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Children's Behavioral Adjustment in Pre-Primary Schools in Tanzania: A Multilevel Approach

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Research Findings: The present study concerns children's behavioral adjustment in the context of pre-primary schools in Tanzania. Twenty teachers and 320 children from 20 pre-primary schools participated in the study. Teacher–child relationships, children's behavioral adjustment, and teachers' cultural beliefs were reported by teachers; classroom emotional support was measured through classroom observation. The multilevel findings revealed that high-quality teacher–child relationships and high-quality teacher sensitivity were related to children's prosocial behavioral adjustment. In contrast, observed low-quality teacher–child relationships and low-quality teacher sensitivity were found to be related to children's aggression and anxiety. In addition, teachers' cultural beliefs, concerning play in particular, were found to be related to children's anxiety. The findings support the ecological theory regarding the importance of child characteristics and classroom context in shaping a child's behavioral adjustment in schools. *Practice or Policy:* The results have implications for pre-primary school teachers in Tanzania, to consider their relationships with children and their sensitivity to children as important aspects for children's behavioral adjustment in schools. They also inform policymakers about the role of pre-primary school teachers in the country.

Children start pre-primary school when they have already learned and acquired particular behaviors in their home setting and in their peer group relationships. Consequently, behavioral adjustment among children in pre-primary schools differs in part because of differing experiences at home. Studies on behavioral adjustment in pre-primary schoolchildren that have investigated the processes of child transition from home to school (Fabian & Dunlop, 2007; Shonkoff & Phillips, 2000) have reported on the risks and opportunities children may encounter in the early years when starting school. Associated risk behaviors, such as anxiety, confusion, or worries in a new environment, tend to affect children's behaviors and learning if not addressed (Fabian & Dunlop, 2007). The new opportunities for children in school involve positive behaviors, which include a sense of togetherness, collaboration, peer affiliation, tolerance, and social relationships (Kernan & Singer, 2011).

Once they start pre-primary school, children engage in adaptation processes: They are exposed to a new context where they meet and interact with new adults and peers. These adaptation processes may lead to appropriate or inappropriate behavioral adjustment. Adjusting to the new

school context is a challenge for young children that requires workable strategies to help children adapt smoothly to the new environment (Bruce, 2004; Fabian & Dunlop, 2007; Fantuzzo, Bulotsky-Shearer, Fusco, & McWayne, 2005; Garcia, Pence, & Evans 2008).

Many studies have related behavioral adjustment among pre-primary schoolchildren to the relationships formed between teachers and children (e.g., Barker, 2006; Cadima, Leal, & Burchinal, 2010; Kesner, 2000; Silver, Measelle, Armstrong, & Essex, 2005; Stuhlman & Pianta, 2001). Most of these studies have investigated the contribution of harmonious and disharmonious teacher-child relationships to children's behavioral adjustment using a single-level approach. In line with the teacher-child relationship, some studies have reported the contribution of teacher-child interaction at the classroom level. Teacher sensitivity and a positive climate have been reported to influence children's prosocial behavioral adjustment as well (Buyse, Verschueren, & Doumen, 2011; Rimm-Kaufman et al., 2002). However, little is known about the influence of both individual- and classroom-level characteristics on children's behavioral adjustment in pre-primary schools. In addition, many of the previous studies on this subject have been conducted in the Western cultural context. To the best of our knowledge, no study has addressed teacher-child relationships and children's behavioral adjustment in pre-primary schools in an African cultural context, or more specifically in Tanzania.

Tanzania offers an interesting case when looked at from the perspective that children's behavioral adjustment can be best understood by considering the cultural context in which it is embedded (Rosenthal, 1999). Specifically, the relationships between teacher-child relationships, classroom emotional support, and children's behavioral adjustment have to be explained in line with existing cultural aspects of the society in question, in this case Tanzania.

Several Western studies have examined teachers' beliefs by relating them to teachers' practices (Coplan, Hughes, Bosacki, & Rose-Krasnor, 2011; Lynch, 2009; Pajares & Graham, 1998; Rimm-Kaufman, Storm, Sawyer, Pianta, & LaParo, 2006; Sakellariou & Rentzou, 2012). The commonly reported measure used to study teachers' beliefs among the Western culture is the teacher belief questionnaire. However, there are no known studies examining teachers' beliefs in the Tanzanian cultural context. Consequently, there are no psychometrically sound measures available to suit the Tanzanian context. This study is the first to address cultural beliefs among pre-primary school teachers in a Tanzanian context. Teachers' cultural beliefs form an important aspect of our study because Tanzania is assumed to have its own ways of orienting children to cultural values that might contribute to children's behavioral adjustment upon starting schooling.

The present study aims to investigate the relationship between child-level and classroom-level characteristics and children's behavioral adjustment in the Tanzanian classroom context. This is a survey and an observational study combined with a multilevel approach. The child level consists of the teacher-child relationship, and its constructs are closeness and conflict, whereas children's behavioral adjustment is studied in terms of prosocial behavior, aggression, and anxiety. The classroom level consists of classroom characteristics (teacher/child ratio and type of school), emotional support, and Teachers' cultural beliefs. Classroom emotional support comprises four constructs, which are positive climate, negative climate, teacher sensitivity, and regard for pupils' perspectives. Teachers' cultural beliefs are restricted to cooperation, authoritativeness, obedience, and play. Hence, this study is unique in that it combines a cultural perspective with a multilevel approach while studying behavioral adjustment among pre-primary schoolchildren in a Tanzanian context.

ECOLOGICAL MODEL

Bronfenbrenner's ecological model (Bronfenbrenner & Morris, 1998) guides the understanding of the relationship of multiple-level characteristics with children's behavioral adjustment. According to the ecological model, a child's development is shaped by both the child's individual characteristics and the context surrounding the child, including the home and school (Bronfenbrenner & Morris, 1998). The present study uses the ecological model to explain children's behavioral adjustment in pre-primary schools by examining classroom emotional support at the classroom level and the teacher-child relationship at the individual level. In light of this model, the teacher-child relationship forms the proximal process. We propose that children's behavioral adjustment in Tanzanian pre-primary schools is a result of the interaction between a child's characteristics and his or her immediate environment, which is the classroom context.

CHILDREN'S BEHAVIORAL ADJUSTMENT

Behavioral adjustment has been defined and operationalized differently according to the purpose of the study in question. Several studies have defined behavioral adjustment as minimizing risks and increasing protective factors (Bellin, Bentley, & Sawin, 2009; Mequald, Kopel, & Nassan, 2001). In the present study, behavioral adjustment is defined as a child's ability to cope with the new social environment presented by school, involving such aspects as forming new relationships with teachers and other children, withstanding phobias, building confidence, avoiding inferiority, and observing and accepting school rules and regulations. This definition reflects the Tanzanian pre-primary school context. Behavioral adjustment is an important aspect because moving from home may be stressful, even if a person is moving to a more desirable location (Slater & Bremner, 2011). For example, differences with the home situation lie in types of relationships, such as life-long versus more short-term relationships, blood-related versus unrelated adults and peers, familiar versus unfamiliar peers, informal versus more formal, and a few peers versus groups of peers. Tanzanian pre-primary schools provide a crucial setting for children in that the pre-primary school environment is new to them, and they are required to adapt and develop their behaviors in various ways (Bruce, 2004; Garcia et al., 2008; Pence & Nsamenang, 2008). Children therefore are likely to develop their behaviors as approved by the respective society or not.

