



Reports

Threatened to distraction: Mind-wandering as a consequence of stereotype threat

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ABSTRACT

Two experiments tested the hypothesis that the threat of a negative stereotype increases the frequency of mind-wandering (i.e., task-unrelated thought), thereby leading to performance impairments. Study 1 demonstrated that participants anticipating a stereotype-laden test mind-wandered more during the Sustained Attention to Response Task. Study 2 assessed mind-wandering directly using thought sampling procedures during a demanding math test. Results revealed that individuals experiencing stereotype threat experienced more off-task thoughts, which accounted for their poorer test performance compared to a control condition. These studies highlight the important role that social forces can have on mind-wandering. More specifically, these results serve as evidence for task-unrelated thought as a novel mechanism for stereotype threat-induced performance impairments.

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We have all had the experience of sitting down to a task – writing a paper, reading a book, listening to a lecture – only to realize, perhaps with some frustration, that our mind has drifted away. The recent interest in mind-wandering calls attention to the simple fact that we are not always masters of our mind. Although mind-wandering may provide a welcomed respite from the minutia of everyday life, it can also impair performance (e.g., Smallwood, McSpadden, & Schooler, 2008). So imagine the implications if the tendency to mind-wander is systematically increased for certain segments of the population when confronting a task that could singularly determine their access to the best schools, funding opportunities, and career prospects. The current research integrates the methods for assessing mind-wandering with the theoretical framework for how negative stereotypes can systematically undermine performance in a way that could contribute to educational and economic disparities based on gender, ethnicity, race, and social class. The aim was to test the hypothesis that individuals are more likely to mind-wander in situations where they are stereotyped to do poorly and as a result are prevented from performing to their full potential.

How stereotype threat affects attention and thought

Stereotype threat, defined as the risk of behaving in a way that substantiates a negative stereotype against one's group (Steele & Aronson, 1995), has emerged as a phenomenon of great theoretical

and practical interest. Recent advances have revealed an integrated set of mechanisms that are responsible for these impairments (Schmader, Johns, & Forbes, 2008). These include an increased physiological stress response, more conscious monitoring of performance, and active regulation of negative thoughts and feelings, each of which might work alone or in concert to hijack the working memory resources needed for complex cognitive problem solving. In an alternative account, Jamieson and Harkins (2007) propose that performance is impaired because the threat of confirming the stereotype prompts greater effort on the task which serves to potentiate one's dominant response. When this automatically activated response is not the most effective or efficient route to good performance, the likelihood of success is diminished.

Although these accounts differ in their explanation of how stereotypes impair performance, they both assume that people are trying to maintain attention on the task. The Jamieson and Harkins' mere effort account would seem to predict that attention would be hyper-focused on the task as people put forth additional effort in an attempt to disconfirm the stereotype. Schmader et al.'s integrated process model would suggest that if attention strays from the task, it is because people become absorbed in meta-cognitions about their performance (Schmader, Forbes, Zhang, & Mendes, 2009). Indeed, there is evidence that this does occur. Cadinu, Maass, Rosabianca, and Kiesner (2005) found that performance deficits resulting from stereotype threat were mediated by an increase in negative task-related thoughts during prior test sections. Similarly, Beilock, Rydell, and McConnell (2007) found that stereotype threat results in a greater proportion of task-related thoughts and worries.

