Identifying Profiles of Quality in Home-Based Child Care

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Identifying Profiles of Quality in Home-Based Child Care
Executive Summary

The majority of research on the quality of early care and education arrangements focuses on center-based arrangements, yet over half of young children in non-parental care spend time in home-based child care settings each week (Iruka & Carver, 2006). Furthermore, at-risk families, including those with low incomes, single-parent families, and parents with limited education, are more likely to use home-based care (Boushey & Wright, 2004; Snyder & Adelman, 2004). Existing literature on home-based providers suggests that they tend to be sensitive, engaging, affectionate, and responsive towards children; but offer fewer instructional supports than center-based programs (Porter et al., 2010). Additionally, studies using global quality ratings that assess the environment, interactions, routines, and materials of a setting have found regulated family child care providers to be, on average, lower quality than center-based arrangements (Porter et al., 2010).

The purpose of this research brief is to provide information that can be used to target and guide content for professional development efforts designed for home-based child care providers. To do this, home-based providers who participated in a large multi-state study were grouped into three quality categories according to their scores on observational measures of teaching and interaction, tone/discipline, provisions for health, instructional supports for literacy, and caregiver sensitivity. We also examined how providers in the three groups differed in their professional characteristics, their attitudes and supports, and the composition and characteristics of their home-based care settings.

Key Findings

Based on their respective ratings across quality measures, we identified three groups of providers, labeled as offering *low*, *moderate*, and *above moderate* quality.

➢ The majority of providers in this study (88%) were either in the *low* or *moderate* quality group.

- Providers in the *low* quality group (38% of the sample) scored, on average, between inadequate and minimal on ratings of global quality (teaching and interaction, tone/discipline, provisions for health) and instructional supports for literacy and were observed to be, on average, somewhat sensitive in their interactions with children.

- Providers in the *moderate* quality group (50% of the sample) were rated, on average, as offering between minimal and good quality on global quality assessments, slightly less than minimal instructional supports for literacy, and as quite a bit sensitive in their interactions with children.

➢ Only 12% of the sample was rated as providing *above moderate* quality. These providers scored, on average, higher than providers in the *moderate* group across all quality observation measures, but were still in the minimal to good range in assessments of global quality and minimal on instructional supports for literacy.

The following characteristics distinguished providers in the *low*, *moderate*, and *above moderate* groups:

➢ **Experience and Training**: Providers with more experience and more training tended to be in higher quality groups. Providers in the *above moderate* quality group had an average of 15 years experience and 43 training hours in the past two years, compared to an average of 10 years of experience and 27 training hours among by providers in the *moderate* group and 7 years of experience and 23 hours of training among providers in the *low* group.

➢ **Composition/Characteristics of the Care Setting**: Licensing status and the percent of subsidized children in care differed across quality groups. Almost all (98%) of providers in the *above moderate* quality group were licensed, compared to 82% of providers in the *moderate* group and 67% of providers in the *low* group. Providers in the *low* quality group served a greater proportion of subsidized children (22%) than providers in the *moderate* quality group (15%).

➢ **Provider Attitudes**: Multiple differences were found in the attitudes of providers in each of the quality groups. Child-centered beliefs were more prevalent among providers in both the *moderate* and *above moderate* quality groups, compared to those in the *low* quality group. Additionally, providers in the *above moderate* quality group were more motivated and more confident in their abilities than providers in the *low* or *moderate* quality groups.

➢ **Provider Supports**: The majority of providers in the *above moderate* quality group (69%) and nearly half of providers in the *moderate* quality group (46%) belonged to a professional organization. In contrast, just over a quarter of providers in the *low* quality group (29%) were members of a professional organization.

Summary and Implications for Professional Development

Findings from this study suggest that home-based providers who are seeking professional development are fairly consistent in their practices across different aspects of quality. Specifically, providers who scored higher on measures of global quality also scored higher on measures of instructional supports for early literacy and caregiver sensitivity. Likewise, providers who scored low in one of these quality dimensions also tended to score low on the other aspects of quality.

Only 12% of providers demonstrated above moderate levels of quality across measures. This finding underscores the need to raise the floor of quality in home-based child care settings. Methods to improve quality among home-based providers may include both expanding current professional development systems to be more accessible, and targeting the content of professional development to the unique needs of home-based providers. Additional research on the effectiveness of different modes of professional development is needed. The salience of beliefs, attitudes, and motivation in distinguishing among the quality groups suggests the use of strategies that are effective in modifying beliefs and attitudes.

Identifying Profiles of Quality in Home-Based Child Care

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Introduction

In recent years, initiatives to enhance and support the quality of early care and education settings have gained increasing attention. More than 25 states are currently operating, developing, or piloting Quality Rating and Improvement Systems (QRIS; Tout et al., 2010), which include processes to rate and monitor the quality of programs, support programs in quality improvement, and disseminate ratings to parents and other consumers (Tout et al., 2010).

In order to inform the development of effective quality improvement supports, research is needed to address key questions related to the provision of high quality practice in early care and education settings. This brief aims to provide information that could be used to target and guide content for professional development efforts offered to home-based providers. This purpose is achieved by examining multi-dimensional patterns, or profiles, of quality among home-based providers seeking professional development. These profiles are created based on measures of three dimensions of quality: global quality (incorporating teaching and interacting, tone/ discipline, and provisions for health); sensitive caregiving; and instructional supports.   Additionally, characteristics of providers, composition and characteristics of the care setting, provider attitudes and supports associated with different profiles of quality are examined.

Context

The quality of care offered in home-based settings is of interest to policymakers and state administrators due to the high proportion of children in this care type. Among children age five and younger (and not yet in kindergarten) who are in non-parental care arrangements, nearly 60% spend time in home-based settings each week (Iruka & Carver, 2006). Though relatively fewer preschool-aged children are in home-based, as compared to center-based care, home-based providers care for the majority of infants and toddlers in the U.S., as well as a significant proportion, approximately 25%, of school-aged children between the ages of 6-12 in before-/afterschool care (Iruka & Carver, 2006; Morrisey, 2007; Snyder & Adelman, 2004).

The importance of studying quality in home-based settings is further underscored when the characteristics of families who tend to use home-based care arrangements are examined. Research indicates that families with certain socioeconomic risk factors, such as being low-income, a single parent family household, and/or a family in which parents have limited education (high school degree or less) are more likely to use home-based care (Boushey & Wright, 2004; Snyder & Adelman, 2004). Additionally, children who are racial/ethnic minorities are more likely to be in home-based care (Halle et al., 2009; Porter et al., 2010).

Review of the Literature

Quality in Home-Based Settings

Compared to research on center-based programs, literature on the quality of care offered by home-based providers is limited (see Morrissey, 2007 and Porter et al., 2010 for detailed summaries of existing literature). Existing literature suggests that quality offered in home-based settings varies across different domains of quality (e.g., sensitive caregiving vs. instructional supports; Paulsell et al., 2010).

Among studies that have documented quality in home-based settings using observational measures, the majority of research is based on assessments of global quality. Global quality measures provide a broad overview of the environment, interactions, routines and materials. In their review of literature on quality in home-based settings, Porter et al. (2010) found assessments of global quality in family child care homes, as assessed by the Family Day Care Rating Scale (FDCRS; Harms & Clifford, 1989) or the Family Child Care Environment Scale (FCCERS-R; Harms, Cryer, & Clifford, 2007), to be between "minimal" and "good" quality. According to Porter et al., regulated family child care providers have, on average, lower global quality scores than center-based programs, but higher global quality scores than informal home-based providers (e.g., family, friend, and neighbor care).