In this study, children's behavioral adjustment is studied in terms of prosocial behavior, anxiety, and aggression. Prosocial behavior refers to socially acceptable behaviors in the school context. In the Tanzanian context, a prosocial child is assumed to be obedient and to be able to cope successfully with the school environment. Anxiety has been used synonymously with internalizing problems in Western studies (Birch & Ladd, 1998; Buyse, Verschueren, Doumen, Damme, & Maes, 2008; Spilt, 2010). Fantuzzo et al. (2005) referred to anxious children as withdrawn. In the present study, an anxious child refers to a child who lives in isolation, worries, and is always reticent. According to Western studies, anxiety limits a child's ability to succeed in the school environment in the early years (O'Connor, Dearing, & Collins, 2010). Aggression is viewed as threatening behavior, which involves harming another person physically or psychologically. Many Western studies have addressed aggression in young children ages 4-6 years, and different terms have been used to denote an aggressive child. For example, Mantzicopoulos (2005) and Spilt (2010) used the term *children with externalizing problems*, whereas Fantuzzo

et al. (2005) used the term *children with oppositional behaviors*. In the Tanzanian context, an aggressive child refers to a child who displays unacceptable behaviors, like fighting, beating, and kicking other children in the school or classroom. It also refers to a child who does not respect teachers' instructions, school rules, and regulations. A child with such behaviors is assumed to face difficulties in getting along in the school context.

TEACHER-CHILD RELATIONSHIPS

Studies have addressed children's behavioral adjustment in school resulting from teacher-child relationships (Baker, 2006; Birch & Ladd, 1997; Cadima et al., 2010; Kesner, 2000; Stuhlman & Pianta, 2001). For example, the findings of Kesner (2000) and Cadima et al. (2010) indicated that children who had a positive relationship with their teachers were socially competent and did better in school than those who had a negative relationship. The findings further support the influence of the teacher-child relationship on a child's school adjustment in the early years (Baker, 2006; Birch & Ladd, 1997; Howes, Phillipsen, & Peisner-Freiner, 2000).

Western studies on teacher-child relationships have address these relationships in terms of what children perceive to benefit from their teachers and how teachers perceive their relationships in terms of positive or negative gains (O'Connor et al., 2010). The constructs closeness, dependency, and conflict have been used to describe the quality of teacher-child relationships (Baker, 2006; Mantzicopoulos, 2005; Pianta & Stuhlman, 2004; Spilt, 2010). Closeness has been defined as warmth, healthiness, openness, or harmony in a social relationship, whereas conflict has been defined as a disharmonious and/or discordant relationship characterized by negative interactions between a teacher and a child (Mantzicopoulos, 2005; Spilt, 2010). Dependency refers to a child's clinginess to the teacher. In the present study, teacher-child relationship has almost the same meaning as in previous studies, that is, an interpersonal interaction between a teacher and an individual child in a pre-primary school context. In Tanzanian pre-primary schools, a child should be obedient to teachers, listen, and abide by teachers' instruction. These behaviors are necessary in forming a harmonious relationship. If such behaviors are lacking, the relationship is disharmonious. There are no studies of this nature in the Tanzanian context.

CLASSROOM EMOTIONAL SUPPORT

Emotional support refers to strategies used by teachers to promote a positive interaction between them and children in the classroom (Buyse et al., 2011). Several Western studies have examined the role of classroom emotional support in children's behavioral adjustment (Buyse et al., 2011; DiLalla & Mullineaux, 2008; Pianta & Stuhlman, 2004; Rimm-Kaufman et al., 2002). Hamre and Pianta (2005) found that teachers' emotional support was an important factor in helping children with social and externalizing problems and other difficult behaviors that arise in the classroom.

The constructs commonly used to study classroom interaction between the teacher and children at the classroom level are teacher sensitivity, positive climate, negative climate, and regard for students' perspectives (Pianta, LaParo, & Hamre, 2008). Research has shown that a sensitive teacher understands children's individual differences, regulates unacceptable behaviors, and

gives children support and comfort when needed (Pianta, Hamre, & Stuhlman, 2003; Pianta & Stuhlman, 2004). According to Rimm-Kaufman et al. (2002), higher teacher sensitivity is associated with fewer behavioral problems in children. Gazelle (2006) found that a positive climate positively influences children's behavioral adjustment and that negative climate is detrimental to children's adjustment. A study on emotional support is new in the Tanzanian context; we are therefore interested in knowing how teachers' classroom support relates to children's behavioral adjustment in a Tanzanian classroom context. Emotional support is assumed to help children's adjustment in the school context (Buyse et al., 2011).

TEACHERS' CULTURAL BELIEFS

Cultural beliefs have been found to have direct or indirect influence on children's behavioral adjustment. According to the literature, in every culture, children are shaped by the physical and social settings within which they live (Rubin, 1998; Tudge, 2008). In line with the role of cultural beliefs in societies, Rosenthal (1999) contended that an appropriate practice in one cultural setting might be considered less appropriate in another. Therefore, the cultural beliefs of teachers in Tanzania with regard to childrearing may differ from those found in other countries.

In the present study, cultural beliefs are selected that are supposed to be closely connected with childrearing and children's behavioral adjustment in Tanzanian pre-primary school. These constructs are obedience, cooperation, authoritativeness, and play. As pointed out by Weisz, Sigma, Weiss, and Mosk (1993), obedience is encouraged among African children. In the African context, and in Tanzania in particular, an obedient child is regarded as one with desirable behaviors, and parents put emphasis on bringing up obedient children (Nsamenang, 1992). Authoritativeness involves a high demanding and high responsive rearing style, and an adult exercises firm control over the child in combination with a close relationship so as to influence behavioral compliance (Baumrind, 1983). However, authoritativeness in the Tanzanian context seems somewhat closer to authoritarianism than in the Western literature because of the strong stress on obedience. Cooperation in childrearing has been identified as a core aspect in the Tanzanian context that should involve community members. As suggested by Rosenthal (1999), childrearing should involve both the family and the community at large. In our study, the focus is on cooperation between teachers and parents. Furthermore, play is considered to be an important aspect in this study. Rogers (2011) commented that play between the ages of 3 and 5 years lays the foundation for crucial life skills (like empathy, problem solving, tolerance, kindness, creativity, and innovation) and is a source of friendship and socialization. In the Tanzanian context, these life skills are important for children's behavioral adjustment in schools. However, studies on this in the Tanzanian context are lacking. We first highlight the Tanzanian context.

AN OVERVIEW OF THE HISTORY AND CURRENT CONTEXT OF PRE-PRIMARY EDUCATION IN TANZANIA

Tanzania is located in the eastern part of Africa. Its population, according to the National Bureau of Statistics (2012), is about 45 million. Until about a decade ago children in Tanzania entered

governmental Grade 1 without preschool preparation. In 1995, Tanzania established an educational system (pre-primary education) to prepare young children younger than the age of 7. According to the Education and Training Policy of the Ministry of Education and Culture (1995), every child ages 5–6 years in the country has to attend pre-primary school before entering primary school. In addition, all primary schools were required to have a pre-primary class on their premises. In 1995, pre-primary education became part of the formal education system: 2 years for pre-primary, 7 years for primary, 4 years for ordinary secondary, 2 years for advanced secondary, and 3 or more years for higher education (Mtahabwa & Rao, 2010; Tanzania Institute of Education, 2009). Pre-primary education was established to prepare children academically and socially in such a way that they can succeed in Grade 1. It is now a condition that every child attend pre-primary school for 2 years in order to be promoted to primary school.