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Although on-task thoughts and worries increase when people are the targets of negative stereotypes, prior research has not found an equivalent increase in task-unrelated thoughts (Beilock et al., 2007). However, methodological limitations may have prevented previous studies from uncovering the role of mind-wandering in disrupting task performance under stereotype threat. For instance, Cadinu et al. (2005) examined the role of negative thinking under stereotype threat but did not include task-unrelated thoughts in the verbal report coding scheme, eliminating any possibility of establishing the extent to which individuals were mind-wandering. Beilock et al. (2007) did include mind-wandering in their coding scheme, but relied on participants reporting their thoughts and feelings *after* the testing session. Research on mind wandering suggests that although retrospective measures allow for a rich assessment of the content of thought, they may systematically overlook many mind-wandering episodes. One reason for this discrepancy is that thoughts frequently drift away from a task without our awareness that our mind has gone AWOL (Schooler, 2002; Schooler, Reichle, & Halpern, 2005; Smallwood et al., 2008). This important fact may underlie the difficulty prior work has encountered in demonstrating the role of task-unrelated thought in stereotype threat or in documenting evidence of increased anxiety using self-report measures (Bosson, Haymovitz, & Pinel, 2004; Johns, Inzlicht, & Schmader, 2008). Thoughts and feelings that one is unaware of are especially pernicious in affecting behavior because one cannot compensate for them (Schooler et al., 2005; Smallwood et al., 2008). Perhaps this is why task performance can be impaired more by thoughts that are completely unrelated to the task than by task-related interference and worries (Smallwood, Baracaia, Lowe, & Obonsawin, 2003). In fact, a great deal of research suggests that mind-wandering can have a strong negative impact on task performance (Smallwood & Schooler, 2006). We review some of this work below in consideration of the role that mind-wandering may play in stereotype threat induced performance deficits.

Mind-wandering under stereotype threat

Mind-wandering is defined as a decoupling of attention from the immediate task context toward unrelated concerns (Smallwood & Schooler, 2006). Previous research has indicated that mind-wandering can have detrimental effects on performance in several domains (e.g., Smallwood et al., 2008; Cheyne, Solman, Carriere, & Smilek, 2009), and may play an important role in educational settings (Smallwood, Fishman, & Schooler, 2007). Moreover, just as situations of stereotype threat are most likely to impair performance on cognitive tasks that require a degree of controlled processing (Schmader et al., 2008), mind-wandering is also most disruptive to task performance when sustained attention is needed to be successful (Smallwood & Schooler, 2006).

Although mind-wandering happens to us all from time to time, the tendency toward mind-wandering can also be affected by the situation. Mind-wandering is more likely to occur on tasks that we can carry out automatically (e.g. driving, running, and to some extent, reading). We know less about how social context can facilitate or impede mind-wandering, and the current set of studies begins to address that gap. We hypothesized that the threat of being targeted or judged by a negative stereotype would promote mind-wandering, which in turn may contribute to the performance detriments associated with stereotype threat. There are several reasons for this hypothesis.

First, according to Schmader et al.'s integrated process model of stereotype threat, individuals experience impairments to working memory capacity when they are targeted by a negative stereotype (Beilock et al., 2007; Schmader & Johns, 2003). In other research, those who are low in working memory capacity show an increased likelihood of mind-wandering (McVay & Kane, 2009). Therefore, if stereotype threat generally impairs the central executive resource

that allows us to focus attention on some focal task, then mind-wandering during that task should increase.

However, it is also possible that mind-wandering itself is triggered by stereotype threat and once initiated engages the same resources that are needed for successful task performance (Smallwood, 2010). For example, Christoff, Gordon, Smallwood, Smith, and Schooler (2009) show that during mind-wandering, individuals exhibit increased activation of both the default network that is typically activated during rest and areas like the anterior cingulate cortex and the dorsolateral prefrontal cortex that underlie central executive functions like working memory. Christoff et al. (2009) speculate that the increased activation of the ACC might suggest detection of cognitive inconsistencies that then require executive resources to understand or resolve. Smallwood and Schooler (2006) argue that the activation of executive processing areas points to the idea that mind-wandering itself can be a resource demanding activity leading to performance impairments.

Furthermore, individuals under threat also end up feeling anxious, especially if they attribute their arousal internally (Johns et al., 2008). Increased mind-wandering under stereotype threat could therefore result from increased anxiety (there is an established link between mind-wandering and negative moods, Smallwood, O'Connor, Sudbery, & Obonsawin, 2007; Smallwood, Fitzgerald, Miles, & Phillips, 2009). Specifically, the increase in mind-wandering under threat may be indicative of people using their "affect as information" (Schwarz & Clore, 1983) and employing cognitive efforts to make sense of their current internal state even though this can draw attention away from the task altogether. This might explain why research finds that attributing one's arousal to an external cause can attenuate the stereotype threat effect (Ben-Zeev, Fein, & Inzlicht, 2005; Johns, Schmader, & Martens, 2005).