A second dimension of quality studied in home-based settings relates to dimensions of providers' interactions with children including their sensitivity, engagement, affection, and responsiveness. The Arnett Caregiver Interaction Scale (CIS; Arnett, 1989) has been used in a number of studies to assess this dimension. In contrast to the findings for global quality, caregiver interactions with children assessed by the CIS are, on average, of high quality. Porter et al. (2010) found little variability on the dimensions of quality (primarily sensitivity) measured in the CIS across home-based and center-based settings.

A third dimension of quality relates to the instructional interactions between caregivers and children and the supports in the environment for language and literacy. Reviewing findings from measures such as the Quality of Early Childhood Care Settings: Caregiver Rating Scale (QUEST; Goodson, Layzer, & Layzer, 2005), Child-Caregiver Interaction Scale (C-COS; Boller, Sprachman, and the Early Head Start Research Consortium, 1998), and Child Care Assessment Tool for Relatives (CCAT-R; Porter, Rice, & Rivera, 2006), Porter et al. found home-based providers offered lower quality than center-based programs in terms of learning supports, such as academic/pre-academic-based activities and language stimulation.

Existing research provides an assessment of the performance of home-based providers on observational quality assessments that tap into different dimensions of quality. However, no research has simultaneously considered the quality offered by home-based providers across multiple dimensions of quality. For example, do caregivers who are skilled in providing supports for language and literacy also show high levels of global quality? It would make sense that highly skilled providers would receive high scores across quality domains, but little is known about how these patterns might look across the continuum of providers. As discussed by Paulsell et al. (2010) and Porter et al. (2010), because home-based providers are a heterogeneous group, targeting professional development efforts to subgroups of home-based providers who have similar characteristics, or similar clusters of characteristics, may be warranted. Analyses that simultaneously consider multiple domains of quality could be used to identify subgroups of home-based providers that would benefit from different content, intensity, or dosage of professional development interventions.

Correlates of Quality in Home-Based Settings

Variations in quality as a function of provider characteristics have been documented in multiple studies of home-based care (e.g., Clarke-Stewart, Vandell, Burchinal, O'Brien, & McCartney, 2002; Doherty, Forrer, Lero, Goelman, & LaGrande, 2006; Hamre & Pianta, 2004; Marshall et al., 2003; Weaver, 2002; Whitebook et al., 2004). Additionally, Paulsell et al. (2010) and Porter et al. (2010) both highlighted distinctions in response to professional development interventions among subgroups of home-based providers with similar characteristics. Paulsell et al. (2010) identified four dimensions that can be used to distinguish between home-based providers who may respond to different professional development interventions: characteristics of the provider (e.g., demographic and professional characteristics as well as provider intentions and motivation), characteristics of children in care (e.g., age, special needs, and language of children in care), characteristics of parents (e.g., relationship to caregiver, culture, education), and characteristics of the care setting (e.g., schedule, group size, mix of ages, and purpose of care).

Building upon the work of Paulsell et al. (2010) and Porter et al. (2010), four broad categories of correlates of quality in home-based settings are examined in this study: characteristics of the provider, characteristics of the care setting, provider attitudes, and provider supports. Characteristics of the provider include both personal characteristics (e.g., family income, psychological well-being) and professional characteristics (e.g., education, training, and years of experience). Characteristics of the care setting include the composition of children in care (e.g., number of children in care, subsidy density) and characteristics of the setting itself (e.g., licensed, accredited). Provider attitudes associated with the provision of high quality care include motivation, perceived abilities, intentionality, and child-centered beliefs. Finally, provider supports include provider networks and informal communications with other home-based providers. Select literature from home-based settings on the association between characteristics from each of these categories of correlates and quality measures is provided below.

Provider Characteristics

Multiple studies have demonstrated associations between providers' personal and professional characteristics and ratings of quality. For example, with regard to personal factors that may affect the quality of care provided, Hamre and Pianta (2004) found a negative association between providers' self-reports of depression and the sensitivity of their interactions with children. This association was moderated by other aspects of the child care environment (e.g., type of care, education of the caregiver, and isolation of the caregiver from other adults). The association between provider depression and negative/less sensitive caregiving was stronger in family child care settings than in center-based settings (Hamre & Pianta, 2004). In addition, Weaver (2002) found psychological well-being was positively associated with providers' developmentally-appropriate caregiving and their commitment to their profession. Weaver (2002) also found an association among home-based providers between the provider's family income and the quality of care they offered, with higher family income positively predicting quality of care. Similarly, Doherty, Leo, Goelman, Tougas, and LaGrange (2000) found provider family income discriminated between providers in the top and bottom quartiles of quality ratings using measures of global quality and caregiver sensitivity. Likewise, Weaver (2002) and Helburn, Morris, and Modigliani (2002) found family child care providers with higher incomes scored higher on assessments of global quality and sensitivity.

In addition to associations between providers' personal characteristics and quality assessments, positive associations between the professional characteristics of providers and the provision of high quality care are well documented. For example, multiple studies have demonstrated associations between higher levels of formal education and training and quality outcomes, including: global quality (Burchinal, Howes, & Kontos, 2002; Clarke-Stewart et al., 2002; Doherty et al., 2000; Doherty et al., 2006; Kontos, Howes, & Galinsky, 1996; Marshall et al., 2003; Weaver, 2002; Whitebook et al., 2004), developmentally appropriate caregiving (Weaver, 2002), richer learning environments (Clarke-Stewart et al., 2002; Marshall et al., 2003; Whitebook et al., 2004) and warmer/more sensitive caregiving (Clarke-Stewart et al., 2002; Doherty et al., 2000; Marshall et al., 2003; Whitebook et al., 2004). Finally, studies have documented an inconsistent relationship between years of experience and child care quality among home-based providers. Recently, Doherty (2005) reported that years of experience was a positive predictor of quality. However, in earlier studies of home-based providers, Doherty et al. (2000) and Kontos, Howes, Shinn, and Galinsky (1995) found years of experience was negatively associated with measures of global quality and sensitive caregiving and Marshall et al. (2003) found that after controlling for the providers' education, years of experience was not a significant predictor of global quality.

Composition and Characteristics of the Care Setting

Characteristics of the home-based care setting and the composition of children in care have also been identified as predictors or correlates of quality. Characteristics of the home-based care setting associated with quality in extant literature include whether the care arrangement is licensed (regulated) or accredited and whether a paid assistant is present. Bordin, Machida, and Varnell (2000) found the licensure status of family child care providers in four rural, poor, and predominantly white counties in California was associated with process quality as measured by the FDCRS, the CIS, and the Child Care- Home Observation for Measurement of the Environment (CC-HOME; Caldwell & Bradley, 1984). Likewise, Clarke-Stewart et al. (2002) found compliance with recommended, age-weighted group sizes was correlated with more positive caregiving as measured by the CC-HOME. Less research has been devoted to the association between accreditation and family child care quality, presumably because the number of accredited family child care homes is low (Ceglowski & Davis, 2004). One study comparing 39 family child care homes, 31% of whom were accredited found that accredited homes had significantly higher scores on the Family Day Care Assessment Profile, an observational measure of program quality (Smith & Endsley, 1996). Finally, little is known about the association between having a paid assistant and quality in home-based care. Though Doherty et al. (2000)

found a positive relationship between the number of caregivers present and global quality offered in a home-based setting, this remains an area in need of further inquiry.

