated lower quality classroom processes and were teaching in higher income neighborhoods (17% of the classrooms, column 4).

Associations Between Profile and Center Ownership

Next we used the bias-adjusted three-step weighted BCH analysis to examine the degree to which latent profile membership was differentially associated with center ownership (i.e., nonprofit nonreligious, faith-based, independently owned, for-profit chain) by regressing ownership type on latent profile membership. Profile was a significant predictor of ownership ($p < 0.001$) and all profiles differed significantly from one another in ownership type (Table 5). We expected that classrooms with the highest process quality would primarily fall within non-profit non-religious centers and classrooms with the lowest process quality would be more likely to be run by for-profit chains (hypothesis 4). Our findings did not support our hypothesis regarding the high-quality classrooms but did support our hypothesis regarding the low-quality classrooms. In this sample of childcare classrooms serving preschool children, faith-based and independently owned centers were primarily characterized by higher-quality process. Of the faith-based classrooms, 64% were in the Experienced and Skilled profile and 9% in the New and Skilled profile. Of the independently owned classrooms, 57% were in the Experienced and Skilled profile and 14% in the New and Skilled profile. For-profit chains fared the worst, with only 29% of the centers

Table 5 Profile distribution within center type

Center type	Experienced and skilled (%)	Experienced but substandard (%)	New and skilled (%)	New and substandard (%)
Nonprofit Nonreligious	17	44	39	0
Nonprofit Religious	64	14	9	14
Independently Owned	57	14	14	14
For-Profit Chain	29	29	0	43

In each row, the percentages indicate the proportion of classrooms in each center type characterized by each profile

Table 6 STARS level across profiles

QRIS STARS level	Experienced and skilled (%)	Experienced but sub-standard (%)	New and skilled (%)	New and substandard (%)
No STARS	3	6	0	20
Level 1	0	6	0	0
Level 2	66	27	17	30
Level 3	16	2	25	0
Level 4	15	34	58	50

Percentages indicate the proportions of each STARS rating within each profile

characterized by high-quality process (Experienced and Skilled profile) and most characterized by the New and Substandard profile (43%) and Experienced but Substandard profile (29%). Non-profit non-religious centers, which were run primarily by community-based organizations showed a mixed profile, with the majority of classrooms fitting either the Experienced but Substandard profile (44%) or the New and Skilled profile (39%).

Finally, the profiles were compared on the QRIS, reflected in the level of Keystone STARS attained by centers representing the different profile classes (Table 6). STARS levels were significantly lower in centers in the Experienced and Skilled profile ($M = 2.48$) relative to the other three profiles that did not differ: New and Skilled ($M = 3.43$), New and Substandard ($M = 3.27$), and Experienced but Substandard ($M = 2.95$). It is unclear what factors account for these variations in QRIS ratings, but they did not align with the process or structural ratings that defined the profile classes.

Discussion

This study highlights the heterogeneity that exists in the quality of classroom processes and structural characteristics of childcare programs serving preschool children in different kinds of neighborhoods. Often national studies combine childcare programs in one category in order to highlight contrasts between childcare and publicly-funded preschool programs (e.g., Ackerman et al. 2009; Bassok et al. 2016). The results of this study underscore the variation that exists in the decentralized marketplace of childcare centers.

Unique Profiles of Childcare Preschool Quality

Including multiple measures of classroom process, structural features, and neighborhood characteristics in a profile analysis allowed us to detect unique and interesting associations among variables. Noticeably lacking in the LPA findings was an association between preschool program quality and neighborhood disadvantage. As noted earlier, several studies have found a linear association between neighborhood disadvantage and preschool quality in the context of Head Start (McCoy et al. 2015; Valentino, 2018) and public school pre-K (LoCasale-Crouch et al. 2007). But the two studies that focused specifically on preschool classrooms in childcare programs reported no associations between neighborhood disadvantage and observed quality (Burchinal et al. 2008; Dowsett et al. 2008). Researchers have

speculated that significant associations between family income and quality of childcare may dissipate by the preschool years because low-income children have access to publicly-supported programs (Head Start, public pre-K) that are of higher-quality. The present study suggests that another contributing factor is the existence of low-quality childcare classrooms in middle and higher-income neighborhoods.

