Hammill Institute on Disabilities

Topics in Early Childhood Special Education
2023, Vol. 42(4) 344–356

DOI: 10.1177/02711214221111396
tecse.sagepub.com
SAGE

Making the Invisible Visible: Using a Contextual Measurement Approach to Identify Children With Social-Emotional and Behavioral Needs in Preschool Classrooms

Rebecca J. Bulotsky-Shearer, PhD[1], Tracy M. Carter Clopêt, PhD[1], Amanda P. Williford, PhD[2], Pilar Alamos, PhD[2], and Sadie Hasbrouck, PhD[3]

Abstract

Best practices in early childhood include using measures to identify children's social-emotional and behavioral needs within routine, naturalistic preschool contexts. Aligned with best practices, we examined the combined utility of two contextual measures, a teacher report and a direct observation of classroom behavior, in the context of interactions with teachers, peers, and learning tasks. Latent profile analysis ($N = 527$ children) identified four profile groups: (a) well-adjusted and positively engaged, (b) high externalizing and conflict engagement, (c) adequately adjusted/mildly disengaged in learning tasks, and (d) elevated internalizing behavior and low engagement. Children's profile classification was associated concurrently with emotion regulation and social competence. Teachers independently reported on children's social-emotional or academic concerns. Teachers' reports of social-emotional concerns comported for children in the externalizing profile but did not comport for the internalizing group. Findings illustrate the utility of a contextual assessment approach for early identification and intervention, particularly for children who display internalizing behavior.

Keywords

social withdrawal, preschool, contextual assessment

Social-emotional and behavioral skills form the foundation of preschoolers' positive engagement in early childhood classrooms. However, one in five preschoolers display early social-emotional or behavioral needs, with rates elevated for children living in poverty (Holtz et al., 2015). Children living in poverty disproportionately experience ecological stressors (e.g., food insecurity, inequitable housing or health care access, and community violence) that influence their social-emotional and behavioral development (DeVoe et al., 2019). Early identification through program-wide, systematic screening is therefore critical to provide children with timely and adequate supports that address their social-emotional and behavioral needs (Downer et al., 2018; Houri & Miller, 2020; Williford et al., 2018).

Early childhood programs typically rely on teacher-reported universal screening measures that capture two broadband types of classroom behaviors: externalizing and internalizing. Children who display externalizing behaviors, termed "challenging" or "disruptive," often show difficulty sitting quietly and attending during circle time, act impulsively, lose their temper, or have trouble listening and following directions, regulating their emotions, and complying with teacher requests (Bulotsky-Shearer, Dominguez, & Bell, 2012; Miller et al., 2004). Conversely, children who display internalizing behaviors may appear slow to warm up to peers and teachers, have trouble entering into play groups, or show fear or worries during large and small group class activities (Rubin & Coplan, 2004; Stormont et al., 2015). Internalizing behaviors are more difficult to screen and identify within early childhood classrooms because these behaviors are more

[1]University of Miami, Coral Gables, FL, USA
[2]University of Virginia, Charlottesville, USA
[3]Highlands Integrative Pediatrics, Denver, CO, USA

Corresponding Author:
Rebecca J. Bulotsky-Shearer, Department of Psychology, Child Division, University of Miami, 5665 Ponce de Leon Boulevard, Coral Gables, FL 33146, USA.
Email: rshearer@miami.edu

complex and less observable than externalizing ones (Coplan et al., 2007). Without identification and intervention, internalizing behaviors can remain stable (Meagher et al., 2009) and predict negative academic and social outcomes over time (Hughes & Coplan, 2010).

Comprehensive and reliable tools are needed to identify children's social-emotional and behavioral needs within early childhood settings. Early identification of social-emotional and behavioral needs provides an avenue for early intervention, to address children's needs through timely support. Indeed, best practices recommend that early intervention efforts be guided by an understanding of children's behavior as it occurs within developmentally relevant contexts, such as interactions with teachers, peers, and classroom tasks (Downer et al., 2010; Neisworth & Bagnato, 2004). In the present study we illustrate how the use of contextual measures to capture preschoolers' classroom behavior can support early childhood programs' efforts to identify social-emotional and behavioral needs in a comprehensive manner, particularly for children who display internalizing behaviors.

Preschool Social-Emotional and Behavioral Needs and Social and Academic Learning

Social-emotional and behavioral needs interfere with children's engagement in classroom learning and social interactions in several ways. Some children miss out on opportunities to interact with their teachers, classmates, or learning tasks due to defiance, frustration, or hyperactivity. Indeed, externalizing behaviors in the classroom relate to greater conflictual relationships with teachers (Buyse et al., 2008), with peers (Ramani et al., 2010), and lower attention and engagement in learning activities (Bulotsky-Shearer et al., 2011). Though these associations are likely bidirectional, early patterns of negative or conflictual interactions with peers, teachers, and in learning contexts may lead to a trajectory of subsequent self-regulatory and learning difficulties (Blair et al., 2004).

Internalizing behaviors similarly can interfere with children's daily classroom interactions, as learning involves multiple socially mediated learning experiences throughout the preschool day. Socially withdrawn behavior relates negatively to the development of social skills that enable initiating and sustaining positive engagement with peers and teachers (Dobbs et al., 2006; Fantuzzo, et al., 2003, 2005). In addition, shy and socially withdrawn behavior relates negatively to interactive peer play, a primary context in which children practice and acquire both social and academic skills within the classroom (Rubin & Coplan, 2004). Lower preschool classroom engagement linked to shy or socially withdrawn behavior predicts lower language, literacy, and mathematics skills during preschool, kindergarten, and first grade (Bub et al., 2007; Bulotsky-Shearer & Fantuzzo, 2011).

Early Identification in Early Childhood Programs

For many preschool children, early childhood programs such as Head Start provide one of the first points of contact with educators and mental health professionals, and therefore a gateway to identifying social-emotional and behavioral needs. However, research indicates that teachers tend to report and request intervention more for classroom externalizing behaviors as compared to internalizing behaviors (Bulotsky-Shearer, Delgado, et al., 2020; Fantuzzo et al., 2003). In one Head Start study, teachers were more likely to identify and refer children for services who displayed externalizing behavior than children who displayed social reticent or withdrawn behavior (Fantuzzo et al., 2003). Authors suggest that this difference in identification and referral rates could be because teachers observe overt externalizing behavior more easily than internalizing behavior, and because externalizing behavior disrupts classroom instruction. While teachers note concerns about children who display internalizing behaviors in the classroom (Coplan & Arbeau, 2008), preschool and kindergarten teachers report more negative attributions, attitudes and beliefs, and less tolerance for children displaying externalizing behavior (Arbeau & Coplan, 2007; Yoder & Williford, 2019).

Current teacher-report screening tools are limited in several ways. First, many tools weight items toward identifying externalizing behaviors with limited items covering internalizing behaviors (Bulotsky-Shearer et al., 2013). Second, many behavior rating scales and observation protocols include frequency checklists of psychiatric symptoms or ratings of behavior severity that interfere with children's functioning, without accounting for the classroom context (Lutz et al., 2002). Finally, teacher ratings of young children's behavior may include rater biases. Although preschool teachers are key informants, research on teacher ratings of classroom behavior suggests that teachers' own beliefs and attributions of behavior problems, may introduce error in measurement (Waterman et al., 2012; Yoder & Williford, 2019).When used in practice, researchers show concern that teacher rating scales may miss internalizing behavior—which tends to be more complex, less observable, and typically requires subjectivity on the part of the observer to infer a child's internal state (e.g., teachers endorse items describing whether the child worries, feels sad, or seems nervous).