The composition of children in home-based care settings refers to the number and characteristics of children in care. Literature regarding the number of children regularly in care, proportion of children with a child care subsidy or special need, and whether any residential children are in care have each been associated with the quality of care provided. In studies of family child care homes, a significant association between group size/ratio and quality has been found in some studies (NICHD ECCRN, 2005) but not in others (Burchinal et al., 2002). In addition to group size, select characteristics of children in care have been associated with quality. Pianta et al. (2005) and Raikes, Raikes, and Wilcox (2005) found subsidy density, measured by the proportion of children in the setting receiving assistance to support tuition/fees, was consistently linked with lower quality care. Knoche and colleagues (2006) surveyed both home and center-based child care providers who either included or excluded children with disabilities and found those that did include children with special needs had more training in child development and a more professional orientation towards their work, but lower quality scores on the FDCRS. Finally, Doherty et al. (2000) found a negative association between the number of the provider's own children in care and the sensitivity of care provided.

Provider Attitudes

Recent work has highlighted the importance of home-based providers' attitudes and the quality of care they offer. Attitudes of interest include the providers' professional motivation, job stress, perceived abilities, intention to stay in the field, and attitudes towards children. Motivations for providing care and education for young children and perceived stressfulness of child care work have both been associated with observed family child care quality (Kontos et al., 1995). In particular, intentionality about early care and education as a chosen profession (viewing it as their career or profession, or a personal calling) has been positively linked to the provision of higher quality care than the endorsement of more adult-focused reasons for being a provider such as saying it is a job with a paycheck, or work to do while their children are young (Doherty et al., 2006). How child care professionals perceive their jobs and roles in society is also associated with the quality of care provided. A study of 46 family child care homes in Canada found that caregivers in higher quality homes, as measured by the CC-HOME and the FDCRS, demonstrated professional pride and social contribution, while lower quality caregivers described their work as a child care provider as a means to stay home with their own children (Pence & Goelman, 1991). A more recent study by Ghazvini and Mullis (2002) found providers who reported lower perceived stress tended to provide more sensitive and higher quality care in center-based settings. Finally, Marshall et al. (2003) found child-centered beliefs about children's learning (e.g., the importance of fostering children's curiosity), as opposed to traditional beliefs (e.g., children learn by listening to teachers), was a positive predictor of global quality and stimulation in a language-rich environment as measured by the FDCRS and Global Caregiving Rating Scale (Arnett, 1989). Likewise, child-centered beliefs of family child care providers have predicted global quality ratings in analyses of NICHD data (Clarke-Stewart et al., 2002) as well as in the Massachusetts Cost and Quality Study (Marshall et al., 2003).

Provider Supports

Finally, formal and informal supports for home-based providers have been associated with the provision of better quality care. Doherty (2005) found regular networking with other providers was associated with overall quality. Similarly, Doherty et al. (2000), Doherty et al. (2006), and DeBord and Sawyers (1995) found social connections with other home-based providers through formal and informal networks were associated with the provision of better quality care using measures of global quality. Weaver (2002) found provider supports, such

as helpful community resources and social supports from relatives, friends, and other providers, predicted providers' professional commitment to child care. Finally, membership in a professional organization has been linked to better scores on the FDCRS (DeBord & Sawyers, 1995; Raikes et al., 2006). In a recent analysis, Bromer, van Haitsma, Delay, and Modigliani (2009) further investigated the association between participation in a professional network and quality and found being part of a professional network with a specially trained coordinator was associated with better quality of care when compared to both providers who did not participate in a network, and providers who were members of a support group or association without a specially trained coordinator.

Purpose of this Research Brief

The purpose of this brief is to inform the content, intensity, and dosage of professional development interventions targeting home-based child care providers. In this brief, multidimensional patterns of quality among family child care providers seeking professional development will be identified. These constellations will be identified through a person-centered analytic approach that separates providers into subgroups, or profiles, based on ratings from quality measures that tap into different domains of quality.

This brief builds upon the work of Paulsell et al. (2010) and the current literature on correlates of quality in home-based settings by 1) examining patterns of quality offered by a sample of family child care providers who are seeking professional development and 2) exploring correlates of these quality patterns using a person-centered statistical technique called latent profile analysis. Through use of this analytic technique, the family child care providers in this study are categorized into subgroups of providers who offer different patterns or profiles of quality, as determined by simultaneously considering measures that tap into three aspects of quality discussed by Paulsell et al. (2010): global quality (teaching and interacting, tone/ discipline, and provisions for health), sensitive caregiving, and instructional supports for quality. Characteristics of home-based providers in each subgroup are then described and selected predictors of subgroup membership are explored.

Methodology

Data for this study come from the baseline survey and quality assessments of the Quality Interventions for Early Care and Education (QUINCE) Partnerships for Inclusion (PFI) study. Three hundred forty-one (341) family child care providers who participated in the QUINCE PFI study were included in the current analyses. The QUINCE dataset was used for these analyses because it contains a relatively large sample of family child care providers who were seeking professional development services in five states beginning in 2005.[1] This dataset contains rich demographic information about the providers as well as observational assessments of program quality. Providers were recruited into the study through their association with one of 24 partner agencies that provided quality improvement consultation in the five states. Participating providers were randomly assigned to receive PFI consultation (Buysse & Wesley, 2005; Wesley, 1994) or the regular services offered by the agency (with the option to receive the PFI consultation in the following year). [2]

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[1] The QUINCE study also included teachers in center-based child care. The center-based sample is not included in these analyses.

[2] For more information on the QUINCE sample and variables used in this report, see "The QUINCE-PFI study: An evaluation of a promising model for child care provider training: Final report." Available online at http://www.earlycareresearch.net/

Family child care providers in this analysis ranged in age from 20-69 years, with an average age of 38 years. The majority of providers were white (75%), 11% were Latino, 11% were African American, and 3% were another race/ethnicity. One-fifth of providers had a high school degree, 63% had some college, and 17% had obtained a college degree. Providers had an average of 9 years of experience, with a range of less than one year to 37 years.

Three observational measures of quality were used to determine the profiles of care: the FDCRS, the literacy subscale of the Early Childhood Environment Rating Scale – Extension (ECERS-E; Sylva, Siraj-Blatchford, & Taggart, 2003)[3], and the sensitivity subscale of the CIS[4]. These measures were selected for two reasons. First, they tap distinct facets of quality including global quality, instructional support for early literacy and quality of provider-child interactions. Second, in previous research they have been sensitive to professional development interventions (Cassidy, Buell, Pugh-Hoese, & Russell, 1995; DeBord & Sawyer, 1996; Mathews, Thornburg, Espinosa, & Ispa, 2000; Norris, 2001).

The following characteristics measured during the baseline wave of the QUINCE provider survey, were examined as correlates of being in one of the three quality profile subgroups:

- **Provider Characteristics:** age, years of education, years of experience, number of training hours, provider report of depressive symptoms in the last year, and income-to-needs ratio (or percent of poverty threshold)

- **Composition and Characteristics of the Care Setting:** number of children regularly in care (at least 20 hours per week/3 days per week), the proportion of children served receiving a child care subsidy, the proportion of children with a special need, whether any of the children in care live with the provider, presence of a paid assistant, and licensing and accreditation status

- **Provider Attitudes:** professional motivation; intention to stay in the field; perception of job as demanding; child-centered beliefs; and perceived abilities in teaching practices, professional knowledge, and classroom management

- **Providers' Professional Supports:** receipt of encouragement from others, frequency of speaking with other family child care providers, and membership in a professional organization

These items were selected based on previous research on correlates of quality in home-based care settings, the recent work of Paulsell et al. (2010) identifying characteristics that distinguish among different types of home-based providers, and the availability of variables of interest in the QUINCE dataset.