In Tanzania, early childhood education is denoted by different terms. Terms such as *preschool education*, *early childhood education*, and *pre-primary education* are sometimes used interchangeably (Mtahabwa & Rao, 2010). Nevertheless, *pre-primary education* is the official term for early childhood education in Tanzania. The term has been adapted in this study to refer to the educational services rendered to young children to prepare them for primary school. Contrary to the Education and Training Policy, in many pre-primary schools children start at the age of 4 years (Mtahabwa & Rao, 2010). The government is responsible for the education of the teachers (Tanzania Institute of Education, 2009). However, both, government and private teacher training centers offer teachers' certificate courses in early childhood education.

Pre-primary teachers in public schools are recruited in two ways. First, primary school teachers who have long-standing experience and interest in teaching Grades 1 and 2 are appointed to teach pre-primary schools. These teachers attend short courses on early childhood education in governmental teachers colleges. Plan International, a nongovernmental organization, has also been organizing trainings on early childhood education for these teachers. These teachers are paid by the government. Second, untrained individuals are recruited from the community. These teachers have a background of ordinary secondary education, and they are not considered official employee teachers (civil servants). Their payment comes from money collected from monthly contributions from parents of pre-primary schoolchildren. In contrast to teachers in public pre-primary schools, teachers in private pre-primary schools have attended courses in early childhood, like Montessori (a 2-year course), and some are university graduates in early childhood education and psychology. These teachers are usually paid by the employer.

In Tanzania, many public primary schools have one teacher and one pre-primary classroom, so that both Year 1 and Year 2 children are mixed in one classroom. In contrast, in private schools, Year 1 and Year 2 children are placed in different classrooms and are taught separately. The number of children per class in our study ranged from 18 to 88, resulting in a minimum teacher/child ratio of 1:18 and a maximum of 1:88. This teacher/child ratio is consistent with a study by Mtahabwa and Rao (2010) in public pre-primary schools, which found that teacher/child ratios ranged from 1:48 to 1:50 in urban regions and from 1:82 to 1:98 in rural regions. In about 85% of the schools in our sample, the children faced the teacher at all times while seated. With regard to play, all (100%) pre-primary schools have outdoor play. The commonly observed playing materials were sandpits (100%), which were present in all schools because the materials are locally obtained. Others were swinging (25%), tower climbing (30%), sliding (10%), and balancing (25%). There is no special examination for children to be promoted to primary school. However, a child who has knowledge of literacy is promoted to Grade 1 in primary school.

THE PRESENT STUDY

The present study uses a multilevel approach to investigate the relationships among teacher–child relationship, classroom emotional support, teachers’ cultural beliefs, and children’s behavioral adjustment. The main research question is as follows: How are the teacher–child relationship, teachers’ cultural beliefs, and classroom emotional support related to children’s behavioral adjustment? Different aspects of these overarching constructs are investigated, and this study also aims to investigate the relationship among these aspects. In addition, interactions between variables at the individual level and classroom level are expected. Positive and strong relationships are expected between closeness in the teacher–child relationship and children’s prosocial behavior and between conflict in the teacher–child relationship and children’s anxiety and aggression (see Figure 1, relationship a). These expectations are in line with findings from Western countries (Baker, 2006; Birch & Ladd, 1997; Cadima et al., 2010; Ladd, Birch, & Buhs, 1999; Murray & Greenberg, 2000). According to these studies, a positive teacher–child relationship contributes to a child’s positive school adjustment in the early years. Emotional support, including a high level of teacher sensitivity, a positive climate, and regard for pupils’ perspectives, is assumed to correlate positively with prosocial behavior, whereas a high negative climate is assumed to correlate positively with anxiety and aggression (Figure 1, relationship d). Teacher/child ratio and type of school (public vs. private) are expected to moderate the relationship between teacher–child relationship and children’s behavioral adjustment (Figure 1, relationship b). In summary, the main aim of this article is to examine the relationship between multiple levels (individual and classroom) and children’s behavioral adjustment. Figure 1 represents the nature of the expected relationships between variables.

We expect the following:

1. The relationship between the teacher–child relationship and children’s behavioral adjustment is moderated by teacher/child ratio and by type of school (i.e., whether the school is public or private; see Figure 1, relationships a and b).
2. Teachers’ cultural beliefs are related to children’s behavioral adjustment (Figure 1, relationship c).

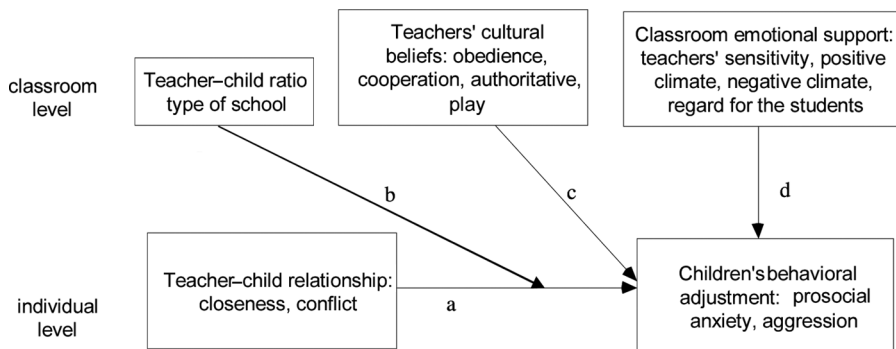


FIGURE 1 Expected relationships between variables at the individual and classroom levels (see the text for more details).

3. Classroom emotional support is related to children's behavioral adjustment (Figure 1, relationship d).

METHOD

Participants

The study was done in Ilala municipality, Dar es Salaam region, Tanzania. Dar es Salaam has three municipalities (Ilala, Kinondoni, and Temeke). Ilala was randomly selected; all municipalities had an equal chance of being included in the study. Block sampling was established as well as including both public and private schools. Random sampling was done separately for public schools and private schools so as to have an equal number of public and private schools. A sample of 20 pre-primary schools—10 public and 10 private—was selected from Ilala municipality. One teacher and 16 children from each school participated in the study. Sixteen children were selected from each school; 8 girls and 8 boys were selected randomly from Year 1 pupils. The study therefore involved a sample of 20 teachers and 320 children.

In Tanzania, each public primary school has only one pre-primary class; therefore, there was no selection of classes within schools. Private primary schools have two pre-primary classes: Year 1 and Year 2. Year 1 participated in the study. Because there was only one pre-primary class in public schools and we chose to involve Year 1 in private schools, we opted for a two-level multilevel analysis: child (individual) and class (which in this case was equal to school).

The majority of the teachers were female (95%). Teachers' ages ranged from 20 to 60 years ($M = 32.90$, $SD = 8.78$). The gender distribution among the children was even: 50% male and 50% female. The ages of the children ranged from 4 to 6 years ($M = 4.75$, $SD = 0.63$). With regard to the teachers' educational level, the majority (70%) had had a secondary education, 15% had only a primary education, and 15% had a university education.

