Two 4-year-olds, Keisha and Kamilah, are each attempting to put together a complex puzzle. Keisha tries to orient a piece but can’t locate the place it belongs; she then chooses another piece, tries to orient it, then re-orients it and persistently searches for its place. Kamilah selects a different piece, tries to orient it and then throws it down, running to join another activity in the classroom.

Why does Keisha persist in trying to complete the puzzle while Kamilah abandons it?

Keisha and Kamilah illustrate how children the same age can display different levels of what is called mastery motivation. One child will persist in the face of a challenging task, another will give up. What do early childhood professionals know about mastery motivation? How does it vary by age, caregiving processes, and disability? How can early childhood teachers promote it?

What is mastery motivation?

Mastery motivation is defined as a “psychological force that stimulates an individual to attempt independently, in a focused and persistent manner, to solve a problem or master a skill or task which is at least moderately challenging for him or her” (Morgan, Harmon, & Maslin-Cole 1990, 319). Two key components of this definition include attempts to master a task independent of explicit adult instruction and persistence in attempting to master the task even when solutions aren’t immediately obvious. The child who exhibits high levels of mastery motivation will seek out a challenging task and derive pleasure from the outcome of having persevered with it.

Mastery motivation is considered to be universal and intrinsic to every child, as indicated by developmental theorists including Piaget (1952), White (1959), and Hunt (1965), who all maintained that a child is born motivated to explore the world. White contended that children have a need to produce an effect on the environment and that they achieve this through exploration and play coupled with selection, direction, and persistence. White defined the process of engagement in such activities as effectance or competence motivation and proposed that such engagement helps children acquire a “feeling of
efficacy” (1959, 329). Harter (1975) further defined effectance motivation as a “desire to solve cognitively challenging problems for gratification inherent in discovering the solution” (370). Harter emphasized several key components: curiosity, preference for challenge, internal criteria of success, and working for one’s satisfaction.

A construct similar to mastery motivation and its relative, effectance motivation, was proposed by Dweck (1986) in studies of school-age children. Based on children’s approach to challenging tasks, she described some children as “mastery-oriented” and others as “helpless.” The mastery-oriented children tended to persist on difficult tasks, attribute their failures to factors they could control (e.g., effort), have positive expectations for future success even after failure, and display positive or neutral affect while working on challenging tasks.

In contrast, the helpless children tended to give up quickly, attribute failures to events out of their control (e.g., ability), have low expectations for success on future similar challenges, and show negative affect during challenges. Dweck (1986) proposed that some children develop “learned helplessness” because they believe, based on past experiences, that they have little control over the events that affect them.

More recent work indicates that these two dimensions of mastery motivation can be identified in early childhood. Results from several studies indicate that about 40 percent of kindergartners show the helpless pattern in response to achievement-based challenges (Ziegert et al. 2001). This finding indicates that preschool might be a critical time to intervene to prevent the formation of the helpless pattern and promote the development of a mastery-oriented one.

Thus, the preschool years are an important time to help children get on a path of being motivated to master tasks as opposed to feeling helpless in the face of challenge.

How does mastery motivation change during early childhood?

During the first two years of life, children begin to develop a “self-system” (Kelley, Brownell, & Campbell 2000); that is, they begin to select activities to engage in, and they begin to evaluate their own performance. Both selection of activities and self-evaluation are aspects of motivation.

Developmentally, children progress through several shifts in mastery motivation, so that the motivated child behaves differently at different life phases. The motivated infant, younger than 6 months, explores objects through reaching, mouthing, and visual exploration. Around 9 months, however, infants begin to understand rudimentary aspects of cause and effect, and the motivated infant begins to engage in goal-directed activity with unfamiliar tasks (Jennings 1993).

Goal-directed behavior becomes more complex as toddlers gradually learn to seek more distant goals that involve a chain of actions for goal attainment (e.g., filling a bucket with sand to be used in building a castle) (Jennings 2004). At around 18 months, children begin to be able to compare their behavior with a standard (Jennings 1993), and the motivated toddler attempts to approximate the standard. Moreover, toddlers who are highly motivated often show great pride in self-agency, as displayed in enthusiastic comments and hand claps. During the preschool years, motivated children begin to self-select challenging tasks and prefer tasks that “make them think” to those that are easy to accomplish (Stipek 1996).

What affects mastery motivation?

Although motivation is considered to be intrinsic, children show individual differ-
ences in such motivation over their early childhood years. The transactions that occur between children and caregivers appear to be critical to children’s mastery motivation. Bornstein (1989) delineated two general modes of interaction between children and caregivers that have consequences for cognitive development: social and didactic. Both appear to be important in the development of mastery motivation.