Relatively few childcare centers in this sample were located in low-income neighborhoods (17%), which is similar to rates observed in national datasets where low-income neighborhoods are often described as "childcare deserts" (Child Care Aware, 2017). Classrooms that were located in low-income neighborhoods were characterized by relatively high-quality classroom processes (equivalent to national levels reported for Head Start) and relatively young and inexperienced teachers with four-year college degrees. In contrast, classrooms in high-income neighborhoods were also characterized by younger and inexperienced teachers but these teachers were less likely to have four-year college degrees and displayed significantly lower-quality classroom processes. Classrooms in middle-income neighborhoods were mixed in quality. Some were characterized by low-quality classroom processes and were taught by older experienced teachers who often lacked a four-year college degree. Others were characterized by higher-quality classroom processes and were taught by older experienced teachers who more often had a four-year college degree.

Program Type as a Potential Indicator of Quality

Although we can only speculate about the reasons underlying the pattern of findings linking preschool classroom quality, teaching experience, and neighborhood disadvantage that emerged in this study, the findings suggest that one factor influencing childcare program quality may be the nature of the managing organization and its priorities. Most of the centers located in low-income neighborhoods were managed by community-based non-profit non-religious organizations, likely driven primarily by a mission to improve community well-being and with the ability to access some state subsidies to off-set their costs (Morris and Helburn 2000). In contrast, centers managed by for-profit chains were most likely to be in high-income neighborhoods where families were unlikely to qualify for state subsidies. Sosinsky et al. (2007) noted that childcare in a for-profit chain center is sometimes offered as an employee benefit, thus making these centers more likely to fall in areas with higher rates of employment (as was the case in our study). For-profit chain centers are typically managed with a business model that serves the needs of the employer and seeks to maximize profits for shareholders rather than focusing on the needs of parents (see also Brown, 2001). The emphasis placed on employers and shareholders, often leads to for-profit chains looking to keep costs down by hiring less educated and qualified caregivers and paying them lower wages (Morris and Helburn, 2000; Sosinsky et al. 2007). Conversely, no classrooms in the New and Skilled profile that were situated in low income neighborhoods were managed by for-profit chains and no classrooms in the New and Substandard profile that were situated in high income neighborhoods were in centers managed by nonprofit non-religious organizations. While teachers from these two profiles had comparable levels of experience, teachers from the New and Skilled profile were more likely to have a 4-year college degree than those in the New and Substandard profile (74% vs 50%). Some studies have found teacher education to be unrelated to the quality of teaching in preschool classrooms (Justice et al. 2008; LoCasale-Crouch et al. 2007), but others have found structural characteristics like teacher education to impact the quality of classroom processes and

a college degree may be especially beneficial to teachers with little experience (Barnett 2003; Duncan and Magnuson, 2013). Ultimately, for-profit chains may be maximizing profits by locating in more affluent areas and hiring younger, less well-prepared teachers who will work for lower pay.

Childcare programs tend to be fragile economically, with very small margins between costs and income (Sosinsky et al. 2007). Marketplace competition may drive centers into different niches of opportunity. Whereas non-profit community-based organizations often emerge in order to support services for lower-income families and may draw on public subsidies and charitable contributions, other childcare center types (independently owned and for profit chains) are more likely to compete for the mainly unsubsidized children of middle-income working families (Morris and Helburn, 2000; Sosinsky et al. 2007). For these latter types of childcare centers, locating in neighborhoods populated by middle-income families may enhance success and hiring less experienced or less well-trained teachers may also provide cost savings.