In Tanzania, public pre-primary classes have one teacher (who is a coordinator) and one assistant, whereas in some private schools there is a coordinator and more than one assistant teacher. A coordinator coordinates all activities related to the pre-primary unit. In this study, the coordinator teacher was involved as a main reporter of children's behavioral adjustment and of his or her relationship with children because of his or her special roles with regard to the children. In addition, the coordinator was more familiar with the children's behavior. To reduce bias from using a single-teacher report, we used an assistant teacher from the same school/classroom as an independent reporter. This reporter was selected on the basis of the criterion that he or she was working in the school from the time the children started school. This reporter was also familiar with the children's behavior.

Procedure

Permission to conduct research was granted by the Regional Administrative Secretary, and the teachers willingly agreed to participate in the study via verbal consent. The study instruments—the Student-Teacher Relationship Scale (STRS) and Prosocial scale of the Preschool Behaviour

Questionnaire (PPBQ)—were cross-culturally adapted, and the Classroom Assessment Scoring System (CLASS) was adopted.

Cross-Cultural Adaptation of the STRS and PPBQ Measures

This study aimed to collect data on teacher–child relationships and children’s behavioral adjustment, which have not been previously studied in Tanzania. Consequently, there were no instruments available to fit a Tanzanian cultural context. Because of the lack of instruments suitable for the Tanzanian context, available measures were adapted. Several procedures were carried out to make sure these instruments fit the Tanzania cultural context. Questionnaires (STRS and PPBQ) were translated from English into Swahili. The translator was fluent in Swahili and had an excellent understanding of English language. Thereafter, two university colleagues from the department of psychology, both fluent in English and Swahili, translated the items back into English to check whether items were correctly translated and were culturally relevant in a Tanzanian context. Afterward, the researcher and university colleagues discussed the instruments. It was suggested that “dependency,” a construct of teacher–child relationships, be removed because it did not suit the Tanzanian culture. In Tanzanian pre-primary school, children are seated in the classroom and it is unusual for a child to cling to the teacher. Some items were rephrased and adapted in the study. For example, “When the child is tempered I know it will be a long, difficult day” was rephrased as “When the child is angry s/he cannot attend the classroom the whole day.”

Both questionnaires were introduced in a pilot study to test their reliability and validity. They were tried out in 10 pre-primary schools, 5 of which were publicly owned and 5 of which were privately owned, with one participant from each school. One teacher from each school completed six questionnaires for six children on teacher–child relationships and children’s behavioral adjustment. Therefore, 60 children were involved in the pilot study. During the pilot phase, the participants were asked to comment on words and sentences that were difficult to understand. All 10 respondents filled out and returned all of the questionnaires. Afterward, a discussion panel was held between the first author and the teachers who filled out the questionnaires. The respondents reported that the items were easy to understand.

Most of the respondents in the main study were native Swahili speakers. The questionnaires therefore were prepared in both languages (Swahili and English), and the participants were free to choose either of these versions. Thereafter, teachers were given sufficient copies of the questionnaires corresponding to the number of children they were reporting on.

Instruments

Children’s demographic characteristics. A multiple-choice questionnaire was used to establish children’s demographic characteristics, such as gender, age, language used in school and at home, and socioeconomic status (SES). We administered the child questionnaire in every selected school. Completion of this questionnaire involved us asking questions of each child orally and writing down the responses given by the child. We filled out the child questionnaire because the children were too young to do it themselves.

Besides asking simple and straightforward questions we used one or a combination of the following strategies to receive the information needed (i.e., on SES) when administering the child questionnaire. First strategy: We asked a child questions about different features that characterized a particular item. For example, "Do you have a toilet or pit latrine in your home?" We asked whether it was inside or outside the house and whether a tap water and a sink were present. Questions about different features also included who used the particular item or how. Second strategy: We asked follow-up questions to check whether the child's responses (answers) in the follow-up talk matched or supported his or her initial responses. For more clarification, another follow-up question was "Do you share the toilet/latrine with neighbors?" So, follow-up questions were used to elicit a response from the child that could help to ascertain the child's initial response ("yes" or "no") when the initial question was asked. Third strategy: In some cases when talking to the child, we summarized or paraphrased information that the child had given in order to check whether the child could report the same thing by agreeing or disagreeing. Fourth strategy: We asked a child back and forward, that is, we asked the child the same question at different moments during the conversation.

Teacher questionnaires. The teacher questionnaire contained four sections: demographic characteristics, teachers' cultural beliefs, teacher-child relationship, and children's behavioral adjustment. Teachers' demographic characteristics comprised items such as gender, age, educational background, training, and teaching experience.

Teachers' cultural beliefs was a new measure developed for this study because there was no measure available with a focus on childrearing constructs that fit the Tanzanian cultural context. The following procedures were carried out to develop the measure. First a literature review was executed in relation to cultural beliefs and childrearing. From the literature, we designed a semi-structured interview. Afterward, we conducted a 2-hr interview among 10 pre-primary schools teachers in Ilala, Dar es Salaam region. For example, teachers were interviewed about what they viewed as important aspects in helping children to adjust properly upon starting pre-primary school. Their responses were written down. Based on the responses of the teachers, 40 items were created. The items were sorted and grouped by the first author and reduced to 16 items. Agreement was reached among the author and participants who participated in the initial stage of instrument development. The items formed a questionnaire, which was piloted to 10 teachers, 5 from public and 5 from private schools. Teachers were asked to report difficult items. All questionnaires were returned and were discussed between a researcher and the teacher who filled out the questionnaire.

The 16 items were subjected to principal component analysis using IBM SPSS 20. Four components with eigenvalues exceeding 1, explaining 19.55%, 18.05%, 12.84%, and 9.65% of the variance, were revealed. The four components explained a total of 60.11% of the variance. Varimax rotation was performed with all items loading on one of the four factors. Component 1, cooperation, contained four items ($\alpha = .75$); Component 2, obedience, contained five items ($\alpha = .78$); Component 3, authoritative, contained three items ($\alpha = .72$); and Component 4, play, consisted of four items ($\alpha = .65$).

Beliefs about cooperation included items about childrearing as a shared responsibility; for example, "If the child misbehaves, I have to tell his/her parents." Beliefs about obedience contained items about how a child should behave and should be treated when he or she misbehaves; for example, "A child should listen and not interrupt while in the classroom." Beliefs about

authoritativeness comprised items about the responsibility of the teacher to the child. Examples of items are “Children should respect teachers’ instructions” and “Children need to sit quietly on the chair to listen from the teacher.” Beliefs about play were measured using items about the attitude of teachers toward play in pre-primary schools. Examples of items are “Pre-primary school children should have more play objects than books” and “Children should have more playing hours at school.” Teachers were asked to put a tick next to the response that best represented their opinion of the item on a 5-point Likert scale that ranged from *strongly agree* to *strongly disagree*.

The STRS is a measure designed to assess teachers’ perceptions of their relationships with individual children (Pianta, 1994). The measure comprises three constructs: closeness, conflict, and dependency (Pianta, 2001). Coefficient alpha was .83 for closeness (3 items), .93 for conflict (12 items), and .53 for dependency (2 items; Pianta, 1994). In this study we adapted two subscales: closeness and conflict. The closeness subscale asked for information about a harmonious relationship between a teacher and a child. Examples of items are “The child talks to me freely about his/her feelings and experiences” and “Working with this child gives me self-confidence.” The conflict subscale assessed information on the extent to which the teacher–child relationship was characterized by disharmonious interactions and misunderstandings (Spilt, 2010). Examples of items are “The child and I seem to be in conflict all the time” and “Working with this child costs me a lot of energy.” All items were rated on a 5-point Likert scale ranging from *always* to *never*.