From these multiple viewpoints, we predict that situations of stereotype threat should increase the prevalence of mind-wandering, which may contribute to the ensuing performance detriments. The challenge, however, is that individuals are often unaware that mind-wandering has occurred. Thus, although participants may be mind-wandering repeatedly during testing, they may not be able to report this using retrospective thought listing.

Experimental overview

To test these hypotheses, two experiments were conducted employing methodological advances developed to measure mind-wandering. Study 1 tested the effect of stereotype threat on indirect performance markers of mind-wandering during the Sustained Attention to Response Task (SART; Robertson, Manly, Andrade, Baddeley, & Yiend, 1997). Study 2 was designed to build on the first study by using thought sampling to directly measure task-unrelated mind-wandering *during* a demanding math test. These studies provided the opportunity to examine whether more sensitive measures of the occurrence of task-unrelated thought would provide support for the hypothesis that mind-wandering is partially accountable for the detrimental effects of stereotype threat.

Study 1

Participants

43 female undergraduate students from the University of California Santa Barbara participated in exchange for course credit (mean age = 19.0, *SD* = 1.85).

Procedure

Study 1 was a between subjects design comparing the frequency of mind-wandering among women under stereotype threat to women in a control condition. Stereotype threat was induced by adapting a

widely used manipulation to the specific task context of the present study (Schmader & Johns, 2003; Johns et al., 2005, 2008; Schmader, Forbes, et al., 2009; Forbes, Schmader, & Allen, 2008; Forbes & Schmader, 2010). Participants were informed that they would be taking part in two unrelated tasks. In the stereotype threat condition, a female participant was seated in between two male confederates at adjacent computer stations, and the experimenter was male. He explained that they would be taking a diagnostic math test designed to test for differences between men and women. However, first the computer would administer a brief attention task. In the control condition, three female participants were run by a female experimenter, who gave the same instructions except for describing the upcoming test as a problem solving exercise rather than a diagnostic test. All participants were told that they would receive performance feedback.

After instructions, all participants were shown three difficult example questions from the math/problem solving exercise they were to ostensibly take after the attention task. Participants then completed a 10 minute SART. The SART is a GO/NOGO task often used as an indirect measure of mind-wandering (Cheyne et al., 2009). Stimuli were presented for 2 s each with an inter-stimulus interval of 500 ms. Participants were asked to respond as quickly as possible to frequent non-targets (O's) by pressing the space bar and to refrain from responding to rare targets (Q's). A total of 240 stimuli were presented, including 216 non-targets and 24 targets presented at unpredictable quasi-random intervals.

Several indicators of mind-wandering can be derived from SART performance. Failures to omit a response to rare targets (SART errors) are the most commonly used indirect marker of mind-wandering. Reaction time variability is a measure of periodic speeding and slowing of response times as attention fluctuates slightly during task performance and is operationalized using the Response Time Coefficient of Variability (RT CV, mean RT/standard deviation of RT). SART omissions occur when participants fail to make a response to non-targets. Finally, SART anticipations are characterized by rapid responses to non-targets that occur so quickly (<100 ms) that they are indicative of automatic anticipatory responses rather than focused task performance. These four performance measures correlate with one another and with self-reported dispositional mind-wandering (Cheyne et al., 2009).

Results and discussion

We addressed the impact of stereotype threat on four indirect markers of mind-wandering. Table 1 presents the means, standard deviations, and Pearson correlations among measures. Significant correlations between all measures suggest that these performance markers are converging indices of mind-wandering.