The major focus of this study is to examine profiles of quality by simultaneously considering multiple dimensions of quality in a sample of family child care providers. We hypothesize that subgroups of family child care providers will show distinct patterns of strengths and growth areas in the domains of quality examined. For example, compared to other providers in the sample, a provider might score high on sensitive caregiving, but low on instructional supports for early literacy. Alternatively, a provider might score low on sensitivity but high on global quality. We also hypothesize that characteristics of the provider, composition and characteristics of the care setting, provider attitudes, and provider supports will distinguish between providers in identified profiles of quality.

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[3] The ECERS-E was used in the QUINCE PFI study after consultation with the authors of the measure regarding the applicability of this measure in home-based settings. The measure was included because it 1) has been predictive of children's cognitive and language outcomes in previous studies (Harms & Clifford, 1983; Sylva et al., 2006) and 2) is sensitive to aspects of the QUINCE PFI intervention.

[4] For more information on the inter-rater reliability of observers for each of these observational measures, see "The QUINCE-PFI study: An evaluation of a promising model for child care provider training: Final report." Available online at http://www.earlycareresearch.net/

These hypotheses were tested using latent profile analysis (LPA), a *person-centered* latent variable analytic technique (Lubke & Muthen, 2007). Unlike *variable-centered* analytic techniques that aim to explain associations among variables, *person-centered* techniques aim to define subgroups of individuals manifesting similar patterns of a multi-dimensional construct by examining the correlation among individuals based on multiple indicators (Bauer & Curran, 2004). For a more detailed explanation of latent profile analysis, see Bauer and Curran (2004) or Lubke and Muthen (2007).

Results

Profiles of Quality among Home-Based Providers

Through the analytic technique of latent profile analysis, three patterns, or profiles of quality were identified among family child care providers who were actively seeking professional development. Though it was originally thought that these profiles would show relative strengths and growth areas among providers (e.g., relative to other providers in the sample, a provider might score high on sensitive caregiving and low on instructional supports for early literacy), findings instead indicate that providers who scored high relative to other providers in the sample on one quality measure tended to score high on the other measures as well. Likewise, providers who scored low on one quality measure, relative to other providers in the sample, tended to score low on other quality measures as well. These findings complement the notion of a "culture of quality" in early care and education settings that is supported by an accumulation of assets (with more assets supporting higher quality; Raikes et al., 2006).

The three identified profiles of quality were labeled to reflect average quality ratings of providers in each profile across the quality measures. Resulting labels were: low quality, moderate quality, and above moderate quality (see Table 1 for quality scores by profile and measure).

- About a third of the sample (38%, or 130 providers) were in the *Low* quality profile. These providers were rated, on average, as being between "inadequate" and "minimal" on ratings of global quality and instructional supports for early literacy and only "somewhat" sensitive.

- Half of the sample (50%, or 170 providers) were in the *Moderate* quality profile. These providers were rated, on average, as being between "minimal" and "good" on ratings of global quality, just under "minimal" on instructional supports for early literacy, and "quite a bit" sensitive in their caregiving.

- Finally, 12% of the sample, or 41 providers, were in the *Above Moderate* quality profile. These providers were rated, on average, higher than those in the *Moderate* quality profile on all measures, but still in the "minimal" to "good" range on ratings of global quality, "minimal" on instructional supports for early literacy, and between "quite a bit" and "very" sensitive.

Table 1. Mean scores on quality assessments by quality profile

Quality Profiles & Percent of the Sample	Low 38%	Moderate 50%	Above Moderate 12%
Teaching and Interaction (FDCRS)	2.4	3.4	4.7
Tone/Discipline (FDCRS)	2.8	4.1	5.2
Provisions/Health (FDCRS)	2.2	2.9	3.7
Sensitivity (CIS)	2.4	3.1	3.4
Instructional Supports for Early Literacy (ECERS-E)	1.7	2.4	3.6

Note. The FDCRS and ECERS-E are measured on a seven-point scale with the following anchors: 1 = "inadequate", 3= "minimal", 5= "good", and 7= "excellent". The CIS is rated on a four-point scale indicating the degree to which a provider exhibits certain relational attributes with 1= "not at all", 2="somewhat", 3="quite a bit", and 4= "very much".

Distinguishing among Home-Based Providers in Each Quality Subgroup

In order to identify characteristics that may differ among providers in the three identified subgroups, means of providers in each subgroup on select provider characteristics, provider attitudes, characteristics of the care arrangement, and professional supports were compared (see Table 2).

Table 2. Mean scores and differences in characteristics of providers across quality subgroups

	Low N=130	Moderate N=170	Above Moderate N=41	Low vs. Moderate	Low vs. Above Moderate	Moderate vs. Above Moderate
Provider Characteristics						
Years of education (Percent with some education post high school)	27%	40%	38%			
Number of training hours in the past 2 years	23	27	43		***	**
Years of experience	7	10	15	**	***	**
Reported symptoms of depression	11%	13%	7%			
Family income-to-needs ratio	2.54	2.81	3.12			
Composition and Characteristics of the Care Setting						
Number of children regularly in care	6	5	6			
Percentage of subsidized children	22%	15%	25%	*		
Percentage of children with a special need	6%	5%	7%			
Residential child in care	64%	63%	41%			
Paid assistant	19%	21%	37%			
Licensed	67%	82%	98%	**	***	***
Accredited	7%	11%	16%			
Provider Attitudes						
Child-centered beliefs	50.13	54.69	54.20	***	*	
Perceived abilities in teaching practices, professional knowledge, and classroom management	4.42	4.45	4.67		***	***
Professional motivation	4.33	4.38	4.59		**	**
Intention to stay in the field	4.14	4.14	4.25			
Perception of job demands	2.77	2.68	2.50			
Provider Supports						
Received encouragement	81%	86%	84%			
Frequency of conversations with other providers	1.33	1.52	1.70			
Member of a professional organization	29%	46%	69%	**	***	**

Note. * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

In comparing **provider characteristics** among home-based providers in each of the quality profiles, two of the tested characteristics distinguished among providers in different quality profiles: experience and training. Providers in the *Above Moderate* quality profile were, on average, more experienced (M=15 years) than providers in either the *Low* (M=7 years) or *Moderate* (M=10 years) quality profiles. The number of training hours providers received in the past two years also distinguished providers in the *Above Moderate* quality profile and those in the *Moderate* and *Low* quality profiles. Providers in the *Above Moderate* quality profile had an average of 43 hours of training in the past two years, compared to an average of 27 hours among providers in the *Moderate* quality profile, and 23 hours among providers in the *Low* quality profile. Significant differences between providers in the quality profiles by years of education[5], depressive symptoms, and family income-to-needs ratio were not detected.

