Behavioral concerns such as defiance, aggression, and hyperactivity often emerge early in development. However, limited research has examined the differences between typical toddler behavior and precursors to later mental health problems (Campbell, Shaw, & Gilliom, 2000). The manuscript, *Hyperactive Behaviors Among 17-Month Olds in a Population-Based Cohort*, examined this question using a cohort of 2,045 17-month old children who were being followed as part of a longitudinal study exploring child development in Quebec, Canada. Mothers were the primary respondents to the parent-report survey, with 99% of surveys being completed by the child’s biological mother. The sample was predominantly middle class and Caucasian, with 80% of the parents married, and 85% of mothers staying at home with their children. The study found that parents reported 28.1% of the toddlers in the sample exhibited frequent hyperactive behaviors and that for some toddlers, hyperactivity was correlated with oppositional-defiant and aggressive behaviors. These findings are an important first step in better understanding early behavior problems. However, the findings from this study must be interpreted with caution given the methodological limitations described by the authors. In the sections that follow, we discuss some methodological and clinical considerations as they relate to interpreting the results and using the findings to advance clinical practice.

**METHODOLOGICAL CONSIDERATIONS**

In interpreting the findings, readers are advised to attend to several methodological considerations including reporter bias, insufficient information about parent-child relationships, and contextualization of findings within a developmental framework. First, findings are based exclusively on parental report (99% from mothers) of child behavior. Although the latent classes of behavioral symptoms (low, medium, and high hyperactivity symptoms) described in this study presumably represent different degrees of behavior problems, other explanations are also plausible. For example, mothers may differ in their response patterns to items, such that some mothers may rate their child’s behaviors as universally infrequent across the majority of items within a specific category while others may rate behaviors as frequent across the same items. Parental subjectivity may also impact responses. Mothers likely differ with respect to expectations of their child’s behavior, rating behavioral frequencies based on their own expectations and beliefs about what is the “norm” or based upon the norms established for the particular child being rated. In other words, children who engage in similar levels of a given behavior may be rated as exhibiting different levels of behavior because some mothers view the behavior as typical of toddlers while other mothers view the behavior as excessive or problematic. Differential levels of maternal tolerance for behaviors and varying expectations about typical development have been shown to impact ratings of young child behaviors (Danis, Hill, & Wakschlag, 2009). The current data set did not include independent ratings based on behavioral observations or behavioral ratings from other sources (e.g., fathers, daycare providers, medical providers), thereby limiting the ability to determine the extent to which reporter bias impacted the findings.

The finding regarding co-occurring behavior problems also warrants careful consideration. This study found that of children with high levels of aggressive behavior, almost 63% also exhibited high levels of hyperactivity. Similarly, nearly 78% of children with high levels of oppositional-defiant behavior also exhibited high levels of hyperactive behavior. These findings suggest a co-occurrence of hyperactivity with both aggression and oppositionality. Although it is possible that the group of children who exhibited high levels of hyperactive, oppositional-defiant, and aggressive behavior represent a unique subset of children exhibiting problematic behaviors, other underlying factors should be considered.

Among the other factors, toddler behavior needs to be understood in the context of relationships. Little is known about mothers or the parent-child relationship in this sample.
Importantly, previous research has found that maternal mental health problems and parenting stress not only impact toddler behavior, but also impact maternal perceptions of toddler behavior (Campbell et al., 2000; DuPaul, McGoey, Eckert, & VanBrakle, 2001). Additionally, parent demographic factors such as gender, education, and socioeconomic status have been found to correlate with parental reports of child behavior in previous research (De Los Reyes & Kazdin, 2005). Considering the extent to which toddler behaviors are problematic without additional information about maternal and family factors is challenging. The current study provides a snapshot of parent-reported toddler behaviors without characterizing the context in which these behaviors are evidenced.

Finally, the findings from this study should be considered within the context of typical developmental expectations for a toddler. A typically developing toddler exhibits high activity levels, has difficulty taking turns, and has a limited capacity for sustained attention (Campbell et al., 2000; Danis et al., 2009). Well-established, validated measures of toddler behavior (e.g., the Infant-Toddler Social Emotional Assessment; Carter & Briggs-Gowan, 2005) provide norms that were developed using large, representative samples of children. These instruments enable us to determine how the behaviors of an index child compare with same-aged peers, including whether the child’s behaviors fall within normal limits. For example, it would be atypical for most 17-month-olds to “never” exhibit high activity levels or difficulty waiting turns. More typically, young children would be expected to “sometimes” exhibit these behaviors. The measure used in this study was developed by the authors, with items selected from other measures. Unfortunately, without established norms or comparison with other validated measures, the degree to which the behavior of children in this sample represents normal variations in development remains uncertain.

