Quality from a Toddler's Perspective: A Bottom-Up Examination of Classroom Experiences

Rena Hallam, Hillary Fouts, Kaitlin Bargreen, & Lori Caudle
University of Tennessee-Knoxville

Abstract

Defining and measuring quality in group care settings has become a central issue in the field of early care and education in the United States, particularly as states develop systems to improve child care quality. Most research and policy definitions of quality rely on a top-down perspective focusing on structural and environmental features of the child care context. This pilot study, based on Lilian Katz's multidimensional framework of child care quality (*Phi Delta Kappan, 76*(3), 200-206, 1994), documents the social ecology of individual toddlers' experiences in one classroom, in relation to a global quality measure of the same classroom. Research questions were (1) What is the frequency of teacher-child interaction in the target child care classroom for each of the four focus children? (2) Does teacher-child interaction vary by classroom context? (3) How does focal child interaction data compare with a global measure of classroom quality? Findings included low levels of interaction between the individual toddlers and the caregivers throughout the classroom day. This multi-method approach illuminates the complexity of measuring quality and the potential value of considering children's daily experiences as an important element of quality assessment.

Introduction

Defining, implementing, and evaluating child care quality in group care settings has become one of the essential tasks of the field of early care and education. Conceptualizations of quality are guided and supported by the professional associations in early care and education (Bredekamp & Copple, 1997; Sandall, McLean, & Smith, 2000); however, the current climate of accountability and attention to child care environments in the United States creates both opportunities and challenges to defining and operationalizing this construct.

The advent of child care quality rating systems has heightened this discussion, with states launching initiatives that connect child care quality to high stakes assessment. To date, 14 states have some type of quality rating system (National Child Care Information Center [NCCIC], 2007). These quality rating systems involve a variety of dimensions, but most include some form of classroom observation and assessment. Currently, 11 states use the environmental rating scales (Infant/Toddler Environment Rating Scale-Revised [ITERS-R], Harms, Cryer, & Clifford, 1990; Early Childhood Environment Rating Scale-Revised [ECERS-R], Harms, Clifford, & Cryer, 1998; Family Day Care Rating Scale [FDCRS], Harms & Clifford, 1989; School-Age Care Environment Rating Scale [SACERS], Harms, Jacobs, & White, 1996) as a means to assess the classroom learning environment (NCCIC, 2007).

The difficulty of assessing quality at the classroom level has been the subject of a growing argument. Commonly used assessment tools provide composites of global quality and may misrepresent the individual experiences of children within the same classroom (Melhuish, 2001). Using a variety of strategies to investigate child care quality and children's development, Dunn (1993) examined both distal and proximal quality. Distal quality, focused mainly on structural aspects of care, was collected through using observations, interviews, questionnaires, and the Early Childhood Environment Rating Scale (ECERS). Proximal quality was assessed through observations, questionnaires, and audiotapes and included genuine experiences of children, specifically areas such as caregiver teaching strategies, curriculum, caregiver-child interactions, and support of children's social-emotional development (Dunn, 1993). Results of this study revealed high correlations among proximal measures and limited relationships between distal measures. These findings illuminate the need to implement multiple measures when assessing child care quality.

Katz (1994) proposed a framework for understanding quality in early care and education

environments through the examination of multiple perspectives of stakeholders. This framework provides a more nuanced awareness of the complexity of the construct of "quality" than is typically found in the literature. A "top-down" approach to quality, according to Katz, emphasizes structural and environmental features. This perspective is found often in research and in policy systems regarding quality in early childhood environments. Katz's framework also provides lenses to examine quality from the perspectives of families, children, and staff. Specifically, Katz describes the "inside-out" perspective as staff's perceptions of the child care program as a workplace; the "outside-in" perspective, which relates to families' perspectives on their experiences with the child care environment; and, finally, the "bottom-up" perspective, which is the child's perspective and experience in the child care environment.

Review of Literature

Although the top-down approach has dominated the literature, some studies have examined quality from these other perspectives. Families have been found to focus on personal characteristics of the caregiver (Shlay, Tran, Weinraub, & Harmon, 2005), program health and safety (Hofferth, Brayfield, Deich, Holcomb, & Glantz, 1991), and family-staff communication (Ceglowski, 2004). Also, child care providers and administrators often define quality based on caregiver-child relations (Galinsky, Howes, Kontos, & Shinn, 1994) as well as training and professionalism (Ceglowski, 2004).

Little research has been attempted that takes a bottom-up perspective in examining children's perspectives on their experience in child care environments. However, many studies have examined relationships among teachers and children via the observation of teacher-child interaction. Teacher-child interaction generally has been included as an important component both in current global measures of quality and in more specific interaction measures (Arnett, 1989; de Kruif, McWilliam, Ridley, & Wakely, 2000; Honig & Lally, 1975; La Paro, Pianta, & Stuhlman, 2004; Melhuish, 2001). Studies of teacher-child interaction typically provide global ratings of teachers' interaction patterns (La Paro et al.; LoCasale-Crouch et al., 2007) rather than individual children's experiences in caregiving settings. One important exception is the quality assessment strategy used by the NICHD study of Early Child Care and Youth Development (NICHD, 2005), which relied on the Observational Record of the Caregiving Environment (ORCE) for evaluations of infant and toddler caregiving across home and child care settings. This measure includes a focal child observation documenting language stimulation, positive talk with peers and adults, and a rating of general positive caregiving (NICHD, 2005).