Similar to our findings in which 72% of the centers run by for-profit chains were in one of the low-quality profiles, Sosinsky et al. (2007) found that centers run by for-profit chains had the lowest quality. However, in Sosinsky's study (2007) the highest quality centers were managed by nonprofit faith-based organizations which was not replicated in the present sample. In the present study, 77% of the classrooms managed by faith-based organizations and 67% of the independently owned center classrooms were in high-quality profiles, whereas only 56% of the classrooms managed by non-religious non-profit organizations were in high-quality profiles. This was primarily because 44% of the centers run by the latter organizations fit the Experienced but Substandard profile. It's unclear whether these differences in findings between the Sosinsky et al. (2007) study and the present study reflect changes that have occurred over time since the National Institute of Child Health and Human Development Study of Early Child Care and Youth Development (NICHD SECCYD) data analyzed by Sosinsky et al. (2007) was collected, differences in methodology or sample (ours was a convenience sample potentially limiting our representation and generalizability), or the fact that this study focused specifically on classrooms providing preschool programming.

The Challenge of Identifying High-Quality Preschool Programs

It is worth noting that there was considerable variation in classroom profiles within the same management type. For example, although most (71%) of the centers managed by for-profit chains were in low quality profiles, the other 29% were in high quality profiles. Conversely, centers run by non-profit, nonreligious organizations or were independently owned were most likely to be in high-quality profiles (77% and 67%, respectively), but each type of organization also managed low-quality centers (23% and 33%, respectively). In this sample, non-profit, non-religious organizations ran centers that were both high-quality (56%) and low-quality (44%). Hence, although the organizational management type was associated with quality, other factors affected quality in ways that require further research. For example, the quality of the curriculum being used (Burchinal, 2018) may be an understudied factor associated with childcare quality.

Ultimately our results suggest that parents cannot simply rely on the neighborhood location or the type of management in a childcare center to guide them in making the best choice in terms of program quality. These challenges in identifying high-quality care are

further amplified by the fact that Keystone STARS levels did not align with our higher process quality profiles. Classrooms fitting the higher-quality Experienced and Skilled profile were in centers with the lowest STARS ratings, and STARS ratings failed to differentiate centers with classrooms fitting the other profiles. Pennsylvania's QRIS operates as a block system, meaning that to move to the next level an ECE program must meet every criteria for that level. This is contrary to a points or hybrid based QRIS system which allows centers multiple avenues to advance in rating. It is possible that teachers from the Experienced and Skilled profile have met some of the criteria (e.g., positive teacher-student interactions) to move to a higher STARS level, but there are other center level factors that have not been met, which has prevented the program from advancing to the next level (e.g., business practices). Additionally, programs under a points or hybrid system may be able to advance levels through emphasizing structural features and devoting less attention to classroom processes. In both of these instances, you may have programs with higher QRIS ratings, but not higher quality classroom processes. Pennsylvania's QRIS is intended to support ECE programs in providing high-quality care; however, our results, coupled with previous research, suggest that QRIS may not be an ideal indicator of process quality. For example, Colorado's QRIS appears to reflect structural quality features rather than process quality (Tarrant and Huerta 2015). Additionally, in North Carolina's QRIS, top rated 5-Star centers performed significantly better on CLASS Emotional and Instructional Support than 1-Star and 3-Star centers but did not differ from 2- or 4-Star centers. Similarly, in a Floridian county, QRIS participation was related to global process quality but star level was not (Jeon et al. 2014) and in a study by Hestenes et al. (2015) CLASS scores did not differentiate centers with 1 to 4 Stars from each other. Indeed, in Pennsylvania's QRIS, quality is assessed via 12 components, but only two capture classroom processes (Child Observation, Curriculum and Assessment; and Environment Rating; Sirinides et al. 2015).Taken in concert, our LPA along with previous research on the QRIS, highlight just how challenging it is for states to characterize the quality of childcare centers. Correspondingly, this situation makes it very difficult for parents to identify programs for their children with high-quality classroom processes, presuming they have options in the care their children receive.

Dissatisfied, Skilled Teachers

Prior research suggests that teacher satisfaction is usually positively associated with quality of classroom processes and sometimes (but not always) associated with experience (see Hall-Kenyon et al. 2014 for review). In contrast, the present study found that teachers in the Experienced and Skilled profile reported significantly lower work satisfaction than teachers in any other profile. One possible explanation for this finding is that Experienced and Skilled teachers are dedicating substantial effort into their role as educators, ultimately improving their teaching quality but increasing their work stress and burnout (Jeon et al. 2018; Pillay et al. 2005).