Behavioral adjustment comprised items that sought information on a child’s behavioral adjustment in the school context. The items were adapted from the Prosocial scale of the PPBQ (Behar & Stringfield, 1974; Tremblay, Vitaro, Gagnon, Piché, & Royer, 1992) to fit the Tanzanian cultural context. The adapted questionnaire comprised three constructs: prosocial behavior, aggression, and anxiety. Prosocial behaviors included items about a child’s behavior that are socially acceptable or that could help him or her live with minimum problems in the school environment. Examples of items are “The child likes sharing” and “The child is always happy.” Aggression included items that seem to limit the children from adjusting properly in the school context. Examples of items are “The child fights with other children” and “The child hits and kicks other children.” Anxiety refers to behavior that is assumed to impede children’s adjustment in the school context. Examples of items are “The child is always unhappy” and “The child lives in isolation.” A 3-point Likert scale that included the options of “always applies,” “sometimes applies,” and “does not apply” was used to rate a child. For numbers of items, reliability, means, and standard deviations, see Table 1, and for Pearson correlations between the subscales, see Table 2.

Observation schedule. Classroom observations were carried out to measure classroom background characteristics and emotional support during the interaction between teachers and children in the classroom. The observation schedule used to measure emotional support in this study was the CLASS Pre-K (Pianta et al., 2008).

Emotional support during teacher–child interactions in the classroom consisted of four dimensions: positive climate, negative climate, teacher sensitivity, and regard for children’s perspectives. Rating scales for all dimensions ranged from 1 to 7: 1 and 2 indicated low emotional support; 3, 4, and 5 indicated medium emotional support; and 6 and 7 indicated a high degree of emotional support. Behavioral indicators outlined in the CLASS Pre-K manual (Pianta et al.,

TABLE 1
Numbers of Items, Cronbach's Alphas, Means, and Standard Deviations for Measures

<i>Measure</i>	<i>No. of items</i>	α	<i>M</i>	<i>SD</i>
Teachers' cultural beliefs				
1. Cooperation	4	.85	4.23	.79
2. Obedience	5	.66	2.85	.84
3. Authoritative	3	.51	3.97	.79
4. Play	4	.72	1.76	.73
Teacher-child relationship				
1. Closeness	6	.74	3.88	.74
2. Conflict	5	.63	1.85	.65
Children's behavioral adjustment				
1. Prosocial behavior	11	.80	1.44	.36
2. Anxiety	5	.67	0.67	.42
3. Aggression	9	.72	0.61	.38

2008) were adopted in this study. Behavioral indicators for positive climate were teachers smiling, shared laughter, eye contact, and warm voice. Negative climate included negative affects like punitive control and severe negativity of teachers toward their pupils. Behavioral indicators for negative climate were unfriendly behaviors, like teachers' anger and beating the child. Teacher sensitivity contained indicators such as teacher awareness, responsiveness to children, and the extent to which teachers provide comfort and encouragement. Regard for pupils' perspectives also captured information regarding the degree to which teachers' interactions with children and classroom activities placed emphasis on children's responsibilities and interests.

After her CLASS training, the researcher (the first author) passed a reliability test within 1 point of master coders on 81.3% of all codes. This reliability was obtained after scoring four videos. Because there are no CLASS trainers in Tanzania, and the CLASS is a relatively new measure, the aforementioned researcher, being a qualified user of the CLASS, trained a research assistant with the goal of checking interobserver reliability. She explained to her the use of the CLASS theoretically guided by the CLASS Pre-K manual and thereafter observed two classes and scored the classroom quality two times; afterward they held a discussion. Thereafter, they reached consensus and the research assistant was involved in classroom observation. Both the main researcher and research assistant observed 20% of all classrooms for interobserver reliability. The observation involved four sessions in each classroom, with a total of 2 hr per session. The first author conducted observations in all 20 classrooms.

The interobserver intraclass correlation coefficients (ICCs) for teacher sensitivity, positive climate, negative climate, and respect for students' perspectives were .91, .89, .91, and .87, respectively. These results are consistent with other studies that have used the CLASS and reported their interobserver reliability using ICCs. In one study, researchers reported intraclass coefficients of .88, .92, .96, and .91 for teacher sensitivity, positive climate, negative climate, and regards for students' perspectives, respectively (Pakarinen et al., 2010). According to Cicchetti et al. (2006), intraclass correlations from .40 to .59 indicate fair agreement, from .60 to .74 indicate good agreement, and from .75 to 1.00 indicate excellent agreement. Interobserver agreement in this study therefore was excellent.

TABLE 2
Bivariate Correlations Between Subscales

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Cooperation (TCB)	—	.17**	-.28**	-.13*	NS	-.23*	NS	NS	NS	.13*	.16**	NS	.22**
2. Obedience (TCB)		—	.54**	NS	NS	-.20**	NS	NS	NS	NS	NS	-.17**	-.20**
3. Authoritative (TCB)			—	NS	NS	NS	NS	NS	NS	-.21**	-.15*	.19**	-.25**
4. Play (TCB)				—	-.13*	-.22**	NS	-.17**	-.15**	NS	.20**	NS	-.33**
5. Closeness (TCR)					—	-.39**	.38**	-.41**	-.32**	-.25**	-.13**	NS	.28**
6. Conflict (TCR)						—	-.55**	.38**	.61**	NS	-.12*	NS	NS
7. Prosocial (CBA)							—	-.37**	-.56**	-.17**	NS	NS	.16**
8. Anxiety (CBA)								—	.23**	.11*	NS	NS	NS
9. Aggression (CBA)									—	NS	-.56**	.16**	-.12*
10. Positive climate (CES)										—	.87**	-.82**	NS
11. Teacher sensitivity (CES)											—	-.78**	.17**
12. Negative climate (CES)												—	-.32**
13. Respect for students (CES)													—

Note. TCB = teachers' cultural beliefs measure; TCR = teacher-child relationship measure; CBA = children's behavioral adjustment; CES = classroom emotional support; NS = nonsignificant.
* $p < .05$. ** $p < .01$.

Plan of Analysis

The variables used in this study were measured on two levels: the individual and the classroom levels. Children were nested within classes. Children's behavioral adjustment was predicted as a function of child- and classroom-level characteristics and their cross-level interactions. Data were analyzed by multilevel regression analysis using IBM SPSS 20, which is recommended for analyzing data from different levels using a single data file (Heck, Thomas, & Tabata, 2010; Hox, 2002, 2010).

Predictor variables from Level 1, such as closeness, conflict, gender, and SES, were aggregated to the classroom level. These variables were also centered around the grand mean to combat multicollinearity (Hox, 2002).