Obtaining a "bottom-up" perspective on quality from very young children is likely to be challenging. Katz (1994) provides some guidance for inferring the perspectives of young children. Principally, children's sense of acceptance, belonging, respect, and engagement in meaningful activities as they go about their daily lives provides a framework for beginning to adopt a bottom-up perspective. Observation of individual children engaged in their daily routines provides a mechanism to consider children's experiences and potential perceptions of the child care environment. Influenced by Bronfennbrenner's (1979) concept of the microsystem, we view a child's social ecology as made up of who is available in the child's immediate environment, who the child interacts with, and the nature of those interactions. Thus, a child's social ecology includes the various caregivers, social partners, and contexts that they encounter in daily life; though in this study, we are focusing only on the child care context. The examination of the social ecology of children's daily experiences can afford a window into how individual children experience their care.

In a study of toddlers' experiences in child care, Honig and Wittmer (1982) examined toddler-teacher interactions in a study of urban child care centers serving children receiving government subsidy. Findings from this study indicate that toddlers sought caregiver help or attention when approaching teachers and that teachers ignored or negatively responded to toddler bids about one-third of the time. Langsted (1994) describes a Danish project whereby preschool-age children were interviewed about child care and home and were allowed to be "experts in their own lives" (p. 35).

In this study, we observed the social ecology of individual toddlers by examining interactions between specific focal children and their caregivers. The elements of interaction that we considered include teacher vocalizations and affection directed toward children as well as teacher responses to social bids

by individual children. We chose to explore these variables because they make up much of children's experiences in the caregiving environment. Moreover, these constructs have been linked to children's development and learning (Girolametto & Weitzman, 2002; NICHD Early Child Care Research Network, 2002; Volling, 2001). The value of language-rich environments for very young children has been widely explored in the literature (NICHD Early Child Care Research Network, 2005; Peisner-Feinberg et al., 2001). Caregivers' use of oral language has been found to be associated with early and later language and literacy development (NICHD Early Child Care Research Network, 2005; O'Brien & Bi, 1995). Also, the amount and type of vocalizations that caregivers use relate to the amount and type of language that toddlers use to communicate (Girolametto & Weitzman, 2002; Girolametto, Weitzman, van Lieshout, & Duff, 2000).

Research indicates that toddlers need to receive and give affection in order to successfully develop socially and emotionally and to thrive across developmental areas (Howes, Hamilton, & Matheson, 1994; Hyson & Cone, 1989). While researchers have shown that caregivers' expression of affection is linked to infant displays of emotion (Hertenstein & Campos, 2004), caregivers express affection to individual children infrequently (Zanolli, Saudargas, & Twardosz, 1997). Moreover, there is an association between caregiver work environments and teacher affectionate behavior in the classroom. In particular, Mill and Romano-White (1999) found a positive relationship between teachers' expression of affection and quality of work environment as measured by a range of structural indicators (physical environment, staff turnover, salary, group size, and percent of children receiving subsidy).

Purpose of the Study

The intent of this study was to illustrate a bottom-up perspective on quality through capturing the experiences of four young toddlers in one child care classroom and to connect these experiences to a global quality measure. Specifically, we sought to determine the quantity and type of teacher-child interaction in the target classroom across different classroom contexts. Our research questions were (1) What is the frequency of teacher-child interaction in the target child care classroom for each of the four focus children? (2) Does teacher-child interaction vary by classroom context? and (3) How do focal child interaction data compare with a global measure of classroom quality?

Method

Setting

This pilot study was conducted in a young toddler classroom (12-24 months) consisting of 10 children, one assistant teacher, and one lead teacher. The child care center is located in a low-income area of a mid-size city in Tennessee and is situated near a large public housing community. The child care center is a nonprofit organization that predominantly serves families that receive government subsidies, and the child population is racially diverse. The center has a 3-star rating, which is the highest rating for child care centers in Tennessee, and serves infants through school-age children. This Tennessee Star System is designed to rate the quality of licensed child care programs within the state. Programs are given 0-3 stars based on performance on a range of indicators; an adapted version of the ITERS-R is used as the "Program Assessment" component of the star rating system (University of Tennessee College of Social Work Office of Research and Public Service [SWORPS], 2003).

Participants

Participants were recruited through the child care center as part of a larger study examining variation between caregiving experiences in formal (center-based) and informal child care settings. Informal child care settings include home and family settings and are not included in this report. Formal care settings are defined as center-based child care programs, and the target center was considered within this formal care group.

Four typically developing children and the teaching staff of the young toddler classroom participated in this study. The participating children were two boys and two girls—two Caucasian, one African American, and one African American/Honduran. Two teachers provided care in the target classroom. The lead teacher was African American with 6 years of child care experience and approximately 20 months of experience with toddlers in the current child care setting. The lead teacher had participated in a range of professional developmental activities but had no formal degree. Demographic data were only collected for the lead teacher, not for other staff in the classroom. Teacher interaction data reported in this study included both teachers as they interacted with the focal children. Participating families and the teacher each received a $10 grocery store gift card incentive for participating.

Procedures

Data for the study were derived from three sources: observations of focal children in the classroom using a qualitative focus, observations of focal children with a quantitative focus, and an evaluation of the classroom environment. The researchers conducted 4 days of focal child observations during a 4-week time frame. During that time, the researchers also conducted a classroom evaluation using the ITERS-R.