Though a number of **characteristics related to the care setting** were reviewed, the only characteristics that distinguished between providers in different quality profiles were the licensing status of the provider and the percentage of children in care who were subsidized. Licensing status was a distinguishing factor among each of the quality profiles. The *Above Moderate* quality profile had the highest proportion of licensed providers (98%), significantly more than the *Moderate* quality profile (82% of providers) and the *Low* quality profile (67% of providers). The relation between percentage of subsidized children in care, or subsidy density, and the quality profiles was less clear. Home-based providers who served a greater proportion of subsidized children were more likely to be in the *Low* quality profile (22% subsidized) than the *Moderate* quality profile (15% subsidized). This finding, though statistically significant, was relatively weak. Likewise, though there was no significant difference comparing the *Low* or *Moderate* quality profiles to the *Above Moderate* quality profile by subsidy density[6], providers in the *Above Moderate* quality profile had the highest average subsidy density (25%). Comparisons by subsidy density are complicated by divergent quality standards for subsidized care across the study states. In addition to the minimal quality standards imposed by the Child Care and Development Fund (National Child Care Information and Technical Assistance Center, 2005), some states have initiatives, such as North Carolina's Smart Start, which impose rigorous quality standards for providers serving subsidized children. Thus, due to the diversity of quality standards among subsidy programs in this study, caution should be used when interpreting the association between subsidy status and quality of care in this study. No statistically significant differences were found across the quality profiles on other measures of the composition of the care arrangement (e.g., number of children regularly in care, percentage of children in care with a special need, or presence of a residential child in care), nor other characteristics of the care arrangement (e.g., having a paid assistant or being accredited[7]).

Multiple measures of **provider attitudes** distinguished providers in the various quality profiles. Child-centered beliefs distinguished providers in the *Low* (M=50.13) versus *Moderate* (M=54.69) quality profiles and providers in the *Low* (M=50.13) versus *Above Moderate* (M=54.20) quality profiles, with more progressive, child-centered beliefs being held by providers in higher quality profiles. Both provider motivation and providers' perceptions of their own abilities in teaching practices, professional knowledge, and classroom management distinguished providers in the *Low* versus *Above Moderate* and the *Moderate* versus *Above Moderate* quality profiles. Providers in the *Above Moderate* quality profile had the highest ratings on professional motivation (M=4.59), followed by providers in the *Low* and *Moderate* quality profiles (M=4.33 and M=4.38, respectively).

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[5] The lack of a significant difference in educational attainment likely results from the limited education range among family child care providers in the sample. Eligibility criteria for the study targeted providers without a four-year degree in early childhood education or related field.

[6] No statistically significant differences were detected likely due to the large standard errors in the average subsidy density among providers in the *Above Moderate* quality profile.

[7] Only a small proportion of providers in each quality profile were accredited. Seven percent of providers in the *Low* quality profile were accredited, 11% of providers in the *Moderate* quality profile, and 16% of providers in the *Above Moderate* quality profile.

Finally, providers who were more confident in their teaching practices, professional knowledge, and classroom management were more likely to be in the *Above Moderate* (M=4.67) quality profile than either the *Moderate* (M=4.45) or *Low* (M=4.42) quality profiles. No significant differences were found across the quality profiles on measures of providers' intention to stay in the field or providers' perceptions of the degree to which their jobs are demanding.

Finally, only one of the **professional supports** considered was found to distinguish among providers in each of the quality profiles: membership in a professional organization. The majority of providers in the *Above Moderate* quality profile (69%) were members of professional organizations, compared to 46% of providers in the *Moderate* quality profile, and 29% of providers in the *Low* quality profile. Receipt of encouragement was consistently high across quality profiles, with 81% of providers in the *Low* quality profile, 86% of providers in the *Moderate* quality profile, and 84% of providers in the *Above Moderate* quality profile receiving encouragement from peers, family members, or other sources. Likewise, providers in each quality profile had contact with other providers an average of once per week.

Implications and Future Research

In summary, this study sought to examine patterns of multi-dimensional quality among family child care providers and to explore correlates of profile membership using latent profile analysis. This research adds knowledge to the field through its person-centered approach, which allows one to simultaneously examine multiple dimensions of quality by looking at subgroups of providers. Findings from this study suggest that the level of quality offered by family child care providers who are seeking professional development is consistent across multiple dimensions of quality. Specifically, we found that providers who scored higher on measures of global quality (made up of three factor scores addressing: teaching and interacting, tone/ discipline, and provisions for health) also scored higher on measures of instructional supports for early literacy and caregiver sensitivity. Likewise, providers who scored low in one of these quality dimensions also tended to score low on the other dimensions of quality. Three quality profiles were identified based on the patterns of quality offered by providers in each profile (low, moderate, and above moderate). These profiles were labeled to reflect the average quality rating of providers in each profile.

The level of quality offered by family child care providers across the three dimensions of quality explored was consistent with past research (see Porter et al., 2010). Only 12% of family child care providers in this study were in the *Above Moderate* quality profile, approximately half were in the *Moderate* quality profile, and 38% were in the *Low* quality profile. Members of the *Low* quality profile scored below minimal on the FDCRS and ECERS-E, indicating that children in such programs may not be safe and that their development may be compromised by poor quality care. These findings underscore the critical need to raise the floor of quality in family child care settings particularly because the sample is limited to those providers who sought support for their professional development. It is reasonable to assume that quality levels would be even lower among providers who do not seek support or who are unaware of opportunities for professional development and quality improvement.

In this study, we also examined distinctions in characteristics of providers, the composition and characteristics of the care setting, provider attitudes, and supports across quality profiles. In this analysis, two professional characteristics of providers, years of experience and number of training hours in the last two years, distinguished among providers in different quality profiles. One characteristic of the care setting, whether the provider was licensed, distinguished among providers each of the three quality profiles. Three of the five attitudes examined, namely child-centered beliefs, perceived abilities, and professional motivation, distinguished among providers in different quality profiles. Finally, one provider support, being a member of a professional organization, distinguished among providers in each of the three quality profiles. Each of these findings is not surprising given the extant literature. However, the relative importance of provider attitudes in distinguishing among subgroups of providers offering different levels of multidimensional quality is of note.

The salience of beliefs, attitudes, and motivation as correlates of higher quality profiles in this study suggests the use of strategies that assess and target providers' belief systems in future professional development interventions. Modifying beliefs and attitudes, while challenging, may be most possible in professional development experiences that include individualized opportunities for modeling, self-reflection, observation of effective practices, and coaching. Consultation models emphasizing developmentally appropriate practice and providers' readiness to change may be more effective in shaping provider attitudes than traditional coursework or classroom-based training (Palsha & Wesley, 1998). Likewise, years of experience distinguished among providers in each of the quality profiles, with more experienced providers offering higher quality care. Training and support on the topic of small business management and sustainability may be helpful to family child care providers, who tend to be more sensitive to changes in the economic market than center-based care settings (Walker, 1992).

This study also opens the door to future analyses focused on subgroups of home-based providers. As latent profile analysis is a person-centered approach, it is sensitive to the characteristics of a particular sample. Thus, future studies that validate the findings of this study with other samples of family child care providers, such as those in the Early Childhood Longitudinal Study-Birth Cohort (ECLS-B) is recommended. Additional future research directions include further exploration of the associations between identified correlates of latent profile membership and analyses of models that use multi-dimensional quality subgroups as predictors of child outcomes.

In conclusion, the purpose of this brief was to examine subgroups of family child care providers, identified through a multidimensional assessment of quality focused on three dimensions of global quality (teaching and interaction, tone/discipline, and provisions for health), caregiver sensitivity, and instructional supports for early literacy. This study highlights the need to improve the level of quality offered in home-based settings and offers empirically-based implications for future professional development interventions as well as future directions for research.

References

Arnett, J. (1989). Caregivers in day-care centers: Does training matter? *Journal of Applied Developmental Psychology, 10,* 541–552.

Bauer, D.J. & Curran, P.J. (2004). The integration of continuous and discrete latent variable models: Potential problems and promising opportunities. *Psychological Methods, 9*, 3-29.