The multilevel regression analysis was carried out stepwise. In the first step, a model without explanatory variables, the null model, was tested to obtain the mean achievement scores for all schools using ICCs and intercepts (Heck et al., 2010). In Tables 3, 4, and 5 the null model is indicated as Model 1. The null model stage is important in multilevel analysis because it allows

TABLE 3
Multilevel Analysis: Dependent Variable Is Prosocial Behavior

Predictor	Model			
	Model 1 coefficient (SE)	Model 2 coefficient (SE)	Model 3 coefficient (SE)	Cross-level interaction coefficient (SE)
Fixed part				
ICC	0.31			
Wald Z	2.66**			
Reliability within groups	0.87			
Intercept-1	1.44**	1.43**	1.77** (0.18)	1.75** (0.18)
Closeness		0.16** (0.03)	0.15** (0.03)	0.14** (0.04)
School owner-1			-0.20* (0.07)	-0.20* (0.07)
Teacher sensitivity-1			0.14* (0.06)	0.14* (0.06)
Positive climate-1			-0.19* (0.06)	-0.19* (0.07)
Intercept-2	1.44**	1.44** (0.03)	1.44** (0.03)	
Conflict		-0.30** (0.03)	-0.30** (0.03)	
Random part				
Within group-1	.09	.08	.08	
Between group-1	.04	.03	.03	
Within group-2	.09	.07	.07	
Between group-2	.02	.02	.02	
R^2				
R^2 (within classes)-1		11%		
R^2 (between classes)-1		25%		
R^2 (within classes)-2		22%		
R^2 (between classes)-2		50%		

Note. ICC = intraclass correlation coefficient; Intercept-1 = when closeness was introduced in the model; Intercept-2 = when conflict was introduced in the model; -1 = relationships related to closeness; -2 = relationships related to conflict.

* $p < .05$. ** $p < .01$.

TABLE 4
Multilevel Analysis: Dependent Variable Is Anxiety

Predictor	Model			
	Model 1 coefficient (SE)	Model 2 coefficient (SE)	Model 3 coefficient (SE)	Cross-level interaction coefficient (SE)
Fixed part				
ICC	0.33			
Wald Z	2.75**			
Reliability within groups	0.88			
Intercept-1	0.67** (0.05)	0.68	0.41* (0.18)	0.38* (0.16)
Closeness		-0.24** (0.03)	-0.25** (0.03)	-0.34** (0.09)
Gender-child-1			0.08* (0.04)	-0.09** (0.03)
Teacher/child ratio-1			5.40* (1.81)	6.19** (1.59)
Play-1			-0.13* (0.05)	-0.12* (0.05)
School owner-1			0.29** (0.07)	0.29** (0.07)
Closeness × School Owner-1				0.22** (0.06)
Closeness × Gender-1				0.11* (0.05)
Intercept-2	0.67** (0.05)	0.67** (0.05)	-4.37** (1.02)	-4.15** (0.86)
Conflict		0.14** (0.04)	0.11** (0.04)	0.71** (0.17)
Teacher/child ratio-2			6.13** (1.71)	5.73** (1.6)
School owner-2			0.14** (0.06)	0.12* (0.05)
Teacher/child ratio-2			6.67** (1.25)	5.77** (1.08)
Mean-SES-mean-2			2.45** (0.61)	2.37** (0.51)
Mean-conflict-mean-2			0.34** (0.07)	0.35** (0.06)
Conflict × Teacher/Child Ratio-2				-2.99* (1.40)
Conflict × Mean-Conflict-Mean-2				-0.20** (0.06)
Random part				
Within group-1	.12	.10	.10	.09
Between group-1	.06	.04	.02	.01
Within group-2	.12	.10	.11	.11
Between group-2	.06	.04	.01	.00
R^2				
R^2 (within classes)-1		17%		
R^2 (between classes)-1		33%		
R^2 (within classes)-2		17%		
R^2 (between classes)-2		33%		

Note. Asterisks indicate an interaction effect between variables. ICC = intraclass correlation coefficient; Intercept-1 = when closeness was introduced in the model; Intercept-2 = when conflict was introduced in the model; -1 = relationships related to closeness; -2 = relationships related to conflict; SES = socioeconomic status; x = interaction effect.

* $p < .05$. ** $p < .01$.

the researcher decide whether it is useful to carry out a multilevel analysis or not using a cutoff point of 0.05 of the ICC (Heck et al., 2010).

In the second step (Model 2), each dependent variable (the expected outcome) from the child level was entered separately with each explanatory variable (closeness or conflict) from Level 1. Closeness and conflict were entered separately because they were assumed to have a unique relationship to each dependent variable. Model 2 was used to address the first hypothesis

TABLE 5
Multilevel Analysis: Dependent Variable Is Aggression

Predictor	Model			
	Model 1 coefficient (SE)	Model 2 coefficient (SE)	Model 3 coefficient (SE)	Cross-level interaction coefficient (SE)
Fixed part				
ICC	0.29			
Wald Z	2.68**			
Reliability within groups	0.87			
Intercept-1	0.60** (0.04)	0.61** (0.04)	0.98** (0.16)	0.98** (0.16)
Closeness		0.14** (0.03)	0.13** (0.03)	0.12** (0.04)
Gender-child-1			-0.07* (0.03)	-0.07* (0.03)
Teacher sensitivity-1			-0.24* (0.07)	-0.24* (0.07)
Positive climate-1			0.16* (0.06)	0.16* (0.05)
Intercept-2	0.60** (0.04)	0.61** (0.03)	0.61** (0.18)	0.59** (0.18)
Conflict		0.35** (0.03)	0.35** (0.03)	0.54** (0.14)
Teacher sensitivity-2			-0.06** (0.02)	-0.06** (0.03)
Random part				
Within group-1	.10	.09	.09	.09
Between group-1	.04	.03	.02	.02
Within group-2	.10	.07	.07	.07
Between group-2	.04	.02	.01	.02
<i>R</i> ²				
<i>R</i> ² (within classes)-1		10%		
<i>R</i> ² (between classes)-1		25%		
<i>R</i> ² (within classes)-2		30%		
<i>R</i> ² (between classes)-2		50%		

Note. Asterisks indicate an interaction effect between variables. ICC = intraclass correlation coefficient; Intercept-1 = when closeness was introduced in the model; Intercept-2 = when conflict was introduced in the model; -1 relationships = related to closeness; -2 relationships = related to conflict.

* $p < .05$. ** $p < .01$.

(i.e., the relationship between the teacher-child relationship and children's behavioral adjustment; see Figure 1, relationship a). Both closeness and conflict were related to all outcome variables and warranted continuation with Model 3. In Model 3 all predictor variables from Level 2 and Level 1 were entered simultaneously. Closeness or conflict was retained as a control variable. Only variables that were significant to prosocial behavior, anxiety, and/or aggression in Model 3 were introduced in the cross-level interaction where independent variables from Level 2 and covariates were nested. Characteristics from the classroom level (teacher/child ratio and type of school) that showed an interaction effect with a covariate variable from Level 1 were regarded as moderator variables. That is to say, only the interaction of variables from different levels was treated as moderator variables, but not the interaction of variables from the same level (Hox, 2002). For example, in the interaction between closeness and gender, gender could not function as a moderator variable because it was measured at the same level as closeness. Parameters of two-level multilevel regression models for children's behavioral adjustment are presented in Tables 3-5 based on the outcome variable (prosocial behavior, anxiety, and aggression, respectively).

RESULTS

Results of the hierarchical multilevel regression model for children's behavioral adjustment variables are summarized and presented in Tables 3, 4, and 5. The preliminary analysis (Model 1) warranted conducting a multilevel analysis because of a sufficient ICC and significant Wald Z (Heck et al., 2010).