Focal Child Observations

Two types of naturalistic observation were utilized to collect qualitative data on children's experiences in the classroom. Each focus child was observed one weekday from the time he or she arrived in the classroom until he or she fell asleep during nap time. Because the children arrived at different times, they were observed for between 2 and 2.5 hours. Prior to the observation of each child, one observer met with one parent of each child to explain the study and observation procedure and gained informed consent. The parents were asked to specify what time they normally brought their children to the classroom so that observations would take place according to each family's typical schedule.

The two types of observations were conducted simultaneously by two graduate students in Child and Family Studies. Observations were divided into hourly segments, with a 15-minute rest period after 45 minutes to prevent observer fatigue. Quantitative observations were conducted on-the-mark at 30-second intervals, so that each hourly segment consisted of 90 observation points. At each observation, the quantitative observer recorded child and caregiver behaviors on a detailed behavioral checklist, described below. This observer wore a small earphone connected to a digital player that announced "observe," indicating a 20-second observation period. The "observe" prompt was followed by "record" for a 10-second record period in which the observer would record on the checklist all behaviors that had occurred at the moment of the "record" announcement. (Throughout the remainder of the paper, each 30-second observe/record segment is referred to as an *observation point*.) Thus, as stated previously, children were observed for approximately 2 to 2.5 hours, which equated to a range of 231 to 304 observation points per child.

Observers were trained extensively on the coding categories used in the focal child observation by the principal investigators. Training included both video and live observations. Each observer obtained 90% inter-observer reliability on each code before conducting observations.

Qualitative observations were conducted simultaneously with the quantitative observations and were continuous throughout each 45-minute segment. The qualitative observations were recorded in a field note format, with notes taken in two categories: (1) physical and social setting and (2) descriptions of caregiver-child interactions. For physical and social settings, notes were taken regarding the social composition (i.e., who was present; comings and goings of individuals in the classroom), the size and atmosphere of the classroom (i.e., setup of space, lighting, temperature, etc.), the furniture and flooring, and materials available to children and teachers in the classroom. In the descriptive notes of caregiver-child interactions, observers recorded the focal child's experiences with respect to the content of verbal interactions, the emotional state of the focal child and factors related to that state (e.g., focal child was fussy with mother leaving), the situations related to instances of the child's behavior being modified or scolded by the teacher, how child-child conflicts occurred and were resolved, affection that the focal child gave or received, responses to and from the focal child, caretaking routines, and the focus of the focal child's play. Field notes were recorded in narrative

form. Observers documented the time on the qualitative notes so they could then be aligned with the quantitative behavioral coding. The field notes were used in this study to provide contextual data for the quantitative interaction data. The field notes were analyzed in relation to the quantitative data to provide detail on the nature of interactions to include both verbal and social content.

Observers were trained for 3 weeks on the field note measure. Training included discussions with a research team (including the principal investigators) about the field note format and categories to observe, at least two 45-minute practice observations in pairs, and follow-up meetings with the research team to discuss variation in field notes and provide further clarification of tasks as needed.

Classroom Quality Assessment

During the 4-week observation period, a principal investigator also conducted a global classroom quality observation of the classroom using the ITERS-R. The principal investigator has been trained on the measure and has experience using it in previous research. The observation lasted 3 hours. The ITERS-R is a well-established measure of global quality appropriate for use in group care settings for children ages birth to 30 months, and an adapted version is used as the classroom observation component of the Tennessee Star Quality Child Care program. The ITERS-R manual reports moderate levels of internal consistency on subscales from .47 (Space and Furnishings) to .80 (Interaction) and high internal consistency for the total measure (.93).

Analysis

The quantitative coding scheme was adapted from coding schemes that have been used to compare informal infant and toddler care in diverse socioeconomic and cultural settings in a manner that provides holistic accounts of children's experiences with multiple caregivers in various settings and that minimizes cultural biases (Fouts, 2008; Fracasso, Lamb, Schölmerich, & Leyendecker, 1997; Hewlett, Lamb, Shannon, Leyendecker, & Schölmerich, 1998; Roopnarine, Fouts, Lamb, & Lewis-Elligan; 2005). These coding schemes were originally adapted from Belsky, Gilstrap, and Rovine (1984). The current adaptation was prepared for a larger study in order to document infants' and toddlers' experiences with multiple caregivers across informal and formal child care settings.

The behavioral checklist used by the quantitative observers included child states, social and attachment behaviors, caregiving and social behavior directed toward the child, and the availability of caregivers. For this study, 12 behavioral codes were analyzed. Additionally, two codes (Hold and Physical Care) were used as classroom contexts. The operational definitions of those codes are included in Table 1.

Table 1
Description of Behavioral Codes

Behavior	Definition
A MODIFY I – PHYSICAL (P)	A caregiver modifies the focal child's behavior in response to or prevention of an accident or conflict, or to change the child's behavior to align with the caregiver's expectations (i.e., to comply with norms, rules, or to clearly promote a more desirable behavior). The caregiver modifies the child's behavior using physical means such as distracting the child with gestures or presentation of an object, physically moving the child away from someone or something, moving an individual or object away from the child, or taking an object way from the child. The child may be visibly upset or not. If child is visibly upset, also code Soothe. This should not be coded with Stimulate. Should also be coded "Proximal."
A MODIFY I – NONPHYSICAL (NP)	A caregiver modifies the focal child's behavior in response to or prevention of an accident or conflict, or to change the child's behavior to align with the caregiver's expectations (i.e., to comply with norms, rules, or to clearly promote a more desirable behavior). The caregiver modifies the child's behavior with positive or neutral affect using nonphysical verbal means such as distracting the child with verbal cues (suggestion to engage in a different behavior). This should not be coded if the child has in some way requested assistance (A respond I and/or A assist I). The child may be visibly upset or not. If child is visibly upset, also code Soothe. This should not be coded with Stimulate.