Developmental and Contextual Measurement Approach

Two recently validated measures, a teacher report of children's classroom behavior, the Adjustment Scales for Preschool Intervention (ASPI; Bulotsky-Shearer et al., 2008, 2021), and a direct observation, the individualized Classroom Assessment Scoring System (inCLASS; Bohlmann et al., 2019; Downer et al., 2010), take a developmental and

contextual approach to assessing children's behavior within the preschool classroom. The ASPI comprises 24 classroom contexts in which teachers observe and record whether children display a range of both adaptive and problematic behaviors. Contexts include teacher interactions (e.g., greet teacher in the morning and accept teacher help), peer interactions (e.g., play games, stand in line, and share learning materials), and learning activities (e.g., behavior during large and small group activities). The inCLASS is an observational measure that focuses on children's positive and negative engagement with teachers, peers, and learning tasks within the classroom. In combination, both measures show the potential to provide a more comprehensive assessment of children's behavior within the context of daily classroom interactions with teachers, peers, and tasks (Williford et al., 2018).

Variable-Centered Versus Person-Centered Approaches

Increasingly, early childhood researchers apply person-centered statistical techniques, such as latent profile analysis, to study preschoolers' social-emotional and behavioral strengths and needs (Bulotsky-Shearer, Bell, & Dominguez, 2012; Denham et al., 2012; McWayne & Bulotsky-Shearer, 2013). Person-centered approaches seek to uncover within-child patterns of functioning common to subgroups of children within a population (Bergman & Trost, 2006). In contrast, variable-centered approaches examine the relations among variables to estimate the associations between two or more constructs, such as whether externalizing behavior relates to peer play (von Eye et al., 2015). In this study, we use person-oriented analytic approaches to identify common profiles of social-emotional or behavioral needs children display within the classroom setting to inform early intervention efforts tailored to children's individual needs.

Current Study

Early childhood programs need assessments that apply a comprehensive, developmental, and contextual lens to identifying both externalizing *and* internalizing behaviors equitably within the preschool classroom. Addressing this need, we used a person-oriented analytic approach (latent profile analysis) to examine the combined utility of two contextual-focused measures—a teacher-report of children's classroom behavior, the ASPI (Bulotsky-Shearer et al., 2008, 2021), and a direct observation, the inCLASS (Downer et al., 2010)—to identify children displaying social-emotional and behavioral needs in the classroom.

We proposed three research questions. First, what profiles of classroom social-emotional and behavioral engagement emerge using the ASPI and inCLASS measures at the beginning of the preschool year? Based on prior research (Bulotsky-Shearer, Bell, & Dominguez, 2012; Williford et al., 2013), we predicted three latent profiles: (1) a well-adjusted group characterized by low social-emotional and behavioral needs and positive engagement, (2) a group of children displaying elevated externalizing behavior and high conflict, and (3) a group of children displaying elevated internalizing behavior and low positive engagement. Second, are the resulting profile groups differentiated by child demographic characteristics, and associated with social-emotional skills (emotion regulation and peer social competence)? We expected that: (1) younger children and boys to be more likely classified in the profile group characterized by externalizing behaviors, (2) the well-adjusted group to be associated with higher emotion regulation and interactive peer play skills, (3) children within the externalizing behaviors group to display greater emotional lability and disruptive peer play, and (4) children in the internalizing behaviors group to display lower emotion regulation, peer play interaction, and higher disconnected play. Finally, do profile groups of children, identified empirically by the ASPI and inCLASS, comport with teacher reports of children who they independently identify with either social-emotional or academic concerns? Relative to children in the internalizing behaviors group, we predicted that teachers would identify more children classified in the externalizing behaviors group as students with social-emotional and behavioral needs.

Method

Participants

Data were collected as part of a larger university–Head Start research partnership project, in collaboration with a large, urban Head Start program located in the southeastern United States. Data were collected in the fall of the 2011 to 2012 and 2012 to 2013 school years ($N = 527$ children, across 72 classrooms, and 16 Head Start centers). Children were randomly selected within classroom, stratified by age, sex, and race/ethnicity to represent the larger program. Children ranged in age from 36 to 59 months ($M = 47.83$, $SD = 6.71$ months) and sex was split evenly with 49% boys. The majority of children were either Black or African American (43.6%) or Hispanic (56.4%). Based on a combination of parent and teacher reports, approximately 52% of children spoke Spanish primarily at home. All families met the federal criteria for enrollment in the Head Start program (annual income of $23,050 for a family of four according to the 2012 *Federal Register*).

Teachers who participated were lead teachers and 100% were female, 28% non-Hispanic Black or African American, 70% Hispanic, and 2% of mixed race/ethnicity. Most of the teachers were born outside of the U.S. (69%) and 68% reported speaking Spanish as their first language. Most teachers reported having a bachelor's degree (58%), 15% a masters degree, 16% an associate's degree, and 10% a child development associate credential.

In terms of classroom language use, teachers reported that 40% of teachers spoke English and Spanish equally in the classroom, 22.9% spoke English most of the time, 7.1% spoke Spanish most of the time, and 11.4% spoke English all the time. The match between child and teacher primary spoken language was high, with 71% of children were enrolled in classrooms where at least one teacher (either the lead teacher or the teacher assistant) reported speaking the same language as the child's home language during the school day.

Procedures

Approval to conduct this research was obtained from the university's Institutional Review Board (IRB), from the director of the local Head Start Program, and from the Head Start Program's Parent Policy Council. Data collection lasted for 2 years, to collect child assessment data for two cohorts of children. All study procedures were the same in both years. In the fall of each year, informed consent was obtained from the center directors, teachers, and parents of children in participating classrooms. Research team members met with center directors and teachers individually to explain the purpose of the study and to clarify issues of confidentiality, informed consent, and data collection procedures. Teachers assisted in sending packets home to obtain parental consent for children's participation.

Fall data collection (October–November) involved: (a) administrative data including child and family demographic information collected by the Head Start program, (b) teacher ratings of children's classroom emotional and behavioral adjustment: ASPI, peer social competence: PIPPS, and emotion regulation: ERC, and (c) observations of individual children's classroom engagement: inCLASS conducted by trained, independent observers on the research team. As part of the larger study, all teachers completed the ASPI in early October. Subsequently, a smaller subsample of classrooms was selected for more in depth assessments, in which teachers completed the PIPPS and ERC (mid-October–early November) and inCLASS observations were conducted. At the end of the year (mid-May), teachers verified a class list of participating children's demographic information (obtained through program records). On this list, teachers indicated whether they had any developmental concerns, social-emotional, and/or academic, for any participating child in their classroom (see Measures below).

Measures

Teacher-reported classroom emotional and behavioral adjustment: ASPI. The ASPI (Lutz et al., 2002) assessed children's classroom behavior. The ASPI is a 144-item multidimensional instrument based on teacher observations of children's adaptive and maladaptive behavior across 22 preschool classroom situations, including interactions with the teacher, relationships with peers, involvement in structured and unstructured activities, and games and play. The ASPI has been validated for use with low-income preschoolers (Bulotsky-Shearer et al., 2008; Lutz et al., 2002). Construct validity studies with Head Start samples revealed three situational dimensions (Problems in Structured Learning, Peer Interactions, and Teacher Interactions; with Cronbach alphas in the present sample of, .84, .81, and .75, respectively), and five problem behavior dimensions (Aggressive, Oppositional, Inattentive/Hyperactive, Withdrawn/Low Energy, and Socially Reticent; with Cronbach's alpha in the present sample of .92, .78, .79, .85, and .79, respectively). Sample items include "Disturbs others' fun during free play," "Much too talkative with teacher," and "Too timid to ask for help." The ASPI has shown convergent and divergent validity (Bulotsky-Shearer & Fantuzzo, 2004; Fantuzzo et al., 2003, 2005). Children's raw score totals were converted to *T* scores based on the normative Head Start sample (Lutz et al., 2002).