The job satisfaction measure used in the current study included items about satisfaction in three distinct areas: salary and benefits, role and responsibilities, and interpersonal climate (Gill et al. 2007). Anecdotal exploration of the item responses of teachers in the current study suggest that the elevated dissatisfaction of the Experienced and Skilled teachers was driven primarily by dissatisfaction with their salary and benefits (mean scores for salary and benefits items: Experienced and Skilled = 1.51; Experienced but Substandard = 2.26; New and Skilled = 2.02; New and Substandard = 2.26). These anecdotal

comparisons suggest that dissatisfaction towards low wages is a common issue among high-quality teachers who've been in the profession for some time (Hall-Kenyon et al. 2014). Pay for preschool teachers in childcare centers is known to be much lower than teachers in Head Start or public-school settings (Whitebook et al. 2018). For those in the Experienced and Skilled subgroup, they likely have dealt with low pay for a considerable time. It is possible that the prolonged dedication to the field, coupled with little growth in their compensation has led Experienced and Skilled teachers to grow dissatisfied, particularly in terms of their salaries. While pay and benefits are not the only relevant factors in predicting turnover among preschool teachers, they are important. Our results suggest that it is the more experienced, high-quality teachers who are most frustrated with their low pay. This is potentially meaningful as teachers transitioning into elementary teacher or ECE director positions has been a long-standing issue impacting the quality of ECE programs and these negative effects would be amplified if it is indeed the most skilled teachers who are unhappy and leaving the profession (Hall-Kenyon et al. 2014).

Limitations

The most significant limitation of this study was that all childcare centers studied here were within ten counties within one state. All licensed childcare centers serving preschool children within those ten counties were contacted with information about the study, but many proved hard to reach, which may have led to unknown selection biases. At the same time, participating centers showed a significant range in both process and structural quality, as well as a range in QRIS ratings that was similar to that documented at the state level with the exception of fewer Star 1 centers. Nonetheless, given that states vary in the regulations and supports they offer to childcare centers, the findings may not be representative of the nation. Conducting a similar study with a nationally representative study of childcare centers would shed light on the generalizability of the latent profiles that emerged in this study. In addition, Burchinal (2018) makes the case that to truly understand the quality of a center it is important to take into account both the type of program and the curriculum delivered within the program. While we collected measures of how educators were teaching (i.e., with CLASS Pre-K and TSRS) we did not analyze the specific curriculum delivered. We were also limited in some of the conclusions we could draw as we did not collect data from centers regarding subsidies they received to off-set operation costs. While we can speculate that the centers run by the non-profit non-religious organizations in more economically-disadvantaged neighborhoods likely received state subsidies to support them, it is important for future research to unpack how state and federal subsidies affect or covary with preschool classroom processes, structural features, and neighborhood disadvantage. Similarly, while we intentionally sampled counties that were at an increased risk for poverty, we did not collect socioeconomic data from families and we do not know which families received state subsidies to off-set the cost of sending a child to an ECE program. Additional research is needed to understand the quality of care received among families using ECE subsidies. Our interpretations of teacher experience were based on the number of total years teachers reported teaching in the past. However, we do not know how long they taught in their current center or the number of different centers they taught in during their careers. Given that teacher turnover is an important aspect of center quality (Luschei and Jeong, 2018; Tran and Winsler, 2011) it would be important to follow up with teachers longitudinally and have a more definitive report of the turnover that occurs in the center. Finally, our

results and interpretations cannot be extended to the care received by younger children. Prior research suggests that overall quality is lower and more strongly associated in a linear fashion with neighborhood disadvantage for childcare centers serving children under age 3 than in preschool (Bassok et al. 2016). Future research is needed to understand patterns of classroom processes, structural features, neighborhood characteristics, and center type in centers serving infants and toddlers.

Despite these limitations, this study makes an important contribution to the literature by examining profiles of quality in a large sample of childcare centers that all purported to provide the same services to children. That is, these centers all served preschool children, giving parents the message that their children would receive high-quality ECE that would prepare them for the transition into kindergarten. In reality, the wide variation observed across these centers suggest that some children received considerably higher prekindergarten programming than others.