A SOOTHE I – PHYSICAL (P)	A caregiver tries to physically quiet or calm the irritable or crying child. This can include rocking, patting, and swaying. Not to be coded simultaneously as affection. The variable "A Soothe Physical" is only coded while the child is irritable or crying. If the child calms for a complete 20-second period while the caregiver continues the same behavior, then it will be coded as "A Affect Physical." This may be coded with Modify or Scold. Should also be coded "Proximal."
A SOOTHE I – NONPHYSICAL (NP)	Through verbal or visual expressions, a caregiver tries to calm or quiet the irritable or crying child. This can include vocalizations or verbal expressions intended to distract the child. If the attempt is verbal, "A Vocalize" is coded simultaneously. The variable "A Soothe Nonphysical" is only coded while the child is irritable or crying. If the child calms for a complete 20-second period while the adult continues the same behavior, then it will be coded as "A Affect Nonphysical." This may be coded with Modify or Scold.
A RESPOND I	An individual responds to a child's positive social cue or request for assistance.
A ASSISTS I	An individual gives solicited or unsolicited help to a task the focal child is already engaged in. Help may include aiding with a task, game or toy, climbing into a lap or chair or on an object, preventing a physical accident (cup tipping over, child falling down), or manipulation of an object (holding utensil). In order to distinguish between solicited and unsolicited help, solicited help should be coded simultaneously with "A respond I" or "A respond chain I" to indicate that the assistance was solicited by the child. When not coded with "A respond I" or "A respond chain I," it is assumed that the assistance was not solicited by the child.
A VOCALIZES TO I	An individual speaks to the child; identify the individual. Singing to the child should also be coded.
A VOCALIZES TO GROUP	An individual talks to a group of children (or mixed group of children and adults) that the focal child is a part of. The identity of the individual should be recorded. A group is defined as at least two individuals, including the focal child.
A STIMULATE/ AROUSE I	This variable includes any action on the part of an individual that intends to focus the child's attention on a specific event. It also indicates attempts to stimulate by poking, pulling on limbs, shaking, tickling, presenting interesting objects, etc. Identify the individual. This should not be coded with "A Modify I." Stimulate/Arouse should not be coded if the child is irritable.
A AFFECTION PHYSICAL (P)	An individual shows positive physical affection to the child, such as touching, nuzzling, kissing, hugging, patting. This code is reserved for demonstration of overt affection. Identify the individual. Affection should not be coded if the child is irritable. Should also be coded "Proximal."
A AFFECTION NONPHYSICAL (NP)	An individual expresses nonphysical affection to the child verbally or nonverbally. For example, the individual may use affection speech such as "I love your hugs!" and/or use nonverbal affection including smiles or blowing kisses. Identify the individual. Affection should not be coded if the child is irritable.
I IN STRUCTURED SETTING (I STRUCTURED ACTIVITY)	The focal child is engaged in an activity or game that has a set structure or rules that have been offered or directed by another individual. This may include being led in a group song or doing a craft project that was initiated by a caregiver. It can also include structured routines such as group or mealtime, but only applies to awake state settings (therefore nap time is not coded as a structured activity).
A PHYSICAL CARE I	An individual attempts to provide physical care or grooming to the focal child, including wiping mucus off nose, drool off mouth and chin, feces off of bottom, crust out of eyes, dressing or undressing, grooming, combing or fixing hair, or changing diaper. Should also be coded "Proximal."
A HOLD I	An individual holds the child; indicate whether the child is held in a (L) lap or (A) arms. Indicate who is holding the child. Should be coded with "Physical Contact."

Since the number of observation points varied from 231 to 304 among the focal children, all codes were prorated prior to analysis in order to represent the proportion of total observation points obtained for each child. In the current analysis, base rate frequencies of behaviors from the

quantitative observations were compiled and prorated to the total number of observation points that each child was awake. Frequencies for individual teacher-child interaction codes, including all teaching staff, were included in this analysis. Data are presented by code as well as combined to create a total teacher-child interaction value. It should be noted that these codes are not mutually exclusive, and some may have occurred simultaneously (e.g., vocalizing to modify a child's behavior nonphysically). However, if multiple codes occurred in the same observation point, this point was only counted once toward the total teacher-child interaction value.

For the contextual analysis, the qualitative observations were aligned with the quantitative observations to identify six contexts, and then frequencies of behaviors as a function of context were compiled. Four general classroom activities, or classroom contexts, were determined via a review of the qualitative observations and included meal/snacks, group, and nap time. Qualitative observations were then aligned with quantitative data to determine the timing of these contexts, and the remaining time was then identified as "unstructured" indicating that children had freedom to interact with people and materials in the environment and no structured activities were taking place. The four classroom contexts based on the qualitative analysis (meal/snack, group, nap, unstructured) are mutually exclusive and exhaustive, making up 100% of awake, observed time. The "nap" context refers to the designated nap time in the classroom, and data were collected for focal children until they actually were asleep. In addition to these classroom contexts, two additional contexts were identified from the quantitative observations: "hold," which involved the physical holding of children, and "physical care," which involved caregiving activities with the focal child, which included diapering, hand washing, and other general caregiving interactions. These two categories are not mutually exclusive with the classroom contexts.

