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Parental beliefs about the fixedness of ability

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ABSTRACT

The present studies examined whether parents' beliefs about the fixedness of ability predict their self-reported interactions with their children. Parents' fixedness beliefs were measured at two levels of specificity: their general beliefs about intelligence and their beliefs about their children's math and verbal abilities. Study 1, conducted with an online sample of 300 parents, showed that the more parents believed that abilities were fixed, the more likely they were to endorse controlling and performance-oriented behaviors and the less likely they were to endorse autonomy-supportive and mastery-oriented behaviors. Study 2, conducted with 86 parents from a university database, partially replicated the results of Study 1 and also showed that parents' beliefs predicted the self-reported frequency with which they engaged in math- and reading-related activities with their children at home. Specifically, the more parents believed that abilities were fixed, the less frequently they reported engaging in math- and reading-related activities.

Prior to formal schooling, parents play a critical role in the development of their children's foundational math and literacy skills by providing them with opportunities to learn in their early home environment. However, parents vary widely in the amount and type of math- and reading-related activities they engage in with their children at home (Baker & Scher, 2002; LeFevre et al., 2009). They also vary in the quality of their interactions during these activities. At times parents may emphasize learning and mastery of skills, while other times they may focus on improving their children's performance. In addition, sometimes parents act in ways that promote their children's autonomy, while other times they attempt to control their children's behavior (Pomerantz, Moorman, & Litwack, 2007). Both the quantity and quality of parent–child interactions have important implications for children's motivation and achievement in school (Pomerantz et al., 2007).

Given that the quality of parents' interactions influences the development of children's skills and motivation, it is important to examine factors that may underlie differences in parents' behavior. One potential factor is parents' beliefs about the fixedness or malleability of their children's abilities (i.e., whether they believe that their children's abilities are innate and stable over time, or can be improved through effort and practice). Although these beliefs have been successfully manipulated in a laboratory context and shown to be causally related to parents' behavior toward their children (Moorman & Pomerantz, 2010), no studies have examined whether parents' naturally occurring (i.e., non-manipulated) beliefs about the fixedness of intelligence or ability predict the type of behavior they report engaging in outside of the lab. Furthermore, some studies that have measured parents' fixedness beliefs (but looked at different outcomes; e.g., Jose & Bellamy, 2012; Pomerantz & Dong, 2006; cf. Karkkainen, Raty, & Kasanen, 2011; Wentzel, 1998) have focused on what parents believe about intelligence *in general*. However, considering that people vary in terms of their lay beliefs about critical periods in development (e.g., whether ability is malleable at some ages but not others; Worden, Hinton, & Fischer, 2011), it seems likely that what parents believe about their *own children's* abilities in particular domains differs from what they believe about intelligence more generally. Therefore, in the present studies, we measured parents' beliefs about ability at two levels of specificity: 1) their general beliefs about the fixedness of intelligence; and 2) their specific beliefs about the fixedness of their child's math and verbal abilities. We then examined whether these beliefs predict (a) the *quality* of the behaviors (mastery- vs. performance-oriented) they use to help their young children complete challenging academic tasks, and (b) the *frequency* with which they engage in math- and reading-related home activities that are thought to improve children's abilities in these domains. Finally, we measured parental efficacy (i.e., the extent to which parents' believe they are capable of improving their children's abilities) and examined whether it mediated the effect of parents' fixedness beliefs on their parenting behavior.

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The quality of parents' interactions

One of the central aims of the current studies was to examine whether parents' beliefs about the fixedness of their children's math and verbal abilities predict the quality of self-reported parent–child interactions. In defining "quality of interactions," we draw from both self-determination theory (Deci & Ryan, 2000) and achievement goal theory (Maehr & Zusho, 2009).

Self-determination theory: Autonomy-supportive versus controlling parenting

One dimension of parenting style that can impact children's development is the extent to which parents interact with their children in an autonomy-supportive versus a controlling manner. Autonomy support involves encouraging children to explore their environment, solve problems independently, and make their own decisions. In contrast, controlling behavior involves tightly regulating children's actions by issuing commands, providing external incentives, and modulating affection (Pomerantz et al., 2007). It is important to note that controlling behavior is more likely to emerge when there is a threat in the environment, such as when parents feel there is a possibility that their children may not do well on a task (Gurland & Grolnick, 2005), and is associated with expressions of negative affect, such as frustration (Moorman & Pomerantz, 2010).

Research has shown that autonomy support has a positive long-term influence on children's academic performance, whereas controlling behavior has a negative influence (see Pomerantz et al., 2007, for a review). Hess and McDevitt (1984) showed that the self-reported tendency of certain mothers to control the behavior of their 4-year-old children was associated with these children exhibiting lower levels of verbal ability at age 4 and lower verbal and math achievement at age 12. Grolnick, Gurland, DeCourcey, and Jacob (2002) found that the more autonomy-supportive and less controlling mothers were when helping their third-grade children complete two homework-like tasks in the lab, the better the children performed on these tasks.

