As we enter MCA assessment testing season, please be aware that students may experience test anxiety. While a certain degree of anxiety is normal and may help students prepare more effectively and remain focused, too much anxiety can negatively affect performance. Students may experience reduced memory capacity, impaired self-regulation, and higher blood pressure. Visible signs of anxiety in academic settings include:

- Spending more time per item than others
- Double guessing
- Re-reading the items more than necessary
- Negative cognition and dejected emotions regarding testing
- Lowered self-performance expectations and reduced effort
- Reduced self-control
- Reduced working memory capacity
- Reduced creativity, flexibility and speed
- Excess effort

In developing strategies to address potential anxieties, research identifies that student anxiety associated with a perception of “identity threat” in academic settings may be based on prior performance, language, racial and cultural identity. In addition, past experiences of “identity threat” in academic settings may leave a “psychological residue” that affects students’ expectations, perceptions and motivation to engage in the learning process. This “psychological residue” is commonly referred to as stereotype threat. Understanding of stereotype threat becomes critical in academic settings as reduction of stereotype threat has been found in several studies to reduce racial and gendered gaps in test scores, grade point averages and engagement.

The term was first used by Steele and Aronson (1995) who showed in several experiments that African American college freshmen and sophomores performed more poorly on standardized tests than white students when their race was emphasized. When race was not emphasized, however, African American students performed better and equivalently with white students. The results showed that performance in academic contexts can be harmed by the awareness that one’s academic performance might be viewed through the lens of racial stereotypes. In fact, research has shown that stereotype threat may account for as much as a 40 point difference on the SAT for men and 20 points on the SAT for women.

Since Steele and Aronson’s (1995) paper, research in stereotype threat has broadened in several important areas. First, research has shown that the consequences of stereotype threat extend beyond underachievement on academic tasks.

For example, it can lead to self-handicapping strategies, such as reduced practice time for a task (Stone, 2002), and to reduced sense of belonging to the stereotyped domain (Good, Dweck, & Rattan, 2008). In addition, consistent exposure to stereotype threat (e.g., faced by women in math) can reduce the degree that individuals value the academic subject in question (Aronson, et al. 2002; Os- borne, 1995; Steele, 1997). In education, it can also lead students to choose not to pursue the domain of study and, consequently, limit the range of professions that they can pursue. The concept of stereotype threat is based on close to 20 years of research and over 300 experiments conducted with results published in peer-reviewed journals (see Nguyen & Ryan, 2008 and Walton & Cohen, 2003 for meta-analyses).

How Can Teachers Prevent Stereotype Threat?

There are several ways that stereotype threat can be addressed. Ideally, stereotype reduction strategies begin during the first weeks of school. Stereotype reduction strategies place an emphasis on supporting the academic identities of learners by recognizing the impact that race, income, culture and gender can have on student perception of self. By intentionally recognizing identity stressors, intentional action steps can be implemented. Examples of strategies that have been used to reduce stereotype threat include:

- Reframing the task: “Think of the test as the opportunity to show what you know rather than a measure of your intelligence.”
- Emphasizing the malleability of intelligence: “the mind is like a muscle, the more you work it the stronger it will be.”
- Acknowledge students’ feelings of anxiety and allow students to express their feelings in writing and/or verbally.

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• Deemphasizing threatened social identities.
• Encouraging self-affirmation: Have students write about things that they value or have students write essays on moments that they have experienced academic success.
• Providing role models and positive images in person, on walls and in curriculum. These images alleviate stress by providing assurances that people with similar backgrounds were able to persevere in similar situations.
• Emphasizing high standards with assurance of capability: “I expect your best work. Tell me how I can support you in meeting my expectations.”
• Review homework and materials that pertain to test topics (opportunities for building confidence).
• Make sure that students are comfortable in the online testing environment.

Please do not hesitate to contact Eric Moore, director of Research Evaluation and Assessment at MPS if you would like additional information on stereotype threat. You can also read more at http://reducingstereotypethreat.org/.

Teacher’s Perspective on Stereotype Threat

The MPS science content team has been explicitly training science teachers around stereotype threat. Below are some MPS science teacher perspectives on learning about this phenomenon:

“I have learned that stereotype threat is a huge issue for our students and that students might perform poorly on a test or project simply because they “think” that they will perform poorly because of “who they are.”

“I took photos of students during different labs and put them on the wall. The students love to look at the photos and see themselves doing science. It was pretty simple and took me about 15 minutes to choose the good photos and print them to the color printer. Even though the photos have been up for at least a month now, I still see students looking at them. I think this is great because they are actually seeing themselves or other students they know “doing” science.

You really can’t go wrong with that. Even if it isn’t helping, it certainly isn’t hurting anything!”

- Hope Austin-Phillips, Sanford Middle School

“Many teachers may address this topic in their own way already without realizing it. The simplicity is that by just mentioning the threat exists can make a difference in how students see themselves in a challenging situation and give them the confidence to persist longer than they would have without knowing it.”

- Tammie Coffee Noriega, Jefferson Community School

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- Aviva Grans-Korsch, Sanford Middle School

“‘I have tried the strategy of having students reflect on what has gone well for them in my class before taking an assessment. I don’t have data, but I did feel that it helped create the right mood/atmosphere for everyone to be successful on the test. I also talked to students about how tests measure what they have learned, not how smart they are. This also led to positive discussion right before we took a test.”

- Tracey A. Schultz, Ramsey Middle School

“‘Our middle school is focusing on a growth mindset vs. a fixed mindset. We have seen that many students have specific beliefs about themselves, their circumstances and how that relates to achievement. A competent female student in Math class may not achieve the same test scores as her male classmates if she feels that her gender doesn’t perform as well as her male counterparts in this subject area. Growth on those tests can sometimes be accomplished simply by telling the female students that boys perform just as good on the Math tests as girls.’

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“‘I really appreciate that we have taken up the subject of stereotype threat in science PD this year. Many of our students in middle school pay very close attention to ideas of innate ability, who is “smart” and who is not, and that some groups in society are destined for math, science and engineering ability, while others are not. We have to show them that achievement in science comes with work, experience and effort, and give them multiple chances at formative assessments so that all students see that they can achieve mastery.”

- Tammie Coffee Noriega, Jefferson Community School