In a study of twins who were in kindergarten or first grade, Deater-Deckard and colleagues (2006) demonstrated that although task persistence has genetic influences, changes in such persistence could be explained by differences in maternal behavior, with more positive changes occurring when mothers expressed both warmth and support during interaction with their child. Maternal affect, especially attempts to soothe and show empathy when a child demonstrates distress, also appears to predict mastery motivation in preschool-age children with disabilities who were born preterm (Young & Hauser-Cram 2006).

In relation to caregivers’ didactic behaviors, studies indicate that parental interference with children’s mastery attempts has deleterious effects on children’s mastery motivation. This has been found for both typically developing children (Frodi, Bridges, & Grolnick 1985; Wachs 1987) and for those with developmental disabilities (Hauser-Cram 1993). Researchers (e.g., Morgan et al. 1991) contend that parents who are highly directive may encourage children to be efficient responders but not efficient initiators. In contrast, parents who provide “gentle guidance” may assist in children’s development of mastery.

Kelly, Brownell, and Campbell (2000) found that mothers who scaffolded their toddler’s efforts in attempting challenging tasks (e.g., who held the toy so the child could work on it without it slipping; who asked questions such as “Where do you think that piece goes?”) had children who demonstrated greater task persistence in the preschool years. They speculated that maternal support through scaffolding might help children understand that they are able to do the task.

**Mastery motivation in children with disabilities**

Research findings are mixed as to whether children with disabilities, especially those with cognitive disabilities, show lower levels of mastery motivation. Several studies now indicate that such toddlers and young preschoolers show levels of motivation equal to those of their typically developing peers (Hauser-Cram 1996; Glenn et al. 2001; Gilmore, Cuskelly, & Hayes 2003). By the end of preschool, however, lower mastery motivation has been noted for children with cognitive disabilities, at least based on parent reports (Nicols, Atkinson, & Pepler 2003).

In a longitudinal study of children with developmental disabilities, one study found that mastery motivation measured at age 3 predicted growth in cognitive and daily living skills over a 10-year period (Hauser-Cram et al. 2001), with greater growth for children with higher levels of mastery motivation. This suggests that preschool, again, could be a critical time of intervention for children with disabilities, as it is for typically developing children, in relation to their trajectories of mastery motivation.

**What can teachers do to promote mastery motivation?**

Given the importance of children’s preschool years in the divergence of pathways regarding mastery motivation, what are
specific ways that preschool teachers can support and enhance mastery motivation?

Most research has focused on the relation between teachers’ behaviors and children’s mastery motivation. But such investigations give clues as to ways to improve children’s mastery motivation in the classroom. In addition, some intervention studies have been conducted looking at how to increase the task performance of children with disabilities in the preschool classroom (e.g., Karnes, Johnson, & Beauchamp 2005).

Several important suggestions emerge from such work:

1. **Provide children a choice of activities.**
   A modest number of choices, rather than no choice or a large number of choices, is optimal in enhancing motivation (Stipek 1996).

2. **Provide children with activities that offer an opportunity to learn rather than only opportunities to be correct or incorrect.** For example, provide problem-solving tasks, games, or other activities in which there are several possible ways to solve the problems posed.

3. **Support children in ways that do not interfere with their autonomy.** Sometimes this requires adults to let children experience dead ends when having difficulty rather than the adults anticipating a way to prevent such outcomes. To avoid children’s frustration this may need to be coupled with “gentle support,” such as a well-timed suggestion (e.g., “Maybe if you turn that piece around...”), rather than a direct command (e.g., “That piece fits here”).

4. **Use puppets as a way to demonstrate productive cognitive strategies** (Karnes, Johnson, & Beauchamp 2005). For example, a puppet can model self-talk in working on a task (e.g., “Maybe if I turn this”), when confronting difficulties (e.g., “Maybe I could try it a different way”), and after success (e.g., “Hooray, I did it!”).

**What future research is needed on mastery motivation?**

Despite the growing amount of research on mastery motivation, together with ways of measuring it through parent and teacher reports and direct observation (Morgan, Harmon, & Maslin-Cole 1990), knowledge about what kinds of interventions might be able to enhance this important behavior is lacking. Given the social organization of classrooms, more information is needed on how children support or undermine each other in mastery motivation, as well as on how classroom structure and routines might relate to mastery motivation. Research on which types of interventions might work best for children with certain attributes or interests is also needed.

Although there are many future avenues to explore in understanding and encouraging mastery motivation in young children, we do know that it is a critical area of development. Given that researchers have found that mastery motivation relates to later academic achievement (Shiner 2000), a more thorough focus on this construct during the early childhood years seems to be imperative.

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**References**


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