Observed classroom engagement: inCLASS. The inCLASS (Downer et al., 2010) assessed children's classroom engagement with teachers, peers, and tasks. The inCLASS is an observational assessment that comprises four reliable and valid domains: Positive Engagement with Teachers (positive engagement with teacher and teacher communication), Positive Engagement with Peers (peer sociability, assertiveness, and communication), Positive Engagement within Tasks (engagement with tasks and self-reliance), and Negative Classroom Engagement (teacher conflict, peer conflict, and behavior control reversed) with Cronbach's alpha of .81, .81, .71, and .72, respectively, in the current sample. The inCLASS demonstrated strong scalar invariance across poverty and race/ethnicity (Bohlmann et al., 2019). Following each 10-minute observation period, children were rated on the 10 dimensions (each on a 7-point Likert scale; higher scores indicate more behaviors indicative of that dimension) based on the degree to which certain behavioral indicators characterized the child's behaviors during the observation period. For example, behavioral indicators for the peer assertiveness dimension include initiating contact with peers (play, joining groups, and conversation) and leadership (organizes play, teaches peers, imitated by peers, and self-advocacy). Scores were standardized *T* scores ($M = 50$, $SD = 10$) derived from the original normative sample. Observers attended a 2-day training and achieved reliability (80% agreement) prior to conducting classroom observations. Throughout data collection, interrater reliability was assessed for 20% of the classrooms through double coding to minimize observer drift. Mean interrater reliability was high, averaging 96% across all domains.

Teacher-reported emotion regulation: ERC. Emotion regulation was assessed at the beginning of the year using the Emotion Regulation Checklist (ERC; Shields & Cicchetti, 1997), a 24-item teacher rating scale. Items are rated on a 4-point Likert scale ranging from 1 (*never*) *to* 4 (*almost always*) and form two subscales: Negativity/Lability (10 items, e.g., *Is easily frustrated*) and Emotion Regulation (14 items; e.g., *Responds positively to neutral or friendly overtures by peers*), with Cronbach's alpha of .90 and .81 respectively, in the current sample.

Teacher-reported peer social competence: PIPPS-T. Peer social competence was assessed using the teacher version of the Penn Interactive Peer Play Scale (PIPPS-T; Fantuzzo et al., 1998). The PIPPS-T is a 32-item rating scale used to measure common play behaviors that facilitate or interfere with prosocial peer interactions. The measure validated for use in Head Start programs, was created in collaboration with Head Start teachers and parents (Bulotsky-Shearer et al., 2016; Fantuzzo et al., 1998), and comprises three dimensions: Play Interaction, Play Disruption, and Play Disconnection, with adequate internal consistencies in the current sample (Cronbach's alpha of .87, .87, and .83, respectively). The PIPPS-T has demonstrated convergent and divergent validity (e.g., Mendez et al., 2002).

Teacher-reported social-emotional and academic concerns. Teachers reported concerns at the end of the preschool year. Teachers received a classroom roster to confirm demographic information for all participating children in their classroom. This roster included columns for teachers to indicate for each participating child, whether they had any concerns (Yes or No) about each child's development, in either (or both) academic or social-emotional areas. Teachers were given extra space to describe their concern in either or both areas. Descriptions of academic concerns included: speech, cognitive, or intellectual or developmental disability. Examples of social-emotional concerns included descriptions of behavioral, aggressive, social, or relational problems. In the study sample ($N = 527$), teachers reported "any concern" (either or both academic or social/emotional) for 67 (12.7%), social/emotional concern for 26 (4.9%), and academic concern for 42 (8.0%) of the children.

Data Analytic Approach

We used Latent Profile Analysis (LPA), conducted in M*plus* Version 7.0, to identify distinct profile groups of classroom behavior using the five ASPI behavioral dimensions, three ASPI situational dimensions, and the four inCLASS domains. LPA is a model-based approach in which the population is considered to consist of k latent groups where the number of groups is not known a priori. In the current study, each child was assigned to the latent group for which their posterior probability was the highest. Latent profiles are estimated by maximizing within group similarity according to the pattern of children's scores on observed variables. We accounted for the nested structure of the data (children nested within classrooms) using a sandwich estimator to adjust the standard errors of the parameters (TYPE = COMPLEX command) and used full information maximum likelihood (FIML) to handle missing data.

We examined model fit statistics and parsimony of the profiles to determine the best fitting LPA model. In addition, we examined the profile solutions' alignment with prior research and theory. As recommended by Ram and Grimm (2009), model fit evaluation included: Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) with lower values indicating better fit; entropy (values greater than 0.80 indicating classification accuracy); and the Vuong-Lo-Mendell-Rubin Likelihood Ratio test (VLMR-LRT), which assesses the relative fit of a k-profile solution with a $(k-1)$ profile solution. A significant VLMR-LRT value ($p < .05$) suggests that the current model with k profiles fit the data better than the $k-1$ class model.

Child demographic variables associated with profile membership. We entered child demographic variables as predictors of group classification. Within M*plus*, we regressed the categorical latent profile groups on child age in months, sex (boy = 0; girl = 1), and ethnicity (non-Latino = 0; Latino = 1) to obtain the probability of classification in each profile at the beginning of the year based on these demographic characteristics. A multinomial logistic regression analysis yielded an odds ratio (relative risk ratio) indicating the increase in the log-odds of being classified in each profile (relative to the reference group) as a function of children's demographic characteristics (Jung & Wickrama, 2008). An odds ratio greater or less than one indicated that for every one-unit increase in a demographic characteristic (e.g., age in months), the child's likelihood for classification was increased or decreased, respectively as compared to classification in the reference group.

Social-emotional skills associated with profile group membership. Once we identified the best fitting latent profile model, we exported children's profile group to an output file and dummy coded each group (1 = child classified in profile; 0 = child not classified in profile). We included these dummy coded variables as predictors in the regression models. Using the well-adjusted profile as a reference group, we estimated a series of multiple regression analyses in *Mplus* to examine the extent to which children's profile membership was associated with social-emotional skills (emotion regulation and peer social competence).

Teacher-reported concerns across profile groups. To explore whether latent profiles aligned with teachers' reported concerns, we examined mean differences among the profile

Table 1. Mean ASPI and inCLASS *T* Scores (and Standard Errors) Across Latent Profile Groups.