As hypothesized, stereotype threat increased mind-wandering. Statistical tests revealed an effect of stereotype threat on SART errors, $t(41) = 2.04, p = .048$, reaction time variability, $t(41) = 3.36, p = .002$,

and omissions, $t(41) = 2.56, p = .014$. Stereotype threat also led to numerically more anticipations, although this difference did not reach significance, $t(41) = 1.26, p = .22$. As displayed in Fig. 1, these results demonstrate that participants under stereotype threat were more likely to make inappropriate responses to rare targets, experienced greater speeding and slowing of reaction times indicative of the disengagement of attention, and failed more often to respond to frequent non-targets.

By demonstrating that stereotype threat can robustly impact indirect performance markers of mind-wandering during the SART, Study 1 provides preliminary evidence that stereotype threat can cause mind-wandering. As predicted, women under stereotype threat showed classic signs of mind-wandering; they had more difficulty sustaining attention on the task. Furthermore, because the SART is a GO/NOGO task with frequent and rare stimuli, the dominant response is to respond to all stimuli as if they were frequent non-targets. There is no evidence however that stereotype threat merely potentiated the dominant response as the mere effort account would suggest. Otherwise, we would have observed threat effects only on SART errors (failing to not respond to rare targets) and might have expected decreased variability under threat. Instead, we saw that threat disrupted attention in a more general way — people both failed to respond when they should have and made responses when they shouldn't have. Presumably as a result of having their attention disengaged and reengaged repeatedly during the task, the overall variability in reaction times increased.

A notable aspect of experiment 1 was that the impaired performance associated with stereotype threat was observed on a task that itself was not pertinent to the stereotype. That is, there is no widely held stereotype that men and women differ in their performance on dull vigilance tasks, yet performance on this task was disrupted by the impending prospect of working on a separate task in a domain in which one's group is negatively stereotyped. Such evidence is consistent with prior results showing that situations of stereotype threat can disrupt cognitive processes, such as working memory, in anticipation of a diagnostic performance test (Schmader & Johns, 2003). Accordingly, reduced effort and poor performance on practice tasks administered prior to a test may not only be evidence of motivated self-handicapping (Stone, 2002) but could also be indicative of mind-wandering processes that make it difficult for people to set and implement preparatory goals and action plans.

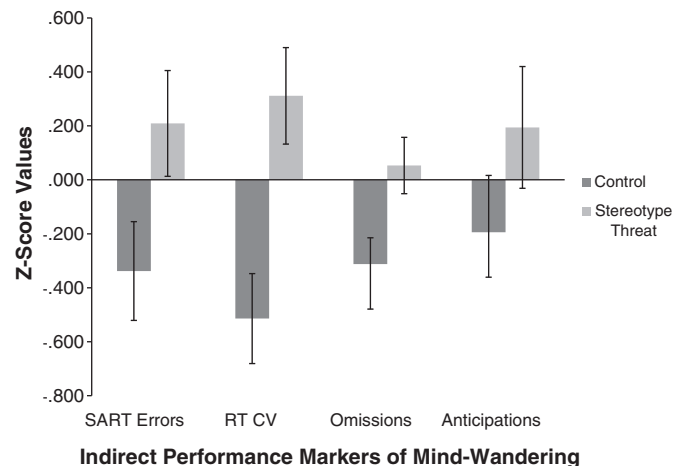


Fig. 1. Increased mind-wandering following stereotype threat. Converging markers of mind-wandering during the SART indicate that women performing under stereotype threat experienced a greater susceptibility to mind-wandering. SART errors = failures of commission to rare targets; RT CV = Response Time Coefficient of Variability (SD/mean); Omissions = failures of omission to frequent non-targets; Anticipations = trials with reaction times to non-targets of less than 100 ms.

Table 1
Indirect markers of mind-wandering during the Sustained Attention to Response Task (SART).