Boller, K., S. Sprachman, and the Early Head Start Research Consortium. (1998). *The Child-Caregiver Observation System Instructor's Manual*. Princeton, NJ: Mathematica Policy Research, Inc.

Bordin, J., Machida, S., & Varnell, H. (2000). The relation of quality indicators to provider knowledge of child development in family child care homes. *Child & Youth Care Forum,* 29(5), 323-341.

Boushey, H., & Wright, J. (2004). *Working moms and child care.* Washington, DC: Center for Economic and Policy Research.

Brandon, R. N. (2005). *Enhancing family, friend and neighbor caregiving quality: The research case for public engagement.* Seattle, WA: University of Washington, Human Services Policy Center.

Bromer, J. Van Haitsma, M., Daley, K., & Modigliani, K. (2009). Staffed support networks and quality in family child care: Findings from the Family Child Care Network Impact Study. Herr Research Center, Erikson Institute. http://www.erikson.edu/hrc/researchdetail.aspx?c=1296.

Bryant, D. M., Wesley, P. W., Burchinal, M., Sideris, J., Taylor, K., . . ., & Iruka, I. U. (2009). *The QUINCE-PFI study: An evaluation of a promising model for child care provider training: Final report*. Chapel Hill, NC: FPG Child Development Institute.

Burchinal, M., Howes, C., & Kontos, S. (2002). Structural predictors of child care quality in child care homes*. Early Childhood Research Quarterly, 17,* 87-105.

Buysse, V. & Wesley, P.W. (2005). *Consultation in Early Childhood Settings*. Baltimore, MD: Brookes.

Caldwell, B. M., & Bradley, R. H. (1984). *Home observation for measurement of the environment*. Little Rock, AR: University of Arkansas at Little Rock.

Cassidy, D. J., Buell, M. J., Pugh-Hoese, S., & Russell, S. (1995). The effect of education on child care teachers' beliefs and classroom quality: Year one evaluation of the TEACH early childhood associate degree scholarship program. *Early Childhood Research Quarterly, 10*, 171-183.

Ceglowski, D. A. & Davis, E. E. (2004). Assessing structural indicators of child are quality at the local level: Lessons from four Minnesota counties. *Child & Youth Care Forum, 33*(2), 71-93.

Child Care Bureau. (2007). *Child care bulletin. Winter/Spring 2007.* Retrieved from http://www.nccic.acf.hhs.gov/ccb/issue32.pdf.

Clarke-Stewart, K. A., Vandell, D. L., Burchinal, M., O'Brien, M., & McCartney, K. (2002). Do regulable features of child-care homes affect children's development? *Early Childhood Research Quarterly 17*(1), 52-86.

Curbow, B., Spratt, K., Ungaretti, A., McDonnell, K., & Breckler, S. (2000). Development of the child care worker job stress inventory. *Early Childhood Research Quarterly, 15*(4), 515-536.

DeBord, K. & Sawyers, J. (1995). Membership in a professional association influence the quality of family child care? *Journal of Extension, 33*(1). Retrieved from http://www.joe.org/joe/1995february/a3.php.

DeBord, K. & Sawyers, J. (1996). The effects of training on the quality of family child care for those associated with and not associated with professional child care organizations. *Child & Youth Care Forum, 25*(1), 7-15.

Doherty, G. (2005, June). *Quality and predictors of quality in Canadian child care.* Presented at Center of Excellence for Early Childhood Development, Regina, SK.

Doherty, G., Leo, D. S., Goelman, H., Tougas, T., & LaGrange, A. (2000*). Caring and learning environments: Quality in regulated family child care across Canada.* Centre for Families, Work and Well-Being, University of Guelph.

Doherty, G. Forrer, B., Lero, D. S., Goelman, H., & LaGrande, A. (2006). Predictors of quality in family child care. *Early Childhood Research Quarterly, 21*(3), 296-312.

Ghazvini, A., & Mullis, R.L. (2002). Center-based care for young children: Examining predictors of quality. *The Journal of Genetic Psychology, 163*(1), 112-125.

Goodson, B.D., Layzer, J.I., & Layzer, C.J. (2005). *Quality of Early Childhood Care Settings: Caregiver Rating Scale (QUEST).* Cambridge, Massachusetts: Abt Associates.

Halle, T., Hair, E., Nuenning, M., Weinstein, D., Vick, J., Forry, N. & Kinukawa, A. (2009). *Primary Child Care Arrangements of U.S. Infants: Patterns of utilization by poverty status, family structure, maternal work status, maternal work schedule, and child care assistance,* OPRE Report. Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

Hamre, B. K., & Pianta, R. C. (2004). Self-reported depression in nonfamilial caregivers: Prevalence and associations with caregiver behavior in child-care settings. *Early Childhood Research Quarterly, 19*, 297-318.

Harms, T. & Clifford, R. (1983). Assessing preschool environments with the early childhood environment rating scale. *Studies in Educational Evaluation, 8,* 261-269.

Harms, T. & Clifford, R. (1989). *Family Day Care Environment Rating Scale.* New York: Teachers College Press, Columbia University.

Harms, T., Cryer, D. & Clifford, R.M. (2007). *Family Child Care Environment Rating Scale (Revised Edition*). New York: Teachers College Press, Columbia University.

Helburn, S. W., Morris, J. R., Modigliani, K. (2002). Family child care finances and their effect on quality and incentives. *Early Childhood Research Quarterly, 17*, 512- 538.

Iruka, I. U., and Carver, P. R. (2006). *Initial Results from the 2005 NHES Early Childhood Program*

Participation Survey (NCES 2006-075). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

Johnson, J. (2005). *Who's Minding the Kids? Child Care Arrangements: Winter 2002.* Current Population Reports, Washington, DC: US Census Bureau.

Knoche, L., Peterson, C. A., Pope Edwards, C., & Jeon, H.-J. (2006). Child care for children with and without disabilities: The provider, observer, and parent perspectives*. Early Childhood Research Quarterly, 21*, 93–109.

Kontos, S., Howes, C., & Galinsky, E. (1996). Does training make a difference in quality family child care? *Early Childhood Research Quarterly, 11*(4), 427-445.

Kontos, S., Howes, C., Shinn, M., & Galinsky, E. (1995). *Quality in family child care and relative care.* New York, NY: Teachers College Press.

Lubke, G.H. & Muthén, B.O. (2007). Performance of factor mixture models as a function of covariate effects, model size, and class-specific parameters. *Structural Equation Modeling 14,* 26-47*.*

Marshall, N.L., Creps, C. L., Burstein, N. R., Cahill, K. E., Robeson, W. W., Wang, S. Y., ...F., B.

Glantz. (2009). *Massachusetts family child care today: A report of the findings from the Massachusetts Cost and Quality Study*. Wellesley Centers for Women and Abt Associates, Inc.

Marshall, N. L., Creps, C. L., Burstein, N. R., Cahill, K. E., Robeson, W. W., Wang, S. Y., . . . Glantz, F. B. (2003). *Family child care today: A report of the findings of the Massachusetts Cost/Quality Study*. Wellesley, MA: Wellesley Centers for Women.

Mathews, M. C., Thornburg, K. R., Espinosa, L., & Ispa, J. (2000). Project REACH: Training rural child care providers. *Young Children, 55*(3),82–87

Morrissey, T. (2007). *Family child care in the United States.* New York: Columbia University Mailman School of Public Health, National Center for Children in Poverty, Child Care and Early Education Research Connections.