Teacher–Child Relationship and Children's Behavioral Adjustment (See Figure 1, Relationship a)

In Model 2, the relationship between teacher–child relationship and children's behavioral adjustment was explored. Two variables related to teacher–child relationship (closeness and conflict) were introduced separately to each dependent variable in the model, and both were significantly related to all types of children's behavioral adjustment (see Tables 3, 4, and 5).

It was found that a higher quality of teacher–child closeness was significantly related to prosocial behavioral adjustment (Table 3), and a lower quality of teacher–child closeness was significantly related to anxiety (Table 4). It was also found that a conflictual relationship was significantly related to anxiety and aggression (Table 4 and Table 5), and low conflict was significantly related to prosocial behavior (Table 3). Other variables on the child level, such as gender and SES, were introduced in Model 3. The gender of the child was significantly related to children's anxiety and aggression when closeness was controlled (Table 4 and Table 5). A significant interaction was detected between teacher–child closeness and gender of the child (Table 4). The results showed that the relationship between anxiety and teacher–child closeness was stronger in girls than in boys (Table 4). SES was not related to children's behavioral adjustment, so the variable is not reported in the tables.

Characteristics of the classroom (Level 2), such as teacher/child ratio, type of school, education level of the teacher, and teaching experience, were introduced in Model 3. Teacher/child ratio was related to anxiety when both closeness and conflict were controlled (Table 4). School ownership (public or private) was related to prosocial behavior and anxiety when closeness was controlled (Table 3 and Table 4). Furthermore, the interaction effect between teacher–child closeness and school ownership was related to anxiety (Table 4). The results showed that in private schools, relationships between teacher–child closeness and anxiety were much stronger than in public schools. Another interaction effect between teacher–child conflict and teacher/child ratio was related to children's anxiety (Table 4). Anxiety was found to be higher in classes with many children compared to classes with few children. In this respect, therefore, school ownership and number of children were regarded as moderator variables (refer to Figure 1, relationship b). Other variables were not significant and are not included in the table.

Variables measured at the individual level (closeness, conflict, and SES) were aggregated at the classroom level as predictor variables. Only the aggregated conflict variable was related to anxiety (Table 4), indicating that in classes with higher aggregated mean conflict the relationship between teacher–child conflict and child anxiety was much stronger compared to classes with lower aggregated mean conflict.

Teachers' Cultural Beliefs and Children's Behavioral Adjustment (See Figure 1, Relationship C)

To explore the effect of teachers' cultural beliefs on children's behavioral adjustment, we introduced four teachers' cultural belief variables (obedience, authoritative, cooperation, and play) in Model 3 as predictor variables. Only play was negatively related to children's anxiety when closeness was controlled (see Table 4). Other variables were not significant and are not reported in the table. In addition, no mediations were found in the research findings.

Classroom Emotional Support and Children's Behavioral Adjustment (See Figure 1, Relationship D)

Four variables from Level 2 (teacher sensitivity, positive climate, negative climate, and regard for children's autonomy) were entered as predictors of children's behavioral adjustment while closeness and conflict were controlled separately. Teacher sensitivity and positive climate were related to children's behavioral adjustment. It was found that a higher quality of teacher sensitivity was related to prosocial behavioral adjustment and a low quality of teacher sensitivity was related to children's aggression when both closeness and conflict were controlled, respectively (Table 3 and Table 5). It was also found that a less positive climate was positively related to prosocial behavior, and a more positive climate was positively related to aggression when closeness was controlled (Table 3 and Table 5).

An independent reporter (assistant teacher) was established to report on teacher-child relationships and children's behavioral adjustment. The same analyses were carried out for both reporters (the main reporter and the independent reporter) to prevent bias from using a single reporter. The analyses of both reporters had in general roughly the same relationship.

DISCUSSION

This study examined the relationships among teacher-child relationships, teachers' cultural beliefs, classroom emotional support, and children's behavioral adjustment in preschool using a multilevel approach. Multilevel studies on children's behavioral adjustment in preschool are rare, as are studies on children's behavioral adjustment in Africa, particularly in Tanzania.

The following hypotheses were tested: (a) whether a high quality of teacher-child closeness is related to children's prosocial behavior as opposed to children's anxiety and aggression, and (b) whether conflict between a teacher and a child is related to children's anxiety and aggression as opposed to prosocial behavior (see Figure 1, relationship a). The results supported the hypotheses. A dyadic relationship characterized by closeness between a teacher and a child was related to children's prosocial adjustment. In contrast, a teacher-child relationship characterized by conflict and misunderstanding was related to the child's anxiety and aggression. If the relationship between a teacher and a child is characterized by conflict and misunderstanding, some children may opt for self-withdrawal and become reticent, which is associated with anxiety. In contrast, other children may prefer to display overtly their aggressive tendencies, hence adjusting aggressively. These findings are consistent with Western studies that linked the teacher-child relationship and children's behavioral adjustment in preschools (Baker, 2006; Birch & Ladd, 1997, 1998; Buyse,

Verschueren, Doumen, Damme, & Maes, 2008; Kesner, 2000; Silver, Measelle, Armstrong, & Essex, 2010; Stuhlman & Pianta, 2001). These studies suggest that a positive teacher–child relationship is positively related to prosocial behavioral adjustment and associated with low levels of aggression and anxiety among schoolchildren in the early years. A careful adaptation of the teacher–child relationship and children’s behavioral adjustment measures that fit the Tanzanian context linguistically and culturally in such a way that teachers were able to interpret the items may have contributed to the consistency of findings with those of studies in Western countries. An alternative explanation for our findings could have to do with ongoing globalization: Early education in Tanzania is influenced by Western ideas, and the teachers are trained using a curriculum that was developed in Western countries. For example, Montessori colleges and Plan International offer training to pre-primary school teachers that reflects a Western curriculum.

The results revealed that teacher–child conflict was more strongly related to aggression ($r = .35$) compared to anxiety ($r = .11$; see Tables 4 and 5). It might be possible that a child’s aggression triggers conflict with the teacher, whereas anxiety goes less observed and triggers less conflict. In addition, a quiet child in the Tanzanian context is not associated with anxiety. Because in Tanzania children are required to remain quiet while in the classroom, even a reticent child might be conceived as quiet. This can result in underreporting of children with anxiety. Furthermore, because of the high teacher/child ratio in Tanzanian pre-primary classes, it might be more difficult to identify children with anxiety because they tend to hide compared to aggressive children (O’Connor et al., 2010). Nevertheless, both anxiety and aggression continue to be a problem, because if a child experiences a conflictual relationship with the teacher, he or she will consequently face difficulties in adjusting to the school environment. In Tanzania, this can lead to the child dropping out of school and/or the child hating school.

The gender of the child was significantly related to anxiety. It was found that the relationship between teacher–child closeness and anxiety was much stronger in girls than in boys, suggesting that girls adjust more through anxiety compared to males (see Table 4). These results are consistent with Western studies showing girls to be more inhibited than boys (Spilt, 2010). Despite the results being consistent with Western studies, the interpretation of anxiety was based on a Tanzanian cultural context, which is different from the Western interpretation. Referring to the Tanzanian context, this might be attributed to a more strict childrearing style in school for girls than for boys. Because of a more strict childrearing one would expect girls to experience anxiety more often than boys.

