# Teacher's Guide

I. Overview and Background

What is *Awkward Moment*?
Tiltfactor Laboratory's *Awkward Moment*™ is a 20-minute game for 3-8 players ages 12 and older. It was created as part of a National Science Foundation-funded project to design and study games to combat implicit bias and stereotype threat against girls and women in science, technology, engineering, and math (STEM) fields.

How is *Awkward Moment* played?
In *Awkward Moment*, players begin with a hand of five "Reaction Cards"; these cards describe potential responses to the game's "awkward moments," including actions (e.g., "Scream your head off," "Write a blog post about it," "Talk it out"), exclamations (e.g., "Rats!" "OMG," "No way!"), and frames of mind (e.g., "Get serious," "Relax," "Channel your inner warrior"). During each round, one player serves as the "Decider" and draws a "Moment Card" that poses a hypothetical situation to the group (e.g., "Somebody hacks your Facebook account and changes your status to 'Girls are stupid.'") and a "Decider Card," which lists a criterion or guideline to be used to select a winning Reaction (e.g., "Most Responsible," "Most Compassionate," or "What a Best Friend Would Most Likely Do"). The other players then submit a Reaction Card face-down. The Decider also draws The Decider then reads each of the submitted cards and designates a winner for the round.
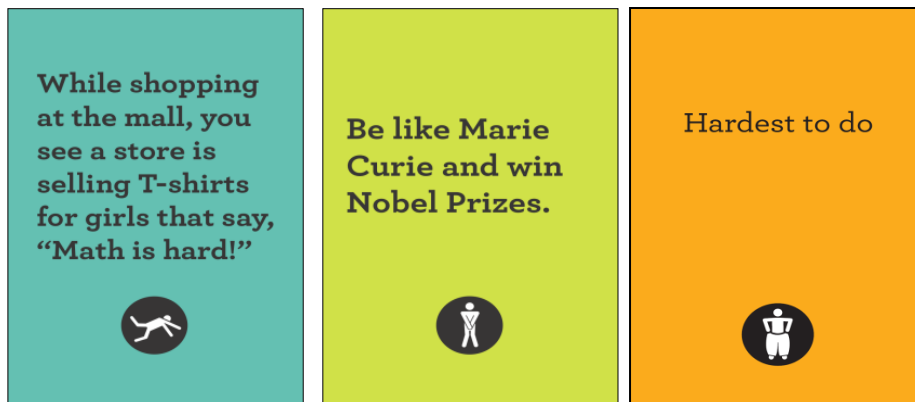
Sample Moment, Reaction, and Decider Cards

What is the underlying goal of *Awkward Moment*?

The intention of the game is to stimulate thought and discussion about responses to social and academic dilemmas, particularly situations that involve bias against girls and women in STEM. Many of the cards in the Moment deck present situations in which a female is a target of stereotypes. In some situations, players imagine *being* a target themselves. In the process, the game aims to inspire players to be more vigilant about occurrences of social bias – and to confront and overcome social biases in an effective, assertive manner.

The design of the game was informed by psychological theory and research on stereotype threat and implicit bias, two powerful psychological obstacles that have been shown to reduce self-efficacy, persistence, and performance among members of underrepresented groups in STEM.

What is Stereotype Threat?

Whenever individuals find themselves in situations in which they know that a negative stereotype toward their social identity group exists, they can find themselves facing anxiety about conforming to this stereotype. This anxiety is known as stereotype threat.

Example: *From hundreds of interviews that I've conducted with black college students, it's clear that many believe that the stereotype [that African Americans are less intelligent] places them in situations freighted with unnerving expectations. Some report feeling a sense of unfairness, that there will be less patience for their mistakes than for white students' mistakes, and that their failure will be seen as evidence of an unalterable limitation rather than as the result of a bad day. Others report worrying that the stereotype might be true or that their poor performance will reflect badly on other members of their group. Such feelings can make black students more apprehensive than white students about being evaluated and about the prospect of failure. They will often begin to question whether they truly belong in an arena that prizes academic talent.* — "The Threat of Stereotype" by Joshua Aronson (2004)

Research has shown that stereotype threat can negatively impact performance, particularly on tasks that require attention and focus. Specifically, stereotype threat activates physiological stress responses, encourages excessive performance monitoring, and instigates the attempt to mentally suppress thoughts of self-doubt, all of which deplete cognitive resources (Schmader et al., 2008). Likewise, the experience of threat may hinder individuals' flexibility in problem-solving (Carr & Steele, 2009) and activate failure-avoidance goals and worry as opposed to performance-approach goals and confidence (Brodish & Devine, 2009).