National Child Care Information and Technical Assistance Center. (2005). *Child care and development fund report of state plans fiscal year 2004-2005.* Retrieved from http://nccic.acf.hhs.gov/pubs/stateplan/index.html

NICHD Early Child Care Research Network (ECCRN). (2005). *Child Care and Child Development: Results from the NICHD Study of Early Child Care and Youth Development.* New York: The Guilford Press.

Norris, D. J. (2001). Quality of care offered by providers with differential patterns of workshop participation. *Child and Youth Care Forum, 30*(2), 111-121.

Palsha, S. A. & Wesley, P. W. (1998). Improving quality in early childhood environments through on-site consultation. *Topics in Early Childhood Special Education, 18*(4), 243-253.

Paulsell, D., Porter, T., Kirby, G., Boller, K., Sama Martin, E., Burwick, …Begnoche, C. (2010). *Supporting quality in home-based child care: Initiative design and evaluation options*. Washington DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. Retrieved from http://www.acf.hhs.gov/programs/opre/cc/supporting_quality/index.html

Pence, A. R., & Goelman, H. (1991). The relationship of regulation, training, and motivation to quality of care in family day care. *Child & Youth Care Forum, 20*(2), 83-101.

Pianta, R., Howes, C., Burchinal, M., Bryant, D., Clifford, R., Early, D., …Barbarin, O.(2005). Features of Pre-kindergarten Programs, Classrooms, and Teachers: Do they predict observed classroom quality and child-teacher interactions? *Applied Developmental Science, 9*, 144-59.

Porter, T., Paulsell, D., Del Grosso, P., Avellar, S., Hass, R., & Vuong, L. (2010). *A Review of the Literature on Home-Based Child Care: Implications for future directions*. Washington DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. Retrieved from http://www.acf.hhs.gov/programs/opre/cc/supporting_quality/reports/lit_review/lit_review.pdf.

Porter, T., Rice, R., & Rivera, E. (2006). *Assessing quality in family, friend and neighbor care: The child care assessment tool for relatives.* New York, NY: Institute for a Child Care Continuum.

Raikes, H.H., Torquati, J.C., Hegland, S., Raikes, H.A., Scott, J., Messner, L., . . ., & Scott, S. (2006). Studying the culture of quality in early education and care. In M. Zaslow & I. Martinez-Beck (Eds.), *Critical Issues in Early Childhood Professional Development*, 111-136. Baltimore, MD: Brookes.

Rand Health (1998). *Depression Screener*. Retrieved from https://rand.org/health/surveys_tools/depression

Schaffer, E. & Edgerton, M. (1985). *Parental and child correlates of parental modernity*. In: I.E.Siegel, (Ed.), *Parental belief systems*. Hillsdale, NJ: Erlbaum.

Smith, A. P. & Endsley, R. C. (1996). Comparison of accredited and non-accredited family child care programs on program quality, provider professionalism, and family support. *Child & Youth Care Forum, 25*(6), 353-378.

Snyder, K. & Adelman, S. (2004). *The Use of Relative Care While Parents Work: Findings from the 1999 National Survey of American Families*. Washington, DC: The Urban Institute.

Sylva, K., Siraj-Blatchford, I., & Taggart, B. (2003). *Assessing quality in the early years: Early Childhood Environment Rating Scale – Extension (ECERS-E) Four curricular subscales*. Stoke-on-Trent: Trentham Books.

Sylva, K., Siraj-Blatchford, I., Taggart, B., Sammons, P., Melhuish, E., Elliot, K., & Totsika, V. (2006). Capturing quality in early childhood through environmental rating scales. *Early Childhood Research Quarterly, 21*, 76-92.

Tout, K., Starr, R., Soli, M., Moodie, S., Kirby, G., & Boller, K. (2010). *The Child Care Quality Rating System (QRS) Assessment: Compendium of Quality Rating Systems and Evaluations,* OPRE Report. Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

Tout, K., Zaslow, M., Papillo, A. R., & Vandivere, S. (2001, September). *Early child care and education: Work support for families and developmental opportunities for young children.* (Occasional Paper #51.) Washington, DC: Urban Institute. (Discussion Paper 04-09).

VandeWiele, L. (2001). *Early Childhood Teaching Inventory*. Charlotte, NC: Quality Research Center.

Walker, J. R. (1992). New evidence on the supply of child care: A statistical portrait of family providers and an analysis of their fees. *The Journal of Human Resources, 27*(1), 40-69.

Weaver, R. H. (2002). Predictors of quality and commitment in family child care: Provider education, personal resources, and support, *Early Education & Development,13*(3) 265- 282. Retrieved from http://dx.doi.org/10.1207/s15566935eed1303_2

Wesley, P.W. (1994). Providing on-site consultation to promote quality integrated child care programs. *Journal of Early Intervention*, *18*, 391-402.

Whitebook, M., Phillips, D., Bellm, D., Crowell, N., Almaraz, M., & Jo, J. Y. (2004). *Two years in early care and education: A community portrait of quality and workforce stability*. Berkeley, CA: Center for the Study of Child Care Employment, University of California.

Technical Appendix

Sample

The data used in this paper come from the baseline wave of the Quality Interventions for Early Care and Education (QUINCE) study, an evaluation of a consultation-based professional development intervention called Partnerships for Inclusion (PFI) to improve the quality of the child care environment. The study occurred in five states: California, Iowa, Minnesota, Nebraska, and North Carolina. Family child care providers were randomly selected for participation in this study from lists of providers seeking quality enhancement services from one of 24 agencies that provide a variety of quality enhancement services for child care programs.

The QUINCE study did not restrict participation to only licensed family child care providers due to differences in state regulations regarding licensing. However, the family child care sample, by design, is comprised primarily of providers with less than a Bachelor's degree. The sample for this study includes 341 family child care providers from the control, comparison, and PFI treatment groups who completed a baseline interview. For additional information on the QUINCE study, see Bryant et al. (2009).

Measures

Quality Measures

Family Day Care Rating Scale (FDCRS). The FDCRS (Harms & Clifford, 1989) is an observational rating scale used to assess the family child care environment. This rating has 38 items divided into seven subscales: (1) Space and Furnishings for Care and Learning, (2) Personal Care Routines, (3) Listening and Talking, (4) Learning Activities, (5) Social Development, (6) Program Structure, and (7) Adult Needs. To be consistent with other research, the Adult Needs items were not observed or included in the overall family child care quality scores. Each item is rated on a seven-point scale with scores ranging from 1 (*inadequate practices*) to 7 (*excellent practices*). Based on the results of factor analysis, three unique aspects of global quality measured by the FDCRS were used: Teaching and Interacting (emphasizing the use of language, support for children's reasoning, activities such as dramatic play and music/movement and cultural awareness), Tone/Discipline (emphasizing informal language, tone of interactions and positive discipline), and Provisions for Learning and Health (emphasizing aspects of the physical environment and routines).

Early Childhood Environmental Rating Scales-Extension (ECERS-E). The ECERS-E (Sylva et al., 2003) was developed to supplement the ECERS-R, especially for use in British preschool programs and reflecting the national pre-K curriculum. Though the use of the ECERS-E in home-based settings has not been widespread, this measure was included for two reasons: 1) it has been predictive of children's cognitive and language outcomes in previous studies (Harms & Clifford, 1983; Sylva et al., 2006) and 2) it is conceptually related to aspects of the QUINCE PFI intervention. Scores on the ECERS-E ranged from 1 (inadequate practices) to 7 (excellent practices). Six observation items comprising the Literacy subscale, which included book and literacy area, adults reading with children, and environmental print, were used to create the "instructional supports for early literacy" subscale.