In addition to the base rate frequencies and the examination of interactions according to contexts, the hourly rate of teacher-child interactions was also compiled for each child. Hourly rate was calculated by dividing the number of interactions in each hour by the total observation points for that hour.

Results

ITERS-R Assessment

The composite score (mean score across the subscales) for the ITERS-R in this target classroom was 4.0, with subscale scores ranging from 2.0 to 6.20. Composite and subscale scores are listed in Table 2. The lowest scoring subscales were Listening and Talking, Personal Care Routines, and Interaction. Scores on all three subscales were below a 3, indicating inadequate to minimal care. The highest scoring subscales were Space and Furnishings and Parents and Staff, both of which were rated in the good to excellent quality range.

Table 2
ITERS-R Composite and Subscale Scores

Scale	Scores
Space and Furnishings	6.20
Personal Care Routines	2.67
Listening and Talking	2.00
Activities	4.30
Interaction	2.75
Program Structure	3.33
Parents and Staff	5.00
TOTAL	4.00

Focal Child Observations

Observation points for each child were aggregated by code and are presented in Tables 3a and 3b. These data suggest that children were minimally engaged with the teachers during the observation

times, with Michael being the most engaged at 13.28% of the observation period and Maria being the least engaged at 6.33% of the total observation period.

Table 3a
Percentages of Total Observation*

Variables	Michael *n* = 256	Anthony *n* = 304	Sonya *n* = 231	Maria *n* = 237
Teacher to focal child				
Vocalizing	6.25	2.96	1.73	2.53
Affection Physical	0.00	0.66	0.00	0.00
Affection Nonphysical	0.00	0.00	0.00	0.00
Assist	2.34	0.33	0.43	1.69
Modify Physical	1.17	1.97	0.00	0.00
Modify Nonphysical	0.78	1.97	0.43	0.00
Soothe Physical	0.39	0.00	0.00	0.00
Soothe Nonphysical	0.39	0.00	0.00	0.00
Stimulate-Arouse	5.08	0.99	5.63	1.69
Respond	0.39	1.97	0.00	2.11
Total intervals of teacher-child interaction	13.28	7.89	7.36	6.33

*Percentages of intervals that the focal child was awake.

Table 3b
Percentages of Total Observation*

Contexts	Michael *n* = 256	Anthony *n* = 304	Sonya *n* = 231	Maria *n* = 237
Meal/snack	11.72	20.39	35.06	21.10
Group	0.00	7.57	21.65	0.00
Nap	25.00	4.28	3.46	8.86
Unstructured	63.28	67.76	39.83	70.04
Hold	4.30	0.66	0.00	1.27
Physical Care	3.13	3.29	2.60	5.06

*Percentages of intervals that the focal child was awake.

Figure 1 presents the percentage of time each toddler spent in the six identified classroom contexts. All four focal children experienced higher levels of interaction with teachers during the unstructured times of the day. Individual child data by context are presented in Table 4. Specifically, these data illustrate the contexts in which teacher-child interactions occurred. Variation across contexts is evident in the experiences of these toddlers, with Michael experiencing interactions with his teachers exclusively in unstructured time and the other toddlers having a range of experiences across structured and unstructured classroom contexts. No teacher-child interaction was coded for two children in some contexts because no observed interaction occurred during these contexts for these children; these are documented as N/A. Structured contexts—meal/snack, group, and nap—were then consolidated into one structured context group. Figure 2 presents the occurrence of teacher-child interaction across structured and unstructured contexts. Figure 3 shows the hourly rate of teacher-child interaction over the 3-hour observation period. Hourly rate ranged from 33% in the first hour of Michael's observation to no interaction in the third hour of Sonya's observation.

Table 4
Percentages of Teacher-Child Interaction by Context*

Contexts	Michael *n* = 34	Anthony *n* = 24	Sonya *n* = 17	Maria *n* = 15
Meal/snack	0.00	16.67	0.00	40.00
Group	NA	8.33	76.47	NA
Nap	0.00	0.00	0.00	0.00

Unstructured	100.00	75.00	23.53	60.00
Hold	23.53	0.00	NA	0.00
Physical Care	11.76	4.17	0.00	0.00