Variable	Mean	SD	1	2	3	4
1. SART errors	5.67	4.43	–			
2. RT CV	0.25	0.08	.407**	–		
3. Omissions	1.91	3.67	.684*	.722**	–	
4. Anticipations	2.02	4.53	.784**	.462**	.862***	–

Note. $N = 43$. SART errors: failures of commission to rare targets; RT CV: Response Time Coefficient of Variability (SD/mean); Omissions: failures of omission to frequent non-targets; Anticipations: trials with reaction times of <100 ms.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

While the effects of stereotype threat clearly extend to unthreatened domains that are sensitive to mind-wandering, it is important to determine whether mind-wandering also contributes to performance detriments associated with tasks to which stereotype threat directly pertain. Thus, Study 2 was designed to assess the role of mind-wandering in mediating the impact of stereotype threat on performance on a task (mathematical calculations) that is known to be vulnerable to such threat. In order to assess mind-wandering more directly, Study 2 also employed a probe technique where participants were intermittently stopped while taking a math test and asked to rate the degree to which current thoughts were on or off task.

Study 2 Method

Participants

72 female undergraduate students participated in exchange for course credit (mean age = 18.76, $SD = .99$).

Procedure

Study 2 manipulated stereotype threat in the same manner as Study 1. In Study 2, however, participants actually took a math test rather than the SART. The test contained 30 items from the quantitative portion of the Graduate Record Exam (GRE). In the stereotype threat condition, the cover page of the exam read “QUANTITATIVE EXAMINATION” in bold print, and required that participants indicate their gender. The control test contained the same questions but was labeled as a problem solving exercise and did not ask participants to record their gender.

Prior to taking the test, all participants were told that the study was designed to measure how people take tests, and toward that end the computer would probe them randomly during the task. Furthermore, the test timer would pause during this time, so that they could take their time to answer this probe without affecting their score. The computer then displayed an example of the probe, which asked participants to respond on a 1–5 scale, the degree to which their mind was completely on the task (1) versus completely on unrelated concerns (5). The experimenter explained that the computer would beep periodically to indicate that the participant should respond to a probe, which would appear on the screen at that time. Participants worked on the test for 20 min and were probed 15 times at unpredictable quasi-random intervals.

A retrospective measure of mind-wandering was administered after the math test using the thinking and content component of the Dundee State Stress Questionnaire (Matthews, Joyner, Gilliland, Huggins, & Falconer, 1999). Eight questions assess task-related interference (TRI; e.g., “I thought about how I should work more carefully”) and eight questions assess task-unrelated thought (TUT; e.g., “I thought about something that happened to me earlier”). Finally, participants were asked to rate themselves on five adjectives related to anxiety (anxious, agitated, uneasy, nervous, worried) on a 9 point Likert scale (1 = not at all, 9 = very strongly).

Results

Analysis of performance and mind-wandering

Replicating a standard stereotype threat effect, the threat condition negatively impacted test performance. Test accuracy (number correct divided by number attempted),¹ was significantly lower in the stereotype threat condition ($M = .47$, $SD = .28$) than in the control condition ($M = .61$, $SD = .28$), $t(70) = 2.20$, $p = .031$.

The next portion of the analysis focuses on the effect of stereotype threat on probe-caught mind-wandering. Responses to this probe were averaged to create a general index of off-task thinking. The results revealed that women under stereotype threat reported being off-task ($M = 2.16$, $SD = .55$) more than did control participants ($M = 1.79$, $SD = .96$), $t(70) = 2.01$, $p = .048$.

In subsequent mediational analyses, condition (control vs. stereotype threat), and probe-caught mind-wandering were entered simultaneously into a regression predicting test accuracy. Mind-wandering emerged as a significant predictor of poorer test accuracy, $\beta = -.38$, $p = .001$, and condition no longer significantly predicted accuracy, $\beta = -.17$, $p = .14$. When the proposed mediation was tested using 6000 resamples (Shrout & Bolger, 2002), the indirect effect of stereotype threat through mind-wandering was significant, $\beta = -.09$, 95% CI $[-.21, -.01]$ (see Fig. 2). These findings provide strong support for the hypothesis that mind-wandering contributes to performance impairments under stereotype threat.

