Speaking Two Languages Also Benefits Low-Income Children

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Living in poverty is often accompanied by conditions that can negatively influence cognitive development. Is it possible that being bilingual might counteract these effects? Although previous research has shown that being bilingual enhances executive functioning in middle-class children, less is known about how it affects lower income populations.

In a study forthcoming in Psychological Science, a journal of the Association for Psychological Science, psychological scientist Pascale Engel de Abreu of the University of Luxembourg and colleagues examine the effects of speaking two languages on the executive functioning of low-income children.

“Low-income children represent a vulnerable population,” says Engel de Abreu. “Studying cognitive processes in this population is of great societal importance and represents a significant advancement in our understanding of childhood development.”

Existing research, conducted with older bilingual children and bilingual adults from middle class backgrounds, suggests that knowing two languages may have different effects on different aspects of executive functioning: while being bilingual seems to have a positive influence on the ability to direct and focus attention (control), researchers have found no such benefit for how people encode and structure knowledge in memory (representation).

Engel de Abreu and her colleagues hypothesized that this pattern would also hold for younger bilingual children who were low-income.

A total of 80 second graders from low-income families participated in the study. Half of the children were first or second generation immigrants to Luxembourg, originally from Northern Portugal, who spoke both Luxembourgish and Portuguese on a daily basis. The other half of the children lived in Northern Portugal and spoke only Portuguese.

The researchers first tested the children’s vocabularies by asking them to name items presented in pictures. Both groups completed the task in Portuguese and the bilingual children also completed the task in Luxembourgish.

To examine how the children represented knowledge in memory, the researchers asked them to find a missing piece that would complete a specific geometric shape. The researchers also measured the children’s memory, using two different tasks to see how much visual information the children could keep in mind at a given time.

The children then participated in two tasks that looked at their ability to direct and focus their attention when distractions were present. In the first task, they had to find and match 20 pairs of spacecrafts as quickly as possible, a task that depended on their ability to ignore all the non-matching spacecrafts. In

the second task, the children were presented with a row of yellow fish on a computer screen and they had to press a button to indicate which direction the fish in the center was facing. The other fish either pointed in the same or opposite direction of the fish in the middle.

Although the bilingual children knew fewer words than their monolingual peers, and did not show an advantage for representation tasks, they performed better on the control tasks than did the monolingual children, just as the researchers hypothesized.

“This is the first study to show that, although they may face linguistic challenges, minority bilingual children from low-income families demonstrate important strengths in other cognitive domains,” says Engel de Abreu.

The researchers believe that the findings could inform efforts to reduce the achievement gap between children of different socioeconomic backgrounds. “Our study suggests that intervention programs that are based on second language teaching are a fruitful avenue for future research,” says Engel de Abreu. “Teaching a foreign language does not involve costly equipment, it widens children’s linguistic and cultural horizons, and it fosters the healthy development of executive control.”