*Percentage of observed teacher-child interaction

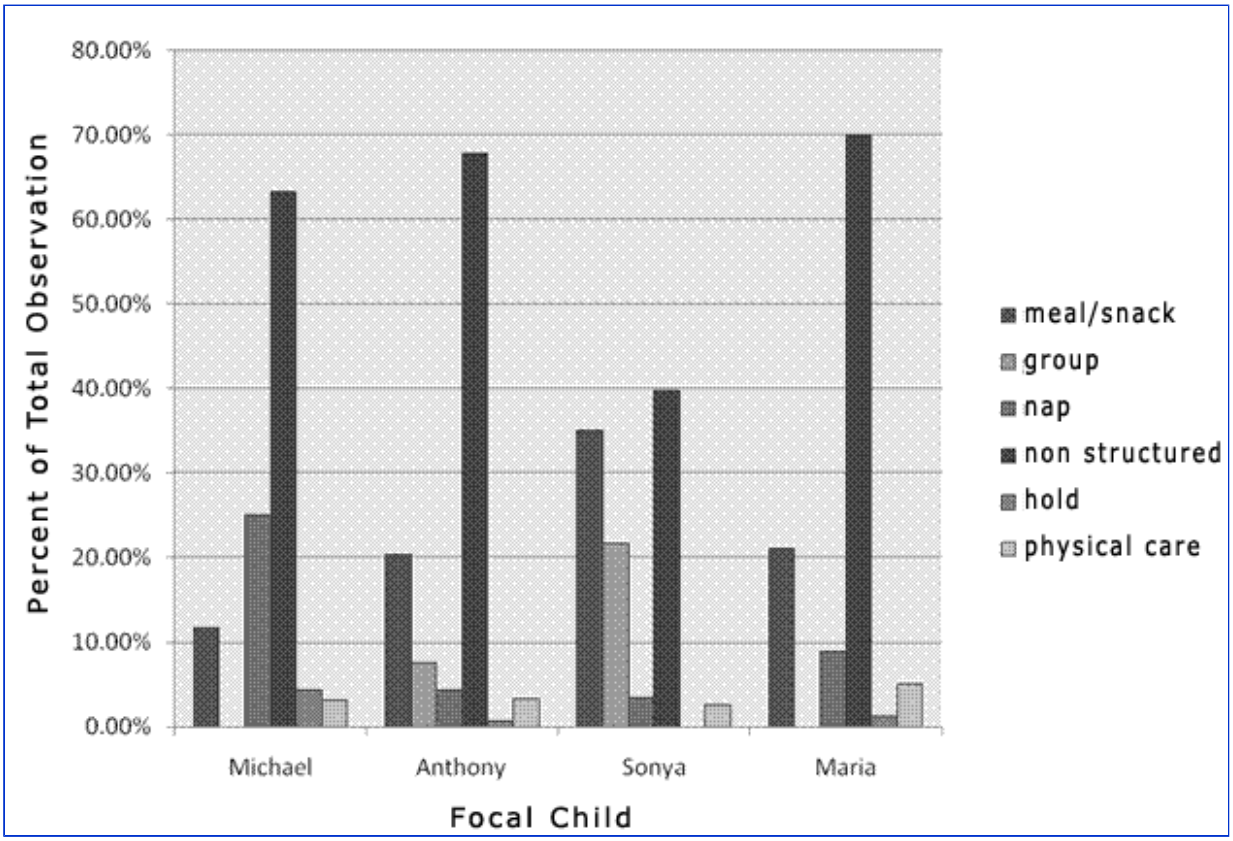

Figure 1. Percentage of total observation spent in classroom contexts.

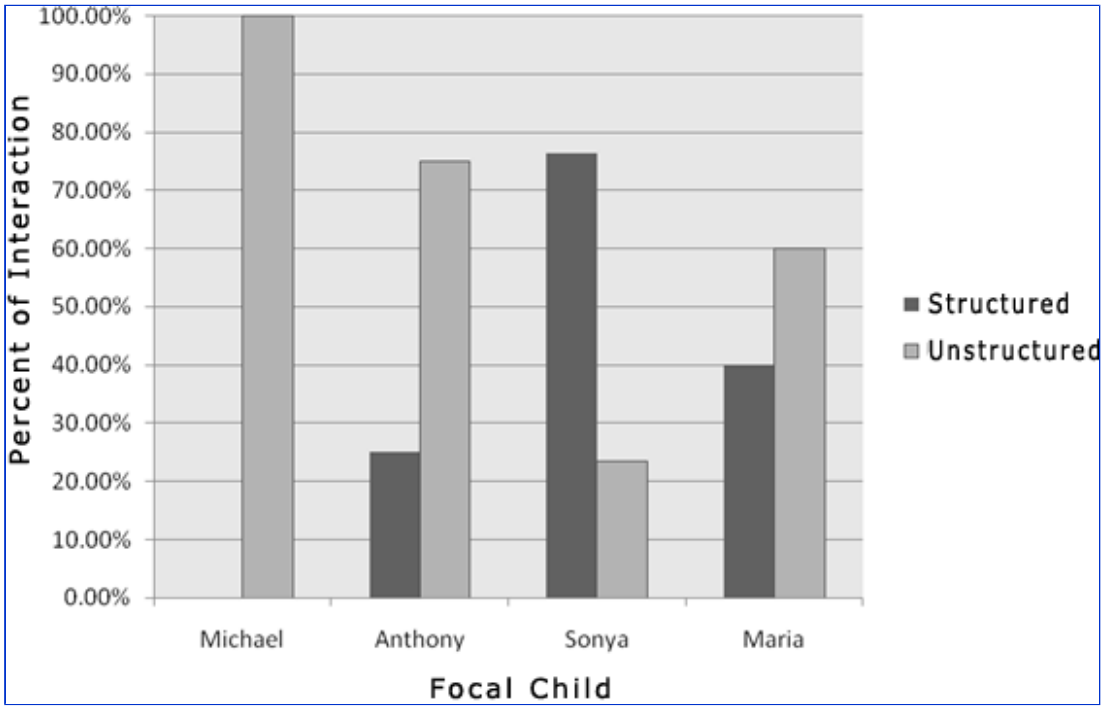

Figure 2. Occurrence of teacher-child interaction by structured and unstructured contexts.