Example*: Joshua Aronson writes, "On [a test presented as non-evaluative], the black students solved, on average, twice as many items as on the test that we presented in the standard way. The manner in which we presented the test had no effect whatsoever on the white students. In another set of studies, we found that merely asking students to indicate their race on a demographic questionnaire prior to starting the test had a similarly debilitating effect on black students. When they thought we were interested in their race, their test scores plunged."* For black students, a test that was designed to evaluate their abilities and intelligence was more challenging because of the anxiety caused by stereotype threat. — "The Threat of Stereotype" by Joshua Aronson (2004)

Stereotype threat can affect members of any group if they are placed in a situation in which they risk conforming to an established negative stereotype.

Example: A study found that white male engineering students suffered decreased performance on a math test if they were told that the test was meant to help researchers understand the superior math performance of Asian students (Aronson et al., 1999). Likewise, a study involving Asian female students found that their performance was hindered if they were reminded of their gender, but boosted if they were reminded of their ethnicity, prior to taking a standardized math exam (Shih, Pittinsky, & Ambady, 1999).

Fortunately, research has revealed a number of effective means of reducing stereotype threat and counteracting its negative effects on performance and persistence, such as:
- Actively negating or dismissing an activated stereotype (Kawakami et al., 2000)
- Affirming a positive aspect of one's identity to counteract the activation of a negative stereotype (Logel et al., 2009; Martens et al., 2006; Rydell et al., 2009)

- Reframing a stereotype-relevant task as a challenge rather than a threat and emphasizing how the task can be an enjoyable way to gain knowledge or build skills rather than how it can be a way for individuals to show their inherent talent or ability (Alter et al., 2010)
- Adopting a *growth mindset* to anticipate improvement in a particular domain through persistence and practice (Aronson, Fried, & Good, 2002)

What is Implicit Bias?
Negative stereotypes can affect our assumptions without our conscious knowledge. Implicit bias, by definition, reflects an unconscious and automatic negative association that is incorporated in one's mental representation of a particular social group or domain as a result of the prevalence of stereotypes in the social environment (Greenwald and Banaji, 1995; Greenwald and Farnham, 2000).

What's particularly insidious about implicit bias is that even individuals who are consciously aware that the stereotypes are unfounded may find themselves unconsciously making negative stereotypical judgments. In STEM domains, for example, individuals may harbor a strong implicit association between "math" and "negative" or a stronger implicit association between "math" and "male" than between "math" and "female," even if they are not consciously aware of such representations and, moreover, even if they have a positive attitude toward girls' ability to excel at math at the conscious level.

Combating implicit bias requires targeting the automatic association and either changing it (e.g., "automatizing" a new association through repeated exposure) and making people aware of the often unrecognized impact that implicit bias can have on their perceptions, judgments, interpretations, attitudes, and behaviors. Among the most successful techniques for reducing implicit bias that have been validated by empirical investigation include:
- Exposing individuals to positive role models from a stereotyped group (e.g., successful female mathematicians or scientists: Blair et al., 2001; Stout et al., 2011)
- Repeatedly negating an activated stereotype (Kawakami et al., 2000) or reinforcing one's goals to be egalitarian in one's views of social groups (Moskowitz & Li, 2011)

More Resources
For more information on stereotype threat and implicit bias, check out these websites:

The American Association of Undergraduate Women (AAUW) has published an informational booklet that details research findings regarding women's involvement with Science, Technology, Engineering, and Mathematics (STEM) fields (Hill et al., 2010):
http://www.aauw.org/learn/research/upload/whysofew.pdf

The Implicit Association Test (IAT) is the most widely used psychological measure of unconscious (implicit) associations and is available at this Harvard website:
https://implicit.harvard.edu/implicit/demo/

Joshua Aronson, a leading scholar on stereotype threat, published an article discussing the phenomenon in the journal *Educational Leadership.*
http://www.ascd.org/publications/educational-leadership/nov04/vol62/num03/The-Threat-of-Stereotype.aspx

II. Suggested Classroom Game Play

Duration: 45 minutes
1. Play *Awkward Moment*
Divide students into groups based on the number of card sets available. Try to have 4-8 students in each group, if possible. Instructions to play the game are included with each card set; a summary of the rules is included below.

Awkward Moment *features three decks of cards:*
- *Moment Cards: Moment Cards pose hypothetical situations to which players respond.*
- *Reaction Cards: Reaction Cards provide players with possible responses to the awkward situations presented by Moment Cards*
- *Decider Cards: each Decider Card gives the Decider a guideline to use to select the winning reaction.*

Players each receive five Reaction Cards. The first Decider flips one Moment Card and one Decider Card and reads them to the group. Each player submits a face down Reaction Card in response to the Moment and Decider Card on the table. The Decider shuffles the submitted cards, reads them out loud to the group, and picks a winner. The winner keeps the round's Moment Card. Each player draws a new Reaction Card and the player to the Decider's left becomes the next Decider.

2. Reflection

After groups have played for about 10 minutes, reconvene for a group reflection. Ask students to share situations from the game that they found particularly awkward. Did any situations in the game resemble events from their daily lives? Encourage them to play again and to think about which situations seem common or uncommon and which reactions seem effective or ineffective.

3. Return to Play

As students return to play, each group should select a Recorder to jot down thoughts about which Moments the groups encounter that seem especially awkward or realistic. Players should also note the Reactions that seem helpful or effective at addressing the Moments that come up.

In subsequent game play sessions, you may choose to "stack" the Moment deck to feature scenarios of a particular type or flavor. For example, to open up discussion about gender bias in STEM domains, you could include the following Moment Cards:

- *"You say you want to work with computers when you grow up and your coach laughs at you."*
- *"You call a store to ask about a price on a camera, and the clerk asks to speak with your brother or dad instead."*
- *"Your scout leader tells you to skip the technology badge because it would be too hard for you."*
- *"While shopping at the mall, you see a store is selling T-shirts for girls that say, 'Math is hard!'"*
- *"The drama teacher is casting the lead role of an astronaut in the school play, and she's only asked boys to try out for the part."*
- *"Your computer crashes and the tech guy at school makes fun of you for not knowing how to fix it."*

Conversely, you may consider balancing the deck with Moments that model successful achievements or outcomes in STEM, such as the following:

- *"You get to compete at Nationals for your chemistry experiment in the science fair."*
- *"You join the Mathletes and you don't know anybody on the team yet."*
- *"When a mean girl at school sees you holding the model of the solar system you made for the science fair, she says, 'Nerd alert! Nerd alert!'"*
- *"When you ace the final math exam, your cousin says it's only because you got lucky."*
- *"You win the robotics competition for your invention of a robot that walks your dog for you."*
- *"Your friends make fun of you for being able to name all of the elements in the periodic table."*
- *"You do really well on a science project, but your friend tells you that it's only because you're the teacher's pet."*

Once all groups have completed their games, ask each Recorder to share the Moments that stood out to their group in some way. Make a class list of situations that seemed especially unpleasant or especially realistic. Encourage students to articulate what makes some Moment cards particularly unpleasant. Do some of the situations presented make certain students more uncomfortable than others? As you guide the students through this part of the discussion, you may want to introduce the concepts of stereotype threat and implicit bias. Hopefully, you will be able to offer these terms in response to ideas that come up organically in the discussion. If not, then you may want to select a Moment that reflects one of these concepts and ask students to reflect on it.

5. Personal Research
Optionally, you may want to point students to https://implicit.harvard.edu/ where they can take an Implicit Association Test (IAT). The IAT measures the unconscious positive or negative associations that users might have between certain groups. Many students will be surprised to learn that their implicit associations are often strongly linked to stereotypes even if they intellectually know that the stereotype isn't true.

IMPORTANT: We recommend allowing your students to experience the game without explicitly telling them beforehand the game deals with stereotypes and bias in STEM. Our empirical work has shown that simply telling players ahead of time that the game deals with "social stereotypes" not only reduced players' enjoyment and engagement levels, but also limited the games' impact on players' associations between women and science. In contrast, we recommend using more neutral language to introduce the game – for instance, telling students the game deals with "social *situations*" – and then using the post-game reflection period to discuss how the game broaches the topics of stereotypes and bias.

References

Alter, A. L., Aronson, J., Darley, J. M., Rodriguez, C., & Ruble, D. N. (2010). Rising to the threat: Reducing stereotype threat by reframing the threat as a challenge. *Journal of Experimental Social Psychology*, *46*, 166-171.

Aronson, J., Fried, C. B., & Good, C. (2002). Reducing the effect of stereotype threat on African American college students by shaping theories of intelligence. *Journal of Experimental Social Psychology, 38,* 113-125.

Aronson, J., Lustina, M. J., Good, C., Keough, K., Steele, C. M., & Brown, J. (1999). When white men can't do math. *Journal of Experimental Social Psychology, 35*, 29–46.

Blair, I. V., Ma, J. E., & Lenton, A. P. (2001). Imagining stereotypes away: The moderation of implicit stereotypes through mental imagery. *Journal of Personality and Social Psychology*, *81*, 828-841.

Brodish, A. B., & Devine, P. G. (2005). The dynamics of prejudice, stereotyping, and intergroup relations: Intrapersonal and interpersonal processes, *Social Psychological Review, 7*, 54-70.

Carr, P. B., & Steele, C. M. (2009). Stereotype threat and inflexible perseverance in problem solving. *Journal of Experimental Social Psychology, 45*, 853–859.

Greenwald, A. G. & Banaji, M. R. (1995). Implicit social cognition: Attitudes, self-esteem, and stereotypes. *Psychological Review*, 102, 4-27.

Greenwald, A. G. & Farnham, S. D. (2000). Using the Implicit Association Test to measure self-esteem and self-concept. *Journal of Personality and Social Psychology*, 79, 1022-1038.

Hill, C., Corbett, C. & St. Rose, A. (2010). Why so few? Women in science, technology, engineering and mathematics*. Washington, DC: American Association of University Women.

Kawakami, K., Dovidio, J. F., Moll, J., Hermsen, S., & Russin, A. (2000). Just say no (to stereotyping): Effects of training in the negation of stereotypic associations on stereotype activation. *Journal of Personality and Social Psychology*, *78*, 871-888.

Logel, C., Iserman, E. C., Davies, P. G., Quinn, D. M., & Spencer, S. J. (2009). The perils of double consciousness: The role of thought suppression in stereotype threat. *Journal of Experimental Social Psychology, 45*, 299-312.

Martens, A., Johns, M., Greenberg, J., & Schimel, J. (2006). Combating stereotype threat: The effect of self-affirmation on women's intellectual performance. *Journal of Experimental Social Psychology, 42,* 236-243.

Moskowitz, G.B., & Li, P. (2011). Egalitarian goals trigger stereotype inhibition: A proactive form of stereotype control. *Journal of Experimental Social Psychology*, 47, 103-116.

Rydell, R. J., McConnell, A. R., & Beilock, S. L. (2009). Multiple social identities and stereotype threat: Imbalance, accessibility, and working memory. *Journal of Personality and Social Psychology*, *96*, 949-966.

Schmader, T.**,** Johns, M., & Forbes, C. (2008). An integrated process model of stereotype threat effects on performance. *Psychological Review*, 115, 336-356.

Shih, M., Pittinsky, T. L., & Ambady, N. (1999). Stereotype susceptibility: Identity salience and shifts in quantitative performance. *Psychological Science*, *10*, 80-83.

Stout, J. G., Dasgupta, N., Hunsinger, M., & McManus, M. A. (2011). STEMing the tide: Using ingroup experts to inoculate women's self-concept in science, technology, engineering, and mathematics (STEM). *Journal of Personality and Social Psychology*, *100*, 255-270.