We tested whether school ownership and teacher/child ratio moderated the relationship between teacher–child relationship and children’s behavioral adjustment (see Figure 1, relationship b). The results partly supported the hypothesis. We found that the relationship between anxiety and teacher–child closeness was much stronger in private than in public schools. The findings suggest that teacher–child closeness plays a more significant role in Tanzanian private schools than in public schools. On the one hand, this is likely to be the case because classes in private schools have fewer children than those in public schools. With relatively few children, teacher–child closeness becomes possible and more meaningful, and when such closeness is lacking, behavioral problems such as anxiety are likely to occur. On the other hand, in classes with many children the problem might be significant, but it may not be reported by teachers because they do not see the importance of closeness. In addition, it is more difficult to identify children with anxiety in a congested classroom than in classes with few children because children with anxiety tend to hide.

We tested whether teachers' cultural beliefs were related to children's behavioral adjustment (Figure 1, relationship c). Only beliefs about play related significantly to anxiety (Table 4). There is a possibility that teacher bias in reporting beliefs regarding childrearing resulted in either underreporting or misreporting information, hence the nonsignificant results. In addition, in Tanzania, urbanization has resulted in lifestyle changes that might have affected the way people perceive obedience, parental authoritativeness, and cooperation, again leading to nonsignificant results. In the case of authoritativeness, teachers seem to practice both an authoritative and authoritarian rearing style, which might also have attributed to nonsignificant results: A strong significant correlation between authoritativeness and obedience ($r = .54$) confirms this. The significant result for play reflects a cultural aspect. The findings can be supported by information mentioned in the introduction that indicates that teachers do not encourage children's play in the classroom. They consider play a free-time activity that might be encouraged during certain periods outside the classroom. Pre-primary school teachers are aware of the importance of the developmental goals of play, such as socialization, tolerance, making friendships, and cooperation and kindness. However, these teachers do not believe that these characteristics should be stimulated in classrooms. This belief therefore is likely to increase children's reticence, worry, and fear while in the classroom, which might impair children's behavioral adjustment. However, play in a classroom with more than 30 children would be difficult for teachers to manage. Despite limited studies on the relationship between play and anxiety, these findings reflect the general attitudes and beliefs of most Tanzanian pre-primary school teachers regarding play, which may have an impact on children's anxiety. These findings are consistent with those of other studies in Tanzania, such as that of Mtahabwa (2007) and Mende (1999), which report teachers' negative attitude toward play.

We tested whether classroom emotional support variables were related to children's behavioral adjustment at the classroom level (Figure 1, relationship d). The aim was to explore the effect of the interaction of teachers and children in the classroom as a group through classroom observation as opposed to the dyadic teacher-child relationship through teachers' reports. Two variables (teacher sensitivity and positive climate) were significantly related to prosocial behavior, and a low quality of teacher sensitivity was positively related to aggression. These findings support the hypothesis that high teacher sensitivity at the classroom level is an important factor in children's prosocial adjustment in the early years, even when relationship quality is controlled at the individual level. It is therefore important to note that a sensitive teacher is helpful in regulating children's behaviors and can help children to adapt positively to the school environment. These findings are consistent with those of Pianta and Stuhlman (2004). It was also found that a low quality of teacher sensitivity was associated with children's aggression when closeness and conflict were controlled. These findings indicate that in addition to teacher-child conflict in explaining children's aggression, teacher insensitivity is a potential factor at the classroom level.

We also found that a positive climate was positively significantly related to aggression and negatively significantly related to a prosocial mode of adjustment. These findings did not support our hypothesis. These unexpected results might be attributed to the instrument used in data collection; more specifically, the positive climate measure might not suit the Tanzanian cultural context. For example, in Tanzanian classes in which the teacher/child ratio is high, it might be difficult for a teacher to give attention to each child as required by the CLASS measure. In addition, the unexpected results could mean that a less positive climate is interpreted as a context

with strict rules that leads to more prosocial behavior. Furthermore, in a Tanzanian context, every child is required to be quiet and attentive to the teacher while in the classroom, whereas in the Western culture, the teacher should attend to every child. However, more research is needed to determine whether and how the CLASS needs to be adapted to the Tanzanian cultural context. Maybe domains like positive climate need to be operationalized in a more culturally sensitive way.

Most of the results of the main effect were replicated when we used the behavioral ratings of the independent reporter. The results of both analyses pointed in the same direction. The results of an independent reporter confirmed the results of the main reporter. This confirmation reduces the degree of bias of single teacher reporting on both the teacher–child relationship and children’s behavioral adjustment. The implication is that the relationship discussed in this study does not depend upon using teacher–child relationship ratings and children’s behavioral adjustment ratings from the same person. Western studies used information reported by a single teacher, which was reported as a methodological limitation (Buyse et al., 2008, 2011). Generally speaking, the findings confirm the important role played by individual characteristics and the context (i.e., school in this study) that surrounds the child in shaping the child’s behavior (Bronfenbrenner & Morris, 1998).

Strengths, Limitations, and Future Direction

This is the first study to address children’s behavioral adjustment among pre-primary schoolchildren in the African context, and in Tanzania in particular. In addition, the study has two methodological advantages. First, we used a multilevel analysis (individual and classroom level), which was able to produce a more credible analysis than a single-level analysis, which has been used in most Western studies. Second, we were able to get the participation of two teachers (a main reporter and an independent reporter) to rate their relationships with the children and children’s behavioral adjustment. This approach reduced methodological limitations that have been consistently reported in previous studies. This study therefore has an added methodological improvement with regard to the literature on teacher–child relationships and children’s behavioral adjustment.

This study has also several limitations. First, we did not observe the whole model in the microsystem, the fact that home and school are nested in the community and are both important in shaping the child’s behavior. Second, we did not include children’s characteristics, like temperament, which have been shown to be important for behavioral adjustment in Western countries (Mobley & Pullis, 1991); further research in this area should consider this. Third, the internal consistency of authoritativeness/authoritarian (.51) was poor to marginal, presumably because of the low number of items (three). This may have affected the relationship that was expected between teachers’ cultural beliefs and children’s behavioral adjustment. Fourth, some of the variables revealed unexpected results. This presumably indicates that the CLASS measure was purposely designed for Western classes, which have a low teacher/child ratio and children who need attention from the teacher. Therefore, more research is needed to determine how the CLASS should be adapted for other cultural contexts outside Western countries. Fifth, the data in this article were cross-sectional; consequently, we were unable to assess the direction of the relationship. For future research, longitudinal data are needed to chart the progress of children’s

behavioral adjustment in relation to the teacher–child relationship and classroom emotional support.

Implications of the Results for Policy and Practice in Tanzania

There is much more to learn from the findings generated in this study concerning the role of teacher–child relationships and classroom emotional support in children's behavioral adjustment in the Tanzanian context. The recommendations are as follows: In terms of policy in Tanzania, the government should plan strategies for recruiting trained teachers and add extra classrooms to reduce the teacher/child ratio in schools. This will help teachers have a manageable number of children to attend to. For practice, teachers should reconsider their relationships with children as important in helping children to adjust their behavior successfully to school norms.

Conclusion

This study has shown that research with a multilevel approach is needed to improve researchers' understanding of children's behavioral adjustment in pre-primary school. Both children's characteristics, school contextual characteristics, and their interaction play a role in shaping children's behavior.

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