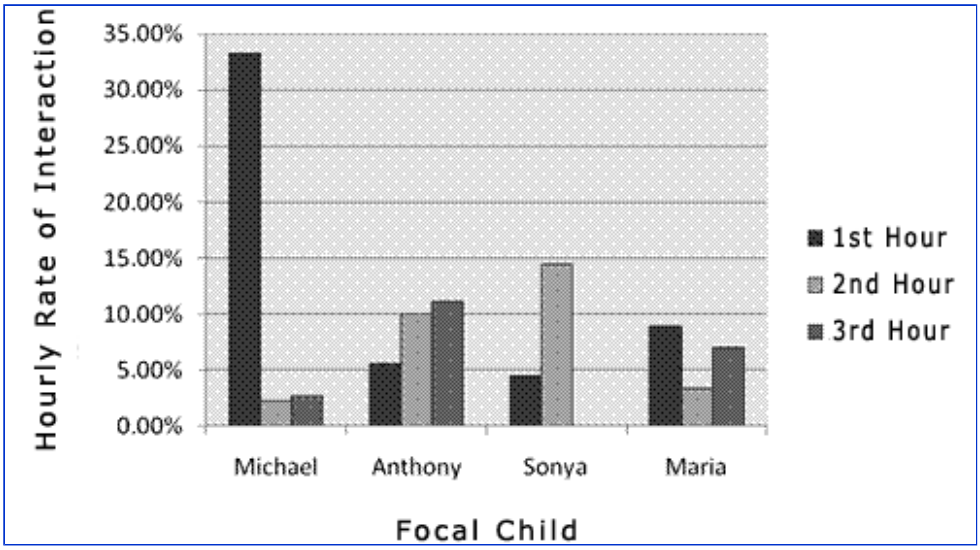

Figure 3. Hourly rate of teacher-child interaction by hour of observation.

Analysis of field notes from the four focal child observations yields more descriptive data on the toddlers' experiences in this classroom. Throughout all observations, children experienced a similar schedule, consisting of free play, breakfast, some type of structured activity (storybook reading, a structured art activity, or music), free play, lunch, and nap. Across all observations, the content of teacher vocalizations was primarily directive in nature. For example, common teacher vocalizations at mealtimes included, "Are you going to eat?" "Go sit down and eat your breakfast." and "Put your cup in the bucket." No examples of more extensive discussion were documented. Observational notes during other common routines, such as diapering and hand washing, also reveal very little interaction at these times. Only one episode of playful, positive individual interaction was documented in all the observation periods for any of the focal children during a routine activity. Specifically, a teacher playfully laughed with Maria and commented, "What are you laughing at?" during diapering. Teachers interacted with children in groups during structured reading and art times, but these interactions were

also generally directive in nature. Teachers in this target classroom read books to the children during structured reading times and sat with children during art activities. Very little interaction was documented between children and teachers during these group times, with teachers primarily supervising children's activities. Most of the vocalizations documented were directive and logistical in nature. Descriptions of an observed large and small group activity are presented below:

> *All of the children and teacher are seated on the floor. The teacher has brought flash cards and a book to the area. The teacher holds up flash cards with different colors on them and asks children to name the colors. A few children respond to her questions. Then, the teacher reads a book to the children. In the middle of reading, the teacher stops and asks the children to point to different body parts (hair, nose, ears). The teacher finishes reading the book and then claps. The children clap also. Teacher directs the children to go to the table. Group time is over. (10 minutes in length)*

> *Five children are seated at a table. The teacher passes out a piece of paper to each child. Then, the teacher retrieves paint and squirts it on each child's paper. Next, the teacher tells the children to paint. If the children choose not to put their hands in the paint, the teacher grabs their hands and places them in the paint. The teacher tells the children not to eat the paint. After 5 minutes or so, children are directed to go to sink to wash their hands. Some children go to the sink; others walk around the room putting paint on things. (Activity is over.)*

Examples of teacher vocalizations during art activities included "Color on the paper" or "This is not candy" when introducing art materials such as play dough or colored chalk. On one occasion, teachers asked questions of the children during group activities. These included, "What color is this?" when holding up color cards to the group and a series of questions about body parts ("Where is your hair?") after reading a story with the children.

Discussion

The current study, which used a "bottom-up" perspective to describe the daily experiences of four toddlers in one child care classroom, is an illustration of the complexity inherent in measuring quality in early care and education settings. The first research question to determine the frequency of teacher-child interaction in the target classroom revealed low levels of teacher-child interaction for the four focus children during the times observed. Very little talking or responding occurred during the observation period for any of the focal toddlers involved in the study.

The second research question concerns whether or not teacher-child interaction varied by classroom context. Analysis of the data shows considerable variability in the children's experiences, with a range of language stimulation and affection provided in the identified classroom contexts (meal/snack, group, nap, unstructured, holding, and physical caregiving). Considering quality through examination of individual children's experiences illuminates the variability in children's experience within the same classroom setting; however, it should be emphasized that although teacher-child interactions varied across the various contexts and among the children, the observed interactions were so minimal for the focal children that ascertaining patterns of variation is difficult.

The third research question focused on the relationship between data from observations of the four toddlers and the classroom's evaluation according to criteria in the ITERS-R, a global measure of classroom quality. The low level of teacher-child interaction from the focal child observations was in fact corroborated by the ITERS-R subscale data in which the Listening and Talking subscale was 2.0 and the Interaction scale was 2.75, which are considered in the low range of this 1-7 scale. However, this finding is somewhat obscured when compared to the ITERS-R mid-range composite score of 4.0. The inclusion of focal child observation data highlights not just what is available to the children, but also how they experience the environment—specifically, their interactions with their teachers. This distinction is the key to using a bottom-up perspective and distinct from more traditional top-down measures of quality (Katz, 1994). The bottom-up perspective complements a larger view of the classroom that is provided by the ITERS-R.