Analysis of supplementary self-report measures

No effect of stereotype threat was observed on responses to either the Task Related Interference (TRI) or Task Unrelated Thought (TUT) portions of the retrospective thinking and content questionnaire, both $t's < 2$, $p's > .10$. This is consistent with a literature suggesting that participants may not always be aware of or able to report instances of mind-wandering and speaks to the greater sensitivity of using the online thought sampling procedure (Smallwood & Schooler, 2006). However, a simultaneous regression predicting probe-caught mind-wandering reported during the task from both retrospective TUT and TRI revealed that the online measure of mind-wandering was more strongly related to retrospective TUT ($\beta = .579$, $p < .001$, $sr^2 = .626$) than with retrospective TRI ($\beta = .298$, $p = .001$, $sr^2 = .382$). These results provide some validation that the probe-caught mind-wandering measure was successful at primarily capturing task-unrelated thought, even though retrospective self-report measures may be too insensitive to detect condition differences in mind-wandering. Furthermore, when we re-ran the analysis of probe-caught mind-wandering as a mediator of condition differences in test performance controlling for retrospective TRI, the indirect effect remained significant, $\beta = -.07$, 95% CI $[-.17, -.001]$. This finding further supports the notion that it was task-unrelated mind-wandering, not just task related concerns, which impaired performance.

Finally, we examined the role of anxiety in the mind-wandering effect observed. Chronbach's alpha for the five anxiety questions was .95, indicating that these items had high internal reliability. Anxiety was significantly higher in the stereotype threat condition ($M = 4.19$, $SD = 2.19$) than in the control condition ($M = 3.18$, $SD = 1.92$), $t(70) = 2.06$, $p = .043$. Furthermore, this measure of anxiety significantly mediated the effect of stereotype threat on mind-wandering, $\beta = .119$ CI $[.02, .25]$. Although these results provide some evidence that the effect of mind-wandering is due to increases in anxiety, the data are also consistent with the notion that stereotype threat increased anxiety, which in turn increased mind-wandering, $\beta = .104$ CI $[.001, .25]$. Due to the chronology of these measurements within the study, the precise role of anxiety is difficult to determine. Future studies that provide online measurements of both anxiety (perhaps through physiological measures) and mind-wandering could be fruitful in resolving this ambiguity.

General discussion

The present research demonstrated that stereotype threat can increase mind-wandering, and in doing so, impair performance on tasks requiring focused attention. Study 1 found that females anticipating a stereotype threat-laden task underperformed on the SART, demonstrating a robust increase on several widely accepted markers of mind-wandering. Study 2 built on this finding using

¹ There was no significant difference in attempts across conditions, $F < 1$.

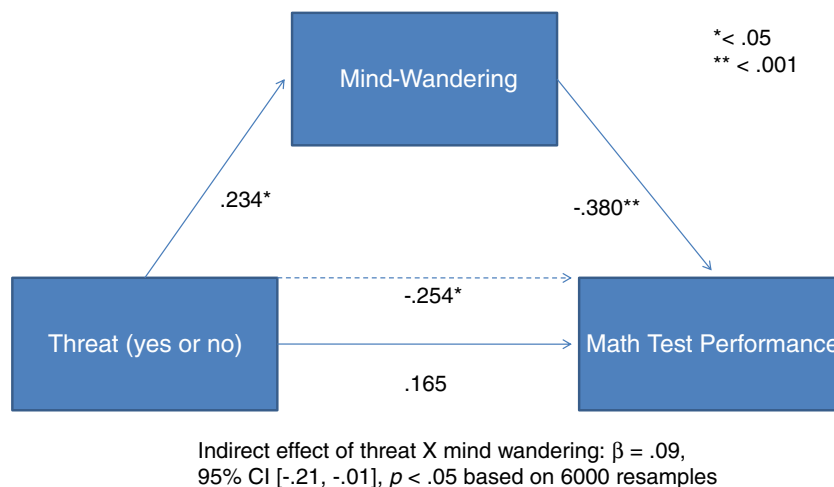


Fig. 2. Mind-wandering mediates stereotype threat induced performance deficits. Women taking a math test under stereotype threat had lower accuracy than a control group. This effect was mediated by the amount of mind-wandering that occurred during testing.

thought sampling to more directly measure mind-wandering during a demanding math task. Once again, females experiencing stereotype threat demonstrated increased mind-wandering, which mediated threat induced performance impairment. These studies represent the first empirical evidence that task-unrelated thought contributes to stereotype threat effects.