	Latent profile group									
	Overall sample (*n* = 527)		Well-adjusted (*n* = 321)		Externalizing/high-conflict (*n* = 104)		Adequately adjusted (*n* = 65)		Internalizing/shy withdrawn (*n* = 37)	
InCLASS domains & ASPI scales & dimensions	*M*	*SE*	*M*	*SE*	*M*	*SE*	*M*	*SE*	*M*	*SE*
inCLASS domain										
Positive engagement with teachers	2.55	1.04	2.58	0.08	2.66	0.12	2.37	0.12	2.27	0.12
Positive engagement with peers	2.57	0.89	2.66	0.07	2.59	0.11	2.36	0.07	2.14	0.13
Positive engagement within tasks	3.43	0.86	3.57	0.07	3.22	0.10	3.30	0.10	3.14	0.11
Negative classroom engagement	1.75	0.49	1.64	0.03	2.04	0.06	1.79	0.07	1.73	0.08
ASPI behavior problem										
Aggressive	47.30	6.49	44.04	0.30	56.43	0.89	48.00	0.79	47.46	1.34
Oppositional	47.48	7.10	44.42	0.31	55.22	1.53	48.62	1.11	49.08	1.47
Inattentive	48.90	7.59	45.57	0.59	57.24	0.92	49.86	0.99	51.46	1.62
Withdrawn/low energy	47.60	5.46	45.00	0.00	45.00	0.00	56.00	0.01	61.97	0.45
Socially Reticent	46.98	6.84	45.03	0.45	47.37	0.81	50.61	0.94	55.76	0.92
ASPI situational problem										
Teachers	48.15	8.97	44.41	0.55	53.45	1.80	51.98	1.37	57.68	1.70
Peers	49.17	9.87	43.89	0.67	61.62	1.18	52.09	1.17	52.84	1.35
Structured learning	48.66	8.69	43.77	0.60	55.66	1.00	53.29	0.86	61.57	1.38

Note. Scores for the inCLASS represent means across cycles (range = 1–7). Scores for the ASPI represent *T* scores (*M* = 50, *SD* = 10). ASPI = Adjustment Scales for Preschool Intervention; inCLASS = Individualized Classroom Assessment Scoring System.

groups on teacher-reported social emotional and academic concerns within M*plus* using the Wald chi-square test of equality of means.

Results

Latent Profile Analysis (LPA)

The best fitting LPA model was a four-profile model solution. Fit indices for the final model were as follows: AIC = 39,903.16; BIC = 40,207.19; Entropy = 0.97; VLMR-LRT, $p = .70$). The average entropy value of 0.97 indicated overall high classification accuracy. Table 1 shows the prevalence and mean *T* scores for the ASPI behavioral scales, the ASPI situational dimensions, and the inCLASS domains for each profile group. Figure 1 depicts the patterns of the means within the four profile groups graphically.

The most prevalent profile group, a *well-adjusted and positively engaged* group of children (*n* = 321; 59.57% of the sample), included children displaying very low behavior problems on the ASPI, and average inCLASS positive engagement with teachers, peers, and tasks in the classroom, with some observed negative engagement, but at lower levels than in any other profile. The second profile group comprised children who displayed relatively *high externalizing behavior and conflictual engagement* (*n* = 104; 20.70%). Children displayed relatively high levels of ASPI aggressive and inattentive behavior problems, and behavior problems in classroom peer and structured learning contexts; and relatively low inCLASS positive engagement with teachers, peers, and tasks. The third profile group, *adequately adjusted/mildly disengaged in learning tasks* (*n* = 65; 12.75%), displayed mildly elevated scores on the ASPI withdrawn/low energy scale but average inCLASS positive engagement with teachers, peers, and tasks. The fourth profile included children displaying *elevated internalizing behavior and low classroom engagement* (*n* = 37; 7% of the sample). Children in this group displayed high scores on ASPI socially reticent and withdrawn/low energy scales, elevated scores on ASPI problems in learning and teacher contexts, and relatively low levels of inCLASS observed positive engagement with teachers, peers, and tasks.

Child Demographic Variables Associated With Profile Groups

We present descriptive statistics (*M*, *SD*s) for child demographic variables across the profile groups in Table 2. In follow up multinomial logistic regression analysis, children's

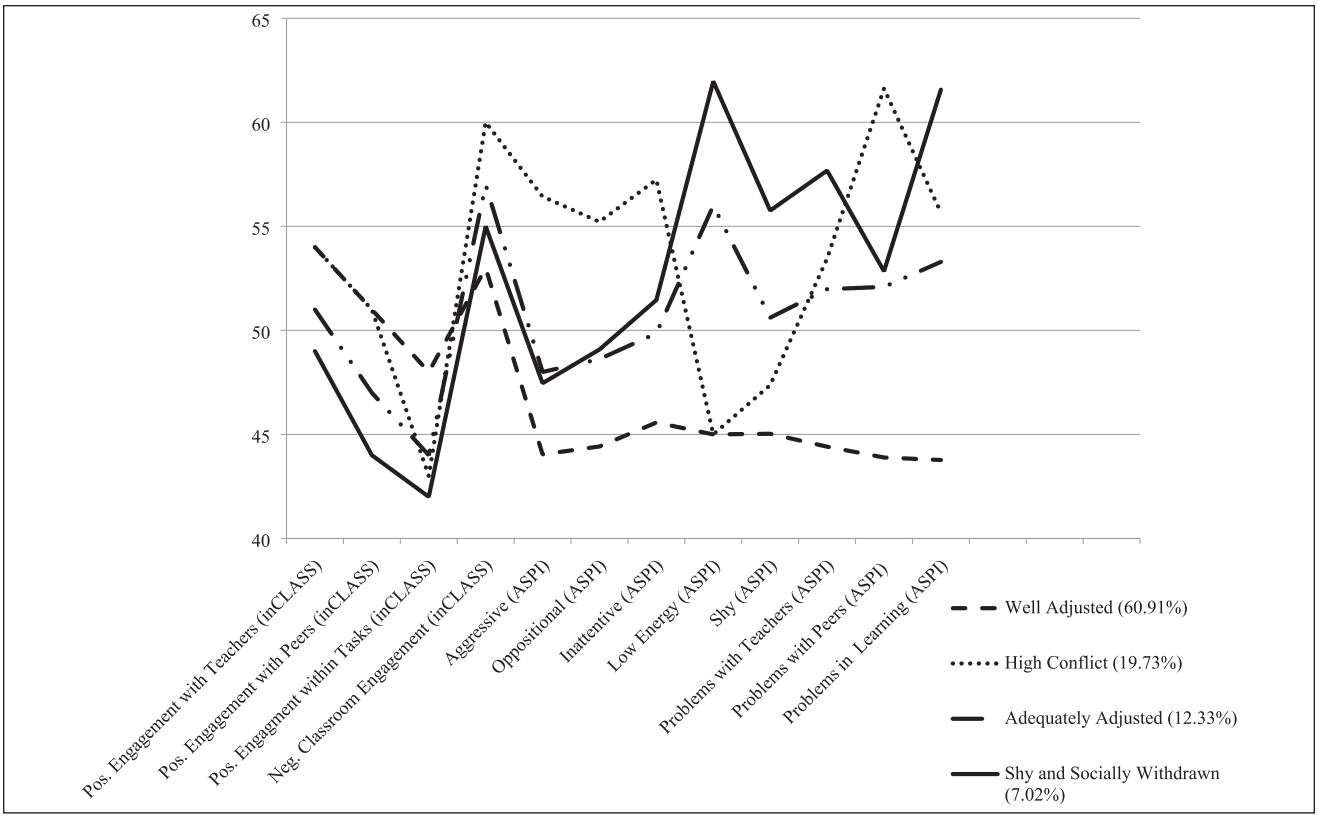

Figure 1. Mean *T* scores for Individualized Classroom Assessment Scoring System (inCLASS) and Adjustment Scales for Preschool Intervention (ASPI) dimensions across the four behavioral engagement profile groups.
Note. Scores on the inCLASS were converted to *T* scores for ease of interpretation.

Table 2. Child Demographic Variables and Teacher-Reported Concerns Across Profile Groups.

	Latent profile group								
	Well-adjusted ($n = 321$)		High-conflict ($n = 104$)		Adequately adjusted ($n = 65$)		Shy and socially withdrawn ($n = 37$)		Significant differences across profiles[a]
Variables/concerns	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	
Child demographic variable									
Age (in months)	48.36	6.69	47.26	6.61	46.23	6.73	47.65	6.73	
Sex (1 = girl)	0.55	0.50	0.42	0.50	0.51	0.50	0.43	0.50	
Ethnicity (1 = Latino)	0.64	0.48	0.37	0.48	0.52	0.50	0.54	0.51	
Teacher reported concerns[b]									
Any concerns[c]	0.06	0.24	0.29	0.46	0.09	0.29	0.30	0.46	W, AA <S, HC
Social/emotional concerns	0.01	0.11	0.16	0.37	0.03	0.17	0.08	0.28	W, AA <HC
Academic concerns	0.05	0.21	0.12	0.33	0.08	0.27	0.24	0.44	W<S, HC; AA<S

Note. Well-adjusted = W; high conflict = HC; adequately adjusted = AA; shy and socially withdrawn = S.
[a]All significant differences are $p < .05$.
[b]Teacher-reported concerns are the average proportion of children reported of concern in that group.
[c]"Any concern" could include either or both a social-emotional or academic teacher-reported concern.

ethnicity was associated with the probability of group classification. Compared to non-Latino children, Latino children had a higher probability of being classified in the well-adjusted, adequately adjusted, and internalizing behavior profile groups compared to the high-conflict profile group (with logistic regression coefficients $b = 1.23$, $p < .01$; $b = 0.81$, $p < .05$; $b = 0.92$, $p < .05$, respectively); and reduced odds likelihood of being classified in the conflict group compared to the internalizing group ($b = -0.92$, $p < .05$). Child sex was also associated with the likelihood of profile classification. Girls

Table 3. Concurrent Associations Between Behavioral Engagement Profiles and Emotion Regulation Skills Controlling for Child Age, Sex, and Ethnicity.

	Emotion regulation (fall)			
	Negativity/ lability		Emotion regulation	
Variables & profiles	*b*	*SE*	*b*	*SE*
Child demographic variable				
Age	−0.03	0.05	0.04	0.05
Sex	−0.99*	0.46	2.23***	0.43
Latino	−1.05	1.01	−0.46	1.26
Behavioral engagement profile				
High conflict	6.20***	0.74	−1.25	1.12
Adequately adjusted	1.97	1.10	−1.98*	0.96
Shy/socially reticent	0.14	1.62	−5.52***	1.35

Note. Estimates represent unstandardized path coefficients. Child sex is a dummy coded variable, with girls = 1. Child ethnicity is also a dummy coded variable, with Latino = 1. Well-adjusted profile is the reference group.
*$p < .05$. **$p < .01$. ***$p < .001$.

had a decreased risk for being classified in the high-conflict group ($b = -0.59$, $p < .01$) compared to the well-adjusted profile. Other profile comparisons for child age and sex were not significant at $p < .05$.

Social-Emotional Skills Associated With Profile Group Membership

Regarding emotion regulation (see Table 3 for path coefficients), children in the well-adjusted profile displayed lower negativity/lability than children classified in the high-conflict profile. Children in the well-adjusted profile displayed higher emotion regulation skills compared to children classified in the high internalizing behavior or adequately adjusted profiles.

We found relationships between children's profile membership and peer social competence (see Table 4 for path coefficients). Children in the well-adjusted profile displayed higher interactive peer play and lower disconnected peer play skills than children in all other profiles. Children in the well-adjusted profile were rated by teachers with significantly lower disruptive peer play behavior than children in the high conflict profile.

Teacher-Reported Concerns Associated With Profile Group Membership

As shown in Table 2, teachers reported greater social-emotional concerns for children in the high conflict profile when compared to children in the well-adjusted and mildly disengaged profiles. Teachers reported greater academic concerns for the children in the high conflict profile compared to children in the well-adjusted profile. Teachers also reported more academic concerns for children in the high internalizing behavior profile group compared to children in the adequately adjusted or the well-adjusted profiles.

Discussion

We set out to showcase the utility of a contextual approach to identify children displaying profiles of externalizing (acting out) as well as internalizing (shy or withdrawn) behavior observed within the context of daily preschool classroom activities. We combined scores on two contextual measures (ASPI, a teacher report of social-emotional and behavioral adjustment and inCLASS, a direct observation of children's classroom behavioral engagement) to examine whether we could empirically identify unique profiles of classroom behavior within social and learning contexts through latent profile analysis. Together the ASPI and inCLASS scores comprehensively identified groups of children displaying patterns of social-emotional and behavioral needs and strengths within teacher, peer, and learning contexts. Profile groups were associated differentially with self-regulation and social competence skills. However, children's classification in profile groups did not comport consistently with teachers' reported concerns about behavior, in particular, for children displaying elevated shy/socially withdrawn behavior. This finding, discussed below in more detail, suggests that preschool teachers may be less attuned to children's internalizing behaviors, when compared to externalizing behaviors.

Contextual Profile Groups

We identified four latent profile groups within our sample. As expected, the most prevalent profile group comprised the largest number of children (60% of the sample), reflecting patterns of positive classroom adjustment—with low teacher-reported behavior problems on the ASPI and higher observed positive engagement in classroom peer, teacher, and learning tasks on the inCLASS. Findings comport with prior latent profile studies of preschool children's social-emotional and behavioral skills, identifying a larger normative group of children displaying positive social-emotional strengths (Denham et al., 2012; McWayne & Bulotsky-Shearer, 2013).

We identified three other profiles with distinct patterns of social-emotional and behavioral needs: high externalizing behavior and conflictual engagement (20%), adequately adjusted/mildly disengaged in learning tasks (13%), and elevated internalizing behavior and low classroom engagement (7%). Although these patterns comport with prior work in that they identify subgroups of children

Table 4. Concurrent Associations Between Profile Group and Peer Social Competence Controlling for Child Age, Sex, and Ethnicity.

	Peer social competence (fall)					
	Interactive peer play		Disruptive peer play		Disconnected peer play	
Variables & profiles	*b*	*SE*	*b*	*SE*	*b*	*SE*
Child demographic variable						
Age	0.33***	0.07	−0.01	0.06	−0.12*	0.06
Sex	2.26***	0.67	−0.13	0.48	−0.35	0.57
Latino	2.65*	1.32	−0.17	1.05	−0.65	1.00
Behavioral engagement profile						
High conflict	−5.84***	1.16	10.74***	1.06	6.88***	1.20
Adequately adjusted	−3.14**	1.07	1.01	1.46	3.16**	1.10
Shy/socially withdrawn	−7.67***	1.87	2.08	1.45	8.60***	2.04

Note. Estimates represent unstandardized path coefficients. Child sex is a dummy coded variable, with girls = 1. Child ethnicity is also a dummy coded variable, with Latino = 1. Well-adjusted profile is the reference group.
*$p < .05$. **$p < .01$. ***$p < .001$.

with social-emotional and behavioral needs (Denham et al., 2012), they differed in important ways. For example, in one study using only the inCLASS to identify empirically derived patterns of children's classroom engagement, Williford et al. (2013), classified 4% of children in a profile characterized by relatively high conflictual engagement. In contrast, the present study found that 20% of children were classified in a group characterized by high externalizing behavior and elevated conflict engagement when using both the inCLASS and ASPI measures together. Similarly, prior work relying only on the ASPI to identify patterns of children's behavioral needs (Bulotsky-Shearer, Bell, & Dominguez, 2012) classified 47% of children in one of five profiles characterized by some type of social-emotional and behavioral need. In the current study we found that this percentage was reduced to 40% when we combined both the inCLASS and ASPI measures. Acknowledging that these differences could be sample specific, it is also possible that the combination of a teacher-reported (ASPI) and an observational (inCLASS) measure of children's behavior in the classroom context provides a more comprehensive picture of children's social-emotional and behavioral functioning. Whereas observations provide real-time, specific information about children's behavior, teacher-reported measures retrospectively summarize data about children's behavior (Brownell et al., 2015).