**CLINICAL CONSIDERATIONS**

It is important to note that the findings from this study do not represent a clinical diagnosis but rather, describe patterns of behavior in early childhood. The authors defined hyperactivity as an aggregate of the following four behaviors: 1) not being able to sit still, restless, hyperactive, 2) fidgeting, 3) difficulty waiting turns, and 4) not being able to settle down to engage in a task for more than a few minutes. Using the above-definition, 42.2% of mothers reported that their toddlers “sometimes” engaged in these behaviors, 29.7% “never” engaged in them and 28.1% “frequently” did so. These findings suggest that “hyperactivity” in early childhood is normative, with nearly 70% of toddlers in the sample routinely exhibiting these behaviors. As previously mentioned, of the children in the high aggression or oppositional-defiant latent classes, the majority also exhibited high levels of hyperactivity. On the other hand, only 11% of children with high levels of hyperactivity also exhibited high levels of aggression. This suggests that although hyperactive behavior may be typical of 17-month old children, highly aggressive behavior is less normative. For caregivers and early childhood professionals, such information can be used to understand and contextualize typical toddler behaviors. Young children who frequently engage in behaviors that can be characterized as hyperactive may not be exhibiting problematic behavior but rather, may simply be engaging in age-appropriate behaviors. However, young children who frequently engage in both hyperactive and aggressive behavior may constitute a unique subset of the population with self-regulation difficulties that would benefit from additional support or intervention.

Readers are cautioned against inferring that toddlers in the high hyperactivity latent class can be diagnosed with a psychiatric disorder such as Attention-Deficit/Hyperactivity Disorder (ADHD). ADHD is a clinical diagnosis with three subtypes, Predominantly Hyperactive/Impulsive Type, Predominantly Inattentive Type, or Combined Type. A diagnosis of ADHD requires that a child exhibit at least six symptoms within a particular subtype (or six symptoms in each subtype for a diagnosis of Combined Type; American Psychiatric Association, 2013). Furthermore, symptoms must be present in at least two settings and are not seen exclusively with one caregiver. The current study examined four behaviors based on a single reporter’s ratings (i.e., maternal report). Thus, children in this study who were classified as “high hyperactivity” would not necessarily meet the diagnostic criteria for ADHD. Furthermore, clinicians are typically very cautious about diagnosing ADHD in toddlers given normative variations in behavior and development. Additionally, the cross-sectional nature of the study does not allow for prediction regarding relationships between behaviors seen in toddlerhood and later behaviors that may be consistent with a diagnosis of ADHD. The longitudinal nature of the larger study from which these data were derived presents potential for ongoing follow-up. Over time, the data could be used to examine developmental trajectories and better understand characteristics of children who exhibited behavior problems in early childhood and were later diagnosed with ADHD. Given the size of this sample, this longitudinal research could provide an important contribution to the literature on early precursors of ADHD.

Finally, although we caution against interpreting findings as early signs of psychiatric problems in young children, the high levels of behavioral concerns reported by a large proportion of mothers in this study have implications for professionals who work with young children. We agree with the suggestion by the authors that a more comprehensive 18-month well-child or primary care visit should include assessment of behavior and further assert that well-child care at all ages should include questions about behavior and socio-emotional development. Over the past several years, there has been an increasing appreciation of the importance of a medical home, which addresses children’s medical needs as well as their social, emotional, and developmental needs (American Academy of Pediatrics, 2009; Garg, Jack, & Zuckerman, 2013). Ideally, routine well-child visits would include assessment of child behavior and discussion about development, with pediatric providers offering parents information about typical toddler behavior and recommendations for how to manage difficult behaviors. Additionally, referrals to early intervention services should be made for...
those children exhibiting developmental delays including delays in socio-emotional development. Such strategies not only address parental concerns about child behavior but will also better prepare children for school entry, where they will be expected to follow directions, sustain attention during learning activities, and engage in cooperative behavior with their peers.

REFERENCES