The finding that stereotype threat increases mind-wandering informs the current debate about the mechanism that underlies performance impairments due to stereotype threat. For instance, a mere effort explanation (Jamieson & Harkins, 2007, 2009) might predict increased attention to the task as people exert more effort in an attempt to disconfirm the stereotype. Instead, evidence from both the SART and thought probes suggests that stereotype threat produced a marked decrease in attention that subsequently impaired performance. Such findings are more consistent with an explanation of stereotype threat based on a general depletion of executive resources (Inzlicht, McKay, & Aronson, 2006; Schmader & Johns, 2003). But the current studies also suggest an additional component to Schmader et al.'s (2008) integrated process model of stereotype threat: stereotype threat may dissociate one's attention from the task at hand, creating a susceptibility to task-unrelated thoughts that may themselves occupy working memory resources needed for successful performance.

Study 2 is an innovation over prior attempts to measure the thoughts and feelings elicited while one is experiencing stereotype threat. Although some research has found greater task-related worries due to stereotype threat (Beilock et al., 2007; Cadinu et al., 2005), prior studies have not systematically explored the degree to which threat increases thoughts unrelated to the task. Because people are often unaware that their thoughts have strayed (Schooler, 2002; Smallwood & Schooler, 2006; Smallwood et al., 2008), Study 2 offers a powerful paradigm, allowing the experimenter to catch episodes of stereotype threat-induced mind-wandering as it is occurring rather than reported after the fact. Indeed, the application of this paradigm revealed that stereotype threat can also affect performance by increasing the frequency of distracting task-irrelevant thoughts.

In addition to furthering the mechanistic understanding of the stereotype threat effect, the current results also have important ramifications for mind-wandering research. Researchers have suggested that mind-wandering may play a key role in educational settings as a variable accounting for performance differences between students, particularly those suffering from Attention Deficit Disorder

(Smallwood et al., 2007). The present research indicates that social contextual variables can elicit mind-wandering, thereby disrupting performance. This may have important ramifications in alleviating the performance outcomes of stereotype threat, perhaps by providing methods to recognize and correct for mind-wandering. For example, Parks-Stamm, Gollwitzer, and Oettingen (2009) discovered that instructions to ignore external distractions were more effective at shielding academic performance from interference than instructions to respond to external distractions by increasing effort on the task. Given the newly discovered role of task-unrelated thoughts in stereotype threat, threatened individuals may be able to avoid performance deficits by using simple test-taking strategies aimed at ignoring episodes of mind-wandering.

The present studies also offer important suggestions for future research aimed at specifying precisely how stereotype threat increases mind-wandering. For example, Study 2 found that self-reported feelings of anxiety mediated the increase in task-unrelated thought associated with stereotype threat. This finding fits with previous research uncovering a relationship between negative affect and TUT (e.g., Smallwood et al., 2009). Stereotype threat may promote mind-wandering as test takers seek to find a source for their anxiety, perhaps searching for experiences unrelated to the task at hand. However, as mentioned above, this measure of anxiety was taken post test and the mind-wandering measure was measured online, making it difficult to tell whether anxiety caused TUTs or vice versa. Future research is needed to determine precisely how stereotype threat triggers mind-wandering.

The current studies present compelling evidence supporting the hypothesis that increases in task-unrelated thought account for a portion of the stereotype threat effect. Previous research has noted that stereotype threat is particularly damaging because it transforms cultural assumptions about differences between people (i.e., "the threat is in the air;" Steele, 1997) into tangible performance impairments. The present research raises the additional concern that because it can be challenging to notice mind-wandering as it occurs, those who are stereotyped may have difficulty even recognizing, let alone overcoming, the effects of this threat. An understanding of the role that mind-wandering plays in stereotype threat, along with the development of techniques for recognizing and controlling such unbidden thoughts may not remove stereotype threