



## How Language about Ability Affects Performance

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It is commonly known that telling a child she is stupid is harmful. But what about telling her she is smart? Although the latter case is unlikely to be as bad as the former, there is research to suggest that even praising a child's intelligence (as well as other abilities) may have negative effects, because of how it shapes children's views about the nature of these traits (1, 2). This is an example of the many ways that the language used by parents (and other adults) can have a powerful impact on children's development.

It turns out that certain kinds of praise — praise that focuses on the person (e.g., you're so smart!) — rather than the process (e.g., you worked so hard studying for that test!) — make children more likely to think about abilities as being fixed rather than malleable through effort and

hard work. This applies to intelligence, but appears to be relevant for abilities fairly broadly - for example, "You are a good drawer," vs. "You did a good job drawing," (1). If you believe that being good at something is a trait, or an ability that you either have or don't, that implies that it isn't changeable. Adopting this kind of fixed ability mindset can have cascading effects on motivation and performance, if efforts to improve are consciously or unconsciously viewed as wasted energy (e.g., 3) If you can't get any smarter or better at something through effort, why bother trying? Â

During graduate school, I was involved in a study that suggested you can elicit this kind of fixed mindset thinking in children and its associated negative consequences on motivation and performance just by linking an ability to a social category (e.g., "Boys are really good at the shape game!"). In contrast, statements that link an ability to a single individual (e.g., "There's a boy who is really good at the shape game!") appear less likely to induce this kind of mindset (4). When 4 to 7-year-old children heard language linking gender to ability, they performed worse, and were less motivated than children who had heard about individual boys or girls that were good at a game. This was true whether the outcome measure was motor performance on a shape tracing task completed by one set of children, or a mental rotation task completed by another set of children, who were asked to imagine what a 3D object would look like rotated to a different orientation in space. This drop in motivation and performance was even observed for children who were from the group that was expected to perform well (e.g., boys who were told that boys were supposed to excel at the game they were able to play). Another way to think about this is that if you're already expected to be good at something, you don't need to expend much effort, and if you are expected to do poorly at something, there's not much point in trying.

The results from this study can be situated within a larger literature that has documented the negative effect of stereotypes on performance - termed "stereotype threat" (5). Generally, this literature has focused on adults, and on how belonging to a negatively-stereotyped group can particularly hurt performance. Notably, the child study described above showed how quickly a negative stereotype can be created (the games were referred to as "the shape game" and the "finding game" to ensure children were unfamiliar with the groups and thus could not hold preconceived notions about who should excel or struggle), and that even positive stereotypes can negatively impact performance. After all, children only heard about individuals or genders that were "good" at the tasks. It is unclear whether children went beyond these statements to infer that another group was bad at the task (if a child heard that girls were good at a game, did she infer that boys weren't so good at the game?), or whether the simple act of creating expectations about performance based on group membership - in this case, gender identity - created task anxiety that made children perform worse and enjoy the games less.

The powerful effects that stereotypes about ability can exert is likely to play an important role in achievement gaps in STEM that exist between different social groups. According to one study, the extent to which certain fields are perceived to require raw brilliance rather than hard work is a strong predictor of how underrepresented women are in that field - for example, women earned 54% of Ph.D.s in molecular biology in 2011 but only 31% of Ph.D.s in philosophy (6). Perhaps even more disheartening is the finding that by age 6, girls have become less likely to associate brilliance with their gender and are more likely to avoid activities that are said to require brilliance (7). Â

Addressing achievement gaps based on gender and ethnicity is a complicated problem that is likely to require a multi-pronged approach, but the research discussed here suggests that the kind of language we use to talk about abilities and performance to children really matters, and may play an important role in this process. To the extent that we can talk to children (and train the professionals working with children in daycares and schools) in ways that encourage them to think about intelligence and other abilities as malleable through effort, and minimize making connections between social groups

and abilities, we may encourage them to strive toward their full potential.Â

*Image: Pixabay*

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