Caregiver Interaction Scale (CIS). The CIS (Arnett, 1989) is an observational measure of the interactions between child caregivers and the children in their care. Observers rated home-based providers on 26 items on a four-point scale (1-*not at all* to 4-*very much*). The Sensitivity subscore from this measure was used in this analysis.

Characteristics of Interest in Distinguishing among Quality Profiles

Descriptive and comparative statistics were used to examine differences among providers that fit into each of the quality profiles.

Provider characteristics considered include years of education, number of training hours in the last two years, years of experience providing child care, income-to-needs ratio, and provider report of depressive symptoms in the last year. Providers' years of education was taken from the QUINCE baseline provider interview. Due to the limited distribution of education among providers, this variable was dummy coded as high school degree or less (0), and more than high school (1).[8] Providers' number of training hours in the past 2 years, years of experience providing child care, family size, and annual household income are continuous measures from the QUINCE baseline provider interview. An income-to-needs ratio (INR) was calculated for family child care providers by dividing the providers' family income by the federal poverty guideline given the family's size. Thus, an INR of 1 means a family is at the poverty threshold and an INR of 2 signifies that a family is at twice the poverty threshold. Depressive symptoms among providers were assessed on the QUINCE baseline using three items comprising a brief depression screener (Rand, 1998). The items in this screener asked how frequently within the past 12 months the provider felt "sad," "empty," or "depressed." A provider who answered two of three questions positively was considered as exhibiting depressive symptoms on a binary variable (1=yes, 0=no).

Characteristics of the care setting considered include the number of children regularly in care, the proportion of children in care with a child care subsidy, proportion of children in care with a special need, whether any of the children in care live with the provider, presence of a paid assistant, whether the arrangement is licensed, and accreditation status. The number of children regularly in care (at least 20 hours per week/3 days per week) was reported by providers on the QUINCE baseline provider interview. The proportion of children in care with a child care subsidy was calculated by dividing the number of children with a subsidy by the total enrollment. The same method was used in calculating the proportion of children with a special need. Information regarding enrollment, the number of children with a child care subsidy, and the number of children with a special need were taken from the QUINCE baseline provider interview. The presence of a residential child in care, license status, and accreditation status[9] are dichotomous variables (1=yes, 0=no) based on questions from the QUINCE baseline provider interview.

Provider Attitudes considered include child-centered beliefs; perceived abilities in teaching practices, professional knowledge, and classroom management; professional motivation; intention to stay in the field; and perception of job demands. Home-based providers' child-centered beliefs were assessed with the Parent Modernity Scale (Schaefer & Edgerton, 1985). This 16-item scale measures providers' "traditional" (or authoritarian) and "progressive" (or child-centered) views regarding the care of children on a response scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Examples of traditional beliefs are "children will not do the right thing unless they are told what to do" and "the most important thing to teach children is absolute obedience to whoever is in authority." Examples of progressive beliefs are "children have a right to their own point of view and should be allowed to express it" and "children learn best by doing things themselves rather than listening to others." After reverse-scoring the traditional subscale and adding it to the progressive subscale, a higher total modernity score represents more child-centered, progressive child rearing beliefs. The possible range of scores on this scale is 16-80.

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[8] Eligibility for the QUINCE PFI study was limited to providers who did not have a four-year degree in early childhood education or a related field.

[9] Accreditation may have been obtained by a state or national accrediting body.

Providers' self-perceptions of their teaching practices, professional knowledge, and classroom management abilities in the early childhood environment were assessed using a modified version of the *Early Childhood Teaching Inventory* (Van deWiele, 2001). Response scales range from 1 (*I am sure I cannot do this task*) to 5 (*I am sure I can do this task*). This measure has four subscales: responsivity, focus, professional knowledge, and crisis management. For these analyses a total composite score was created and divided by the number of items to maintain the measure's scale.

Professional motivation of home-based providers was assessed with several items adapted from a questionnaire used with early childhood providers in a study by Kontos et al. (1995). This scale consists of eleven items related to job perceptions. Items include whether the provider perceives his/her job as a paycheck or a career, feels he/she is making a difference with their work, and how respected he/she feels. Providers rated each item on a 5-point scale, ranging from 1(*not at all the way that I feel*) to 5 (*exactly the way that I feel*). Factor analysis using the full QUINCE sample revealed two subscales, Professional Motivation (alpha =.69 for family child care providers) and Satisfaction (alpha =.50 for family child care providers). Because it had a more consistent alpha, we included the Professional Motivation subscale in this study, with higher scores indicating more motivation to be a child care provider. Family child care providers were asked about their intention to stay in the field of child care using the following question: "For about how many more years do you plan to be a child care provider?" Categorical response options ranged from 1 (<1 year) to 5 (> 10 years).

Finally, to assess family child care providers' job demands, a 21-item scale, adapted by Gilliam from the 51-item Child Care Worker Job Stress Inventory (Curbow, Spratt, Ungaretti, McDonnell, & Breckler, 2000) was used. This 21-item has four subscales of Job Demands, Job-Specific Demands, Job Rewards/Resources, and Job Control. Items were rated on a scale ranging from 1 (*never*) to 5 (*most of the time*). We used the Job Demands subscale for this study, which includes questions regarding interactions with parents, dealing with children's challenging behaviors, and trying to meet many children's needs at the same time. Higher scores on this subscale indicate greater perceived demands on the provider.

Provider Supports considered include the receipt of encouragement from others, frequency of speaking with other family child care providers, and membership in a professional organization. Encouragement from others was assessed by asking family child care providers if there was any one, such as spouse/partner, family member, friend, provider support network, co-worker, supervisor, or local child agency that encourages their development as a child care provider. A binary variable was created with "1" indicating the receipt of encouragement from at least one of these sources and "0" indicating no perceived encouragement. Frequency of communication with other family child care providers was assessed by asking providers "In a typical week, how many times do you talk on the phone or in-person with other family child care providers?" Scores on this categorical variable are 0 (*never*), 1 (*once/week*), 2 (*2-4 times/week*), and 3 (*more than 4 times per week*). Finally, in the QUINCE baseline provider interview, providers were asked if they were current members of various early childhood and education associations (e.g., National Association for the Education of Young Children (NAEYC), National Association for Family Child Care (NAFCC), Division of Early Childhood (DEC), etc). A binary variable indicating membership in at least one professional association was created from this information (1= yes, 0= no).

Primary Analytic Strategy

The major focus of this study is to examine patterns of quality across multiple domains exhibited by subgroups of home-based providers seeking professional development. Quality of care is a multidimensional construct with multiple indicators. Identification of quality patterns, or profiles, was tested using latent profile analysis. Latent profile analysis, a form of finite mixture modeling, is a person-centered latent variable analytic technique (Lubke & Muthen, 2007). Unlike *variable-centered* latent variable analytic techniques that aim to explain the correlation among variables (e.g., factor analysis), *person-centered* techniques such as latent profile analysis aim to explain the correlation among individuals based on multiple indicators (Bauer & Curran, 2004). In doing so, the latent profile analysis technique models an underlying categorical latent variable from the joint distribution of multiple continuous indicators. This process is used to define groups, or profiles, of individuals manifesting similar patterns of correlation among indicators.   To learn more about profile analysis, see Bauer and Curran (2004) or Lubke and Muthen (2007).