Overall, our findings indicated that children classified in the well-adjusted profile demonstrated higher emotional regulation and social skills, compared to other profile groups. Teachers rated children higher on emotion regulation and peer social competence, relative to their peers in other profile groups. Teachers rated children in the well-adjusted profile versus the high-conflict profile with higher interactive play, lower negativity/liability, disconnected play, and disruptive play. Similarly, when compared to the adequately adjusted or elevated internalizing behavior profiles, teachers rated children in the well-adjusted group with higher emotion regulation and interactive play, and lower disconnected play. Findings comport with prior work reporting that children classified in profiles characterized by positive classroom social-emotional adjustment display higher regulated behavior and peer interaction skills when compared to peers (e.g., Bulotsky-Shearer, Bell, & Dominguez, 2012; Denham et al., 2012; Williford et al., 2013), and thus reinforce the importance of supporting social-emotional and behavioral skills early on, as a foundation for early learning and future social adjustment.

Did Profile Group Membership Comport With Teacher-Reported Concerns?

We found that when we asked teachers to report independently on children they identified with an academic or social-emotional concern, teachers' independent reports did not consistently match children's profile group classification. Teachers' reports of children's social-emotional and behavioral concerns aligned only for children classified in the high conflict profile group. The high conflict group included children with high externalizing behavior and negative observed classroom engagement. On average, teachers did not report that children classified in the elevated internalizing/low engagement profile, were of social-emotional concern. Prior studies indicate that teachers tend to report more attention and concern for children displaying externalizing behavior that is disruptive in the classroom (Arbeau & Coplan, 2007; Bulotsky-Shearer, Delgado, et al., 2020; Fantuzzo et al., 2003). Our study findings suggest that even though we empirically identified an internalizing profile group, teachers did not differentiate this group of children from any other group with

respect to social-emotional concerns. It is possible that preschool teachers find it difficult to recognize internalizing behaviors as a concern, because they are not as overtly observed and do not typically interrupt classroom routines. It is also possible that teachers do not understand why shy or withdrawn behavior might be a concern in terms of negatively influencing a preschool child's social or academic development.

A contextual assessment approach, with feedback to teachers might increase recognition of the range of social-emotional and behavioral needs that children display, and opportunities for teachers to implement strategies that address children's social-emotional needs, such as social skills training or peer pairing interventions (Bulotsky-Shearer, Futterer, et al., 2020; Fantuzzo et al., 1996; Hanish et al., 2021). As research indicates, if early childhood programs do not identify and address internalizing behavior, children may face concurrent and future challenges in school that cascade over time, leading to peer rejection, lower self-esteem, academic performance, and school liking (Rubin & Coplan, 2004).

Teachers did endorse academic concerns for 26% of children classified within the internalizing profile group, meaning that teachers in our study noticed the academic needs of children who displayed internalizing behavior. Future research should examine whether developmental assessments validate teacher-reported academic needs, or whether teachers perceive children who are quiet or shy children in the classrooms of lower academic ability. Research indicates that teachers sometimes do perceive children who are very quiet, or shy, and have limited verbal or social participation during classroom activities, as having lower academic ability (Kalutskaya et al., 2015). Future studies should extend our study by examining the relationship between the profile groups we identified using the ASPI and inCLASS, and academic skills, such as literacy, language, or mathematics skills. Prior ASPI research shows that children classified in profiles characterized by high socially reticent and withdrawn behavior show lower initial and end of year scores on measures of literacy and mathematics skills relative to all other children (Bulotsky-Shearer, Bell, & Dominguez, 2012).

Limitations and Future Directions

We acknowledge several limitations that deserve mention. First, we examined whether profiles of classroom behavior at preschool entry related to emotion regulation and peer social competence concurrently. Future research can extend these findings to investigate relations to gains (or changes in children's skills) from fall to spring. Second, except for the inCLASS observation, our study relied primarily on teacher-reports of children's skills, thus associations could be inflated due to shared method variance. In addition, while teachers are knowledgeable reporters of children's classroom behavior, researchers acknowledge that teacher ratings contain variance attributable to the teacher (characteristics, beliefs, and attributions) in addition to children's skills (Bulotsky-Shearer, Alamos, et al., 2022; Waterman et al., 2012). The way in which teachers interpret a child's behavior may influence their behavioral ratings. For instance, when teachers interpret children's externalizing behavior as stable and purposeful, they tend to rate children as displaying more externalizing behaviors (Yoder & Williford, 2019).

Third, our sample included teachers and children from community-based Head Start programs within one large, urban county during 2011 to 2013. Findings may not generalize to teachers and children with different training, child development knowledge, and socio-demographic characteristics, and beyond this period. Finally, stability and change in profile membership can be further explored using latent transition analysis. Understanding contextual factors (e.g., teacher-child interactions or classroom intervention strategies) that can promote positive movement of children into well-adjusted and positively engaged profiles, can extend our understanding of malleable factors within early childhood classrooms that support positive social-emotional development (Bulotsky-Shearer, Futterer, et al., 2020; McWayne & Bulotsky-Shearer, 2013).

Application to Early Childhood Special Education Programs and Practice

Findings support the use of contextual assessment tools to inform early identification and intervention efforts within early childhood programs, particularly those serving children living in low-income families (Bulotsky-Shearer, Futterer, et al., 2020; DeVoe et al., 2019). Formative assessment feedback from contextual measures shared with teachers and professional staff, could help raise awareness about the prevalence of internalizing behavior within the classroom, and help identify strategies to promote more successful engagement in the classroom contexts where children need support the most.

Ultimately, we hope that using contextual-focused observational tools to help educators and researchers observe and understand children's behavior will shift our mindsets from "the problem is within the child" to "the problem is the mismatch between the demands or expectations of classroom settings and children's developmental capacities." With this mindset shift, teachers can implement interventions both to adjust the demands of the classroom context to better fit the developmental capacities of the child, while proactively teaching the child social-emotional skills, so that the child develops skills to be more successful within the classroom learning environment (Williford et al., 2018). Using a contextual assessment approach, combining both teacher reports

and observations, can make hard-to-identify behaviors such as shy, or internalizing behaviors more visible within early childhood classrooms. Teachers, parents, mental health consultants, and disability coordinators within programs such as Head Start could use resulting assessment profiles to inform selection of appropriate, individualized strategies within specific classroom contexts to help all children more successfully engage in the rich learning opportunities afforded within the preschool classroom.

Acknowledgment

The authors would like to recognize and extend a special thank you to the Head Start families and teachers who participated in the study.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

This work was supported by a research grant to the first author by the Institute of Education Sciences [R305A100233] and to the first and second authors, by the Institute of Education Sciences [R305A120323-14].