Indeed, the lack of language interaction and affection in the classroom is alarming. Previous studies in infant-toddler group care settings have documented the lack of rich language stimulation experienced by very young children (Honig & Wittmer, 1982). Research from multiple disciplines underscores the value of complex and sustained language interactions with very young children (Girolametto & Weitzman, 2002; Hart & Risley, 1995; Hoff, 2003; Sigel, 1984). Past studies of toddler caregiving in formal settings have revealed that teachers commonly do not utilize more sophisticated forms of language interaction with the children in their care (Honig & Wittmer, 1982; Honig & Martin, 2009). Prior observational studies of affection in group care also documented few instances of caregiver displays of affection in formal caregiving settings (Zanolli, Saudargas, & Twardosz, 1997). Further, Leavitt (1994) found that teachers of toddlers often display anger toward or ignore toddlers in an effort to control toddler behavior. Thus, findings from this pilot study are consistent with previous empirical studies of child care environments and underscore a need for more attention to be paid to teacher-child interaction in toddler group care settings.

This pilot study contributes to the literature by providing another lens on classroom dynamics. Findings from this study reflect the use of multiple methods to better understand children's experiences across classroom contexts. We believe that the findings illustrate the importance of children's daily experiences, which may be obscured when emphasizing global and structural measures of quality.

One limitation of this study is that it reflects the experiences of four toddlers in one classroom during a 4-week time span and cannot be generalized to other toddler classrooms. A study such as this one could be strengthened by additional observations over time. However, one-time measurements of classroom quality dominate both policy and research approaches and have become accepted practice in the field (LoCasale-Crouch et al., 2007; SWORPS, 2003). Additionally, we have somewhat limited information on the professional development of participant teachers. Although the educational level of the lead teacher indicated no formal college experience in early childhood, we do not know the amount and type of inservice professional development the teacher received. Honig and Hirralla (1998) found a relationship between the number of professional development workshops attended by infant/toddler caregivers and the quality of teacher-child interactions in group care settings. Such data would be important to collect in future studies.

Implications

As U.S. states develop quality rating systems and other child care quality initiatives that are designed to positively impact child care programs, it may be prudent to consider a broad range of observational tools in examining the classroom environment, with particular emphasis on ways to examine and improve proximal processes in the early education setting. For example, we found that using two different focal child approaches in combination with a classroom observation exposed consistently low levels of teacher-child interaction but also demonstrated variability in teacher-child interaction over time of the day and across different focal children. Further, we found that these interactions occurred in a classroom that scored quite high in classroom space and furnishings.

Moreover, the tools that are selected to examine classroom quality can greatly impact how teachers and administrators make decisions about their classrooms and programs (Hooks, Scott-Little, Marshall, & Brown, 2006; Warash, Ward, & Rotilie, 2008). Although observing the environment is clearly important in early education, observing individual children within the context of that environment is also fundamental to assessing quality. Encouraging providers to adopt a bottom-up perspective (by means of individual child data) can provide them with insight into how children experience the environment and what modifications could enhance the experience of each child. Professional development for child care providers, focusing on observations and assessment strategies, is a strategy that may prove useful, as is the development of state quality rating systems that include a broad range of tools to support quality enhancement. Future research should build on the use of multiple and child-focused methods to broaden our conceptualizations of quality.

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Author Information

Rena A. Hallam, Ph.D., is an assistant professor of Child and Family Studies at the University of Tennessee. Her research expertise focuses on systemic issues related to the quality of early care and education programs with a particular emphasis on

children living in poverty and children with disabilities. Specifically, she has both studied and consulted in the areas of child care quality rating systems, early childhood transition, assessment and accountability, and personnel preparation in early care systems.

Rena Hallam, Ph.D.
Child & Family Studies
University of Tennessee-Knoxville
Knoxville, TN 37996
Telephone: 865-974-8499
Fax: 865-974-2742
Email: rhallam@utk.edu

Hillary N. Fouts, Ph.D., is an assistant professor of Child and Family Studies at the University of Tennessee. Her research and publications have addressed children's social and emotional interactions and relationships with multiple caregivers in different cultural and socioeconomic contexts, cultural variation in caregiver sensitivity to fussing and crying, cross-cultural differences in toddler peer interactions, parent-child conflicts and caregiving transitions in early childhood among Central Africans, cultural practices of infant and child feeding and the social and emotional contexts of feeding interactions, parent-infant interactions among African American families, and the role of socioeconomic status and ethnicity in early infant care in the United States.

Kaitlin N. Bargreen, M.S., is a doctoral candidate in the Child and Family Studies program at the University of Tennessee, Knoxville. Her area of interest is the quality of children's early educational experiences, with a specific focus on teacher-child interactions.

Lori Caudle is a doctoral candidate and PreK-K program coordinator in the Department of Child and Family Studies at the University of Tennessee. Her research interests include early childhood teacher preparation, with a specific focus on the role of classroom mentors in the development of preservice teachers.

Early Childhood Research & Practice (ECRP) is a peer-reviewed electronic journal.
ECRP Web Address: http://ecrp.uiuc.edu
ISSN 1524-5039
ECRP was established February 27, 1999.