Implications

Our study demonstrates the variability in childcare programs serving preschool children, both in terms of structural and process quality. It is paramount that families are able to identify what constitutes high-quality care; however, for parents seeking out high-quality care options that are not Head Start or publicly-funded pre-K, there does not appear to be a driving factor that guarantees high-quality, as neither organizational management nor QRIS were reliable indicators of classroom process quality. Classroom processes are more likely than structural features to directly impact children's development (Mashburn et al. 2008) making it desirable to prioritize them in preschool rating systems, but collecting observational data and navigating the transitions in teaching staff that may affect classroom processes represent barriers to widespread use. Rather than trying to summarize program quality in a single score (such as the Stars rating), it may make sense to create more multi-dimensional "rating cards" for centers that allows parents to see how centers score in different areas reflecting quality. Parents would need input about how to interpret multi-dimensional rating systems, but it would provide them with more information to guide them in the very challenging task of selecting the highest-quality prekindergarten experience for their child (Mocan, 2001).

Current childcare policies depend upon market competition among childcare programs to motivate center efforts to improve their quality to increase their enrollment (Sosinsky et al. 2007). However, if parents cannot successfully navigate the many factors that influence quality of care, centers may instead look to lower their fees, and subsequently lower their quality, to compete with other centers (Sosinsky et al. 2007). For the competitive marketplace to work effectively and reward centers for their efforts to improve quality, parents need support to identify the higher-quality programs among those available to them. Burchinal et al (2008) found that maternal education mediated the association between neighborhood disadvantage and childcare quality, suggesting that mothers who have access to more information may be empowered to make better choices regarding preschool quality. Additionally, state and federal governments can play an important role in both promoting quality ECE and ensuring that parents are able to identify and access high-quality care. Providing additional grants and subsidies to high-quality ECE programs may lead to some programs adjusting their priorities to prioritize quality as opposed to maximizing profits through cost-cutting strategies like hiring under-trained teachers to reduce costs. Similarly,

providing additional support to families to ensure they can access high-quality care would likely pay dividends in promoting quality within childcare programs. No family should be forced to choose between their child receiving high-quality early educational experiences and meeting other financial obligations. This support would likely need to come at the federal level as there is great variation between states in the criteria for families to receive ECE subsidies with some states presenting extreme challenges to economically-disadvantaged families to access financial support (see Zaman et al. 2012).

Future Directions

The heterogeneity of childcare-run preschool programs carries important implications for future research as well. While Head Start and public preschool programs operate under a set of defined qualifications and criteria, presumably limiting the variability between different centers, that is not the case with childcare centers. Even in this study sample of programs, where it was required that the center have a full-time director and a schedule of activities, there was notable variability across all measures of quality. In future studies it would be more appropriate to treat childcare programs as heterogeneous rather than collapsing various programs into a single category.

The connection between economic disadvantage and structural and process quality in childcare programs appears to be rather complex. Unfortunately, we were left to speculate as to why centers in the most affluent areas had neither the highest quality structural characteristics nor the highest quality classroom processes and teachers from centers in the most disadvantaged areas had some of the best classroom process ratings. Future research is needed to unpack our tentative conclusions and add to this important area of study. Similarly, while we speculated that the lower satisfaction among the Experienced and Skilled teachers stemmed from their level of investment in their position with fewer advancement possibilities we cannot say so definitively. It would be worthwhile to build on this study with qualitative interviews to allow teachers to share challenges they face teaching in their specific centers. This would allow for a better understanding of the connections between classroom processes and satisfaction and would provide additional clarity on which teachers are most at risk for turnover.

Conclusion

Our findings highlight the variability among childcare-run preschool programs in process and structural quality and neighborhood economic disadvantage. Connections between these constructs appear to be rather complex. For parents trying to navigate preschool options this makes it extremely challenging to know what to look for when selecting a high-quality environment for their child, particularly when they do not have a funded preschool option. Additional steps should be taken to standardize preschool features to make it easier for families to identify quality care and ensure that all children experience a high-quality early education.

Development. The content is solely the responsibility of the authors and does not necessarily represent the official views of the funding agencies.

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