ORCID iD

Rebecca J. Bulotsky-Shearer https://orcid.org/0000-0003-4448-6754

References

Arbeau, K. A., & Coplan, R. J. (2007). Kindergarten teachers' beliefs and responses to hypothetical prosocial, asocial, and antisocial children. *Merrill-Palmer Quarterly*, *53*(2), 291–318. https://doi.org/10.1353/mpq.2007.0007

Bergman, L. R., & Trost, K. (2006). The person-oriented versus the variable-oriented approach: Are they complementary, opposites, or exploring different worlds? *Merrill–Palmer Quarterly*, *52*(3), 601–632. https://doi.org/10.1353/mpq.2006.0023

Blair, K. A., Denham, S. A., Kochanoff, A., & Whipple, B. (2004). Playing it cool: Temperament, emotion regulation, and social behavior in preschoolers. *Journal of School Psychology*, *42*(6), 419–443. https://doi.org/10.1016/j.jsp.2004.10.002

Bohlmann, N. L., Downer, J. T., Williford, A. P., Maier, M. F., Booren, L. M., & Howes, C. (2019). Observing children's engagement: Examining factorial validity of the inCLASS across demographic groups. *Journal of Applied Developmental Psychology*, 60, 166–176. https://doi.org/10.1016/j.appdev.2018.08.007

Brownell, C. A., Lemerise, E. A., Pelphrey, K. A., & Roisman, G. I. (2015). Measuring socioemotional development. In M. E. Lamb (Vol. Ed.) & R. M. Lerner (Series Ed.), *Handbook of child psychology and developmental science: Socioemotional processes* (pp. 11–54). John Wiley.

Bub, K. L., McCartney, K., & Willett, J. B. (2007). Behavior problem trajectories and first-grade cognitive ability and achievement skills: A latent growth curve analysis. *Journal of Educational Psychology*, *99*(3), 653–670. https://doi.org/10.1037/0022-0663.99.3.653

Bulotsky-Shearer, R. J., Alamos, P., Futterer, J., & Bailey, J. (2022). A developmental framework for SEL assessments: Context, culture, and equity. In M. Brenneman, S. Rikoon, & J. Burrus (Eds.), *Assessing competencies for social and emotional learning: Conceptualization, development and applications*. Routledge.

Bulotsky-Shearer, R. J., Bell, E., & Dominguez, X. (2012). Latent profiles of problem behavior within learning, peer, and teacher contexts: Identifying subgroups of children at academic risk across the preschool year. *Journal of School Psychology*, *50*(6), 775–789. https://doi.org/10.1016/j.jsp.2012.08.001

Bulotsky-Shearer, R. J., Delgado, C. F., Bailey, J., Futterer, J. N., & Gruen, R. L. (2020). An examination of children referred and identified with socioemotional and behavioral needs in Head Start. *NHSA Dialog*, *23*(2), 72–89.

Bulotsky-Shearer, R. J., Dominguez, X., & Bell, E. R. (2012). Preschool classroom behavioral context and school readiness outcomes for low-income children: A Multilevel examination of child- and classroom-level influences. *Journal of Educational Psychology*, *104*(2), 421–438. https://doi.org/10.1037/a0026301

Bulotsky-Shearer, R. J., & Fantuzzo, J. W. (2004). Adjustment scales for preschool intervention: Extending validity and relevance across multiple perspectives. *Psychology in the Schools*, *41*, 725–736. https://doi.org/10.1002/pits.20018

Bulotsky-Shearer, R. J., & Fantuzzo, J. W. (2011). Preschool behavior problems in classroom learning situations and literacy outcomes in kindergarten and first grade. *Early Childhood Research Quarterly*, *26*(1), 61–73. https://doi.org/10.1016/j.ecresq.2010.04.004

Bulotsky-Shearer, R. J., Fantuzzo, J. W., & McDermott, P. A. (2008). An investigation of classroom situational dimensions of emotional and behavioral adjustment and cognitive and social outcomes for Head Start children. *Developmental Psychology*, *44*(1), 139–154. https://doi.org/10.1037/0012-1649.44.1.139

Bulotsky-Shearer, R. J., Fernandez, V., Dominguez, X., & Rouse, H. L. (2011). Behavior problems in learning activities and social interactions in head start classrooms and early reading, mathematics, and approaches to learning. *School Psychology Review*, *40*(1), 39–56. https://doi.org/10.1080/02796015.2011.12087727

Bulotsky-Shearer, R. J., Fernandez, V., & Rainelli, S. (2013). The validity of the devereux early childhood assessment for culturally and linguistically diverse head start children. *Early Childhood Research Quarterly*, *28*(4), 794–807. https://doi.org/10.1016/j.ecresq.2013.07.009

Bulotsky-Shearer, R. J., Futterer, J., Bailey, J., & Morris, C. (2020). Leveraging the developmental strengths of young children in context. In V. Alfonso & G. DuPaul (Eds.), *Promoting health growth and development in young children: Bridging the science-practice gap in early education settings*. APA.

Bulotsky-Shearer, R. J., Lopez, L., & Mendez, J. (2016). The validity of interactive peer play competencies for Spanish

speaking Latino preschool children from low-income households. *Early Childhood Research Quarterly*, *34*, 78–91. https://doi.org/10.1016/j.ecresq.2015.09.002

Bulotsky-Shearer, R. J., McDermott, P. A., Lopez, M., Gort, M., Bouza, J., Fernandez, V., & Bichay-Awadalla, K. (2021). Development and initial validation of the Spanish form of the adjustment scales for preschool intervention (ASPI). *Journal of School Psychology*, *84*, 124–142. https://doi.org/10.1016/j.jsp.2020.11.003

Buyse, E., Verschueren, K., Doumen, S., Van Damme, J., & Maes, F. (2008). Classroom problem behavior and teacher-child relationships in kindergarten: The moderating role of classroom climate. *Journal of School Psychology*, *46*(4), 367–391. https://doi.org/10.1016/j.jsp.2007.06.009

Coplan, R. J., & Arbeau, K. A. (2008). The stresses of a "brave new world": Shyness and school adjustment in kindergarten. *Journal of Research in Childhood Education*, *22*(4), 377–389. https://doi.org/10.1080/02568540809594634

Coplan, R. J., Closson, L. M., & Arbeau, K. A. (2007). Gender differences in the behavioral associates of loneliness and social dissatisfaction in kindergarten. *Journal of Child Psychology and Psychiatry*, *48*(10), 988–995. https://doi.org/10.1111/j.1469-7610.2007.01804.x

Denham, S. A., Bassett, H. H., Mincic, M., Kalb, S., Way, E., Wyatt, T., & Segal, Y. (2012). Social-emotional learning profiles of preschoolers' early school success: A person-centered approach. *Learning and Individual Differences*, *22*(2), 178–189. https://doi.org/10.1016/j.lindif.2011.05.001

DeVoe, J. E., Geller, A., & Negussie, Y. (Eds.), National Academies of Sciences, Engineering, and Medicine. (2019). *Vibrant and healthy kids: Aligning science, practice, and policy to advance health equity*. The National Academies Press. https://doi.org/10.17226/25466

Dobbs, J., Doctoroff, G. L., Fisher, P. H., & Arnold, D. H. (2006). The association between preschool children's socio-emotional functioning and their mathematical skills. *Journal of Applied Developmental Psychology*, *27*(2), 97–108. https://doi.org/10.1016/j.appdev.2005.12.008