Achievement goal theory: Mastery- versus performance-oriented parenting behavior

Another important dimension of parenting style is the extent to which parents exhibit mastery- versus performance-oriented behavior when interacting with their children. Mastery-oriented parenting involves teaching children to value the process of learning and to appreciate the importance of effort. In contrast, performance-oriented parenting involves encouraging or helping children demonstrate high levels of performance with little effort, even if this comes at the expense of actual learning (Gottfried, Fleming, & Gottfried, 1994). Research suggests that mastery-oriented parenting leads to positive academic outcomes. In one study, the self-reported frequency with which mothers engaged in mastery-oriented practices with their 9-year-old children, such as encouragement of curiosity, positively predicted these children's concurrent intrinsic motivation, which in turn predicted their math and reading performance on a standardized test at age 10 (Gottfried et al., 1994). In another set of studies by Mueller and Dweck (1998), fifth-grade children who initially received positive feedback from an experimenter about their effort (a typical mastery-oriented parenting behavior) exhibited greater task persistence, enjoyment, and performance in response to a later failure compared to children who received positive feedback about their ability (see also Gunderson et al., 2013; Pomerantz & Kempner, 2013).

Although a distinction can be made between the autonomy-supportive versus controlling and mastery-oriented versus performance-oriented dimensions of parenting, these constructs may actually be interconnected in some contexts. For example, when parents act in autonomy-supportive ways, they foster mastery-oriented behavior in their children by encouraging independent attempts to master skills that promote a sense of competence (e.g., Frodi, Bridges, & Grolnick, 1985). On the other hand, when parents are primarily concerned with ensuring that their children perform well on a task (i.e., performance-oriented), they may be particularly likely to engage in controlling behaviors (e.g., Grolnick et al., 2002). Thus, in keeping with previous research (e.g., Moorman & Pomerantz, 2010), we examine the two parenting dimensions as a single construct and contrast autonomy-supportive and mastery-oriented parenting behavior (mastery-oriented behavior for short) with controlling and performance-oriented parenting behavior (performance-oriented behavior for short).

Parents' beliefs about the fixedness of their children's abilities

One factor that likely influences parents' mastery- versus performance-oriented behavior is their beliefs about the fixedness of their children's abilities. According to Dweck's (1999) research on beliefs about intelligence, some individuals view intelligence as a fixed and stable trait, and do not believe that intelligence can be changed (i.e., *entity* theorists), whereas others view intelligence as malleable and able to improve with effort (i.e., *incremental* theorists). Consistent with Dweck's (1999) distinction between fixed and growth mindsets, we used the term "fixedness" to describe the continuum of beliefs ranging from entity to incremental.

Although much research has examined how children's beliefs about the fixedness of intelligence affect the way they pursue their own goals (see Dweck, 1999), less is known about how *parents'* beliefs about the fixedness of intelligence might affect the way they pursue the goals they have for their children. Parents' beliefs about the nature of intelligence may provide them with a framework for how *and* how often they engage their children in school-related activities. For example, parents who believe that their children's math or verbal abilities are relatively fixed may not think that it is particularly useful to frequently engage them in math- or reading-related activities. In addition, when their children struggle with a math or reading task, they may infer that their children have reached the limits of their math or verbal ability. This inference, combined with the assumption that there is not much they can do to improve their children's ability (i.e., low *parental efficacy*), may lead them to assert control over their children's behavior in order to ensure that they do not do poorly on the task. In contrast, incremental-minded parents may believe that it is useful to frequently engage in math- and reading-related activities with their children because working hard in these domains can substantially improve their children's abilities. They may also be more likely than entity-minded parents to focus on their children's learning rather than performance. For example, they may allow their children to struggle with a problem because they think that this affords them an opportunity to improve their ability. Thus, parents' fixedness beliefs will likely predict both the *frequency* with which they engage in math- and reading-related activities within the home as well as the *quality* of their interactions during those activities.

Preliminary evidence for these hypotheses comes from a recent study (Moorman & Pomerantz, 2010) that examined the effects of mothers' theories of intelligence on the quality of their interactions with their 6–9-year-old children during a puzzle task. Researchers induced an entity or incremental mindset in mothers by telling them that the task tapped either innate ability or intellectual potential, respectively. Mothers induced to hold an entity (fixed) mindset displayed more unconstructive involvement, such as performance-oriented teaching, control, and negative affect during the task than did mothers induced to hold an incremental (growth) mindset. However, because parents' beliefs were induced and their behavior was observed in the lab, it is unclear whether parents' naturally occurring beliefs about the fixedness of ability also predict their behaviors.

The current studies seek to extend the previous literature by measuring both parents' general beliefs about intelligence as well as their more specific beliefs about their children's math and verbal abilities.