Downer, J. T., Booren, L. M., Lima, O. K., Luckner, A. E., & Pianta, R. C. (2010). The Individualized Classroom Assessment Scoring System (inCLASS): Preliminary reliability and validity of a system for observing preschoolers' competence in classroom interactions. *Early Childhood Research Quarterly*, *25*(1), 1–16. https://doi.org/10.1016/j.ecresq.2009.08.004

Downer, J. T., Williford, A. P., Bulotsky-Shearer, R. J., Vitiello, V. E., Bouza, J., Reilly, S., & Lhospital, A. (2018). Using data-driven, video-based early childhood consultation with teachers to reduce children's challenging behaviors and improve engagement in preschool classrooms. *School Mental Health*, *10*(3), 226–242. https://doi.org/10.1007/s12310-017-9237-0

Fantuzzo, J., Mendez, J., & Tighe, E. (1998). Parental assessment of peer play: Development and validation of the parent version of the Penn Interactive Peer Play Scale. *Early Childhood Research Quarterly*, *13*(4), 659–676. https://doi.org/10.1016/S0885-2006(99)80066-0

Fantuzzo, J., Sutton-Smith, B., Atkins, M., Meyers, R., Stevenson, H., Coolahan, K., Weiss, A., & Manz, P. (1996). Community-based resilient peer treatment of withdrawn maltreated preschool children. *Journal of Consulting and Clinical Psychology*, *64*(6), 1377–1386. https://doi.org/10.1037/0022-006X.64.6.1377

Hanish, L. D., Martin, C. L., Cook, R., DeLay, D., Lecheile, B., Fabes, R. A., Goble, P., & Bryce, C. (2021). Building integrated peer relationships in preschool classrooms: The potential of buddies. *Journal of Applied Developmental Psychology*, *73*, 101257. https://doi.org/10.1016/j.appdev.2021.101257

Holtz, C. A., Fox, R. A., & Meurer, J. R. (2015). Incidence of behavior problems in toddlers and preschool children from families living in poverty. *The Journal of Psychology*, *149*(2), 161–174. https://doi.org/10.1080/00223980.2013.853020

Houri, A. K., & Miller, F. G. (2020). A systematic review of universal screeners used to evaluate social-emotional and behavioral aspects of kindergarten readiness. *Early Education and Development*, *31*(5), 653–675. https://doi.org/10.1080/10409289.2019.1677132

Hughes, K., & Coplan, R. J. (2010). Exploring processing linking shyness and academic achievement in childhood. *School Psychology Quarterly*, *25*(4), 213–222. https://doi.org/10.1037/a0022070

Jung, T., & Wickrama, K. A. S. (2008). An introduction to latent class growth analysis and growth mixture modeling. *Social and Personality Psychology Compass*, *2*(1), 302–317. https://doi.org/10.1111/j.1751-9004.2007.00054.x

Kalutskaya, I. N., Archbell, K. A., Moritz Rudasill, K., & Coplan, R. J. (2015). Shy children in the classroom: From research to educational practice. *Translational Issues in Psychological Science*, *1*(2), 149–157. https://doi.org/10.1037/tps0000024

Lutz, M. N., Fantuzzo, J., & McDermott, P. (2002). Multidimensional assessment of emotional and behavioral adjustment problems of low-income preschool children: Development and initial validation. *Early Childhood Research Quarterly*, *17*(3), 338–355. https://doi.org/10.1016/S0885-2006(02)00168-0

Meagher, S. M., Arnold, D. H., Doctoroff, G. L., Dobbs, J., & Fisher, P. H. (2009). Social–emotional problems in early childhood and the development of depressive symptoms in school–age children. *Early Education and Development*, *20*(1), 1–24. https://doi.org/10.1080/10409280801947114

McWayne, C. M., & Bulotsky-Shearer, R. J. (2013). Identifying family and classroom practices associated with stability and change of social-emotional readiness for a national sample of low-income children. *Research in Human Development*, *10*(2), 116–140. https://doi.org/10.1080/15427609.2013.786537

Mendez, J. L., McDermott, P., & Fantuzzo, J. (2002). Identifying and promoting social competence with African American preschool children: Developmental and contextual considerations. *Psychology in the Schools*, *39*(1), 111–123. https://doi.org/10.1002/pits.10039

Miller, A. L., Gouley, K. K., Seifer, R., Dickstein, S., & Shields, A. (2004). Emotions and behaviors in the Head Start classroom: Associations among observed dysregulation, social competence, and preschool adjustment. *Early Education and Development*, *15*(2), 147–165. https://doi.org/10.1207/s15566935eed1502_2

Neisworth, J. T., & Bagnato, S. J. (2004). The mismeasure of young children: The authentic assessment alternative. *Infants and Young Children*, *17*(3), 198–212. https://doi.org/10.1097/00001163-200407000-00002

Ram, N., & Grimm, K. J. (2009). Growth mixture modeling: A method for identifying differences in longitudinal change among unobserved groups. *International Journal of Behavioral Development*, *33*(6), 565–576. https://doi.org/10.1177/0165025409343765

Ramani, G. B., Brownell, C. A., & Campbell, S. B. (2010). Positive and negative peer interaction in 3- and 4-year-olds in relation to regulation and dysregulation. *The Journal of Genetic Psychology: Research and Theory on Human Development*, *171*(3), 218–250. https://doi.org/10.1080/00221320903300353

Rubin, K. H., & Coplan, R. J. (2004). Paying attention to and not neglecting social withdrawal and social isolation. *Merrill Palmer Quarterly*, *50*, 506–534. https://doi.org/10.1353/mpq.2004.0036

Shields, A., & Cicchetti, D. (1997). Emotion regulation among school-age children: The development and validation of a new criterion Q-sort scale. *Developmental Psychology*, *33*(6), 906–916. https://doi.org/10.1037/0012-1649.33.6.906

Stormont, M., Herman, K. C., & Reinke, W. M. (2015). The overlooked children: How can teachers support children with internalizing behaviors? *Beyond Behavior*, *24*(2), 39–45.

von Eye, A., Bergman, L. R., & Hsieh, C.-A. (2015). Person-oriented methodological approaches. In W. F. Overton, P. C. M. Molenaar, & R. M. Lerner (Eds.), *Handbook of child psychology and developmental science: Theory and method* (pp. 789–841). John Wiley & Sons, Inc. https://doi.org/10.1002/9781118963418.childpsy121

Waterman, C., McDermott, P. A., Fantuzzo, J. W., & Gadsden, V. L. (2012). The matter of assessor variance in early childhood education—Or whose score is it anyway? *Early Childhood Research Quarterly*, *27*(1), 46–54. https://doi.org/10.1016/j.ecresq.2011.06.003

Williford, A. P., Bulotsky-Shearer, R., Bichay, K., Reilly, S., & Downer, J. T. (2018). Adapting assessments of child engagement to develop an early childhood consultation model. *Journal of Applied Developmental Psychology*, *56*, 67–78. https://doi.org/10.1016/j.appdev.2018.01.005

Williford, A. P., Maier, M. F., Downer, J. T., Pianta, R. C., & Howes, C. (2013). Understanding how children's engagement and teachers' interactions combine to predict school readiness. *Journal of Applied Developmental Psychology*, *34*(6), 299–309. https://doi.org/10.1016/j.appdev.2013.05.002

Yoder, M. L., & Williford, A. P. (2019). Teacher perception of preschool disruptive behavior: Prevalence and contributing factors. *Early Education and Development*, *30*(7), 835–853. https://doi.org/10.1080/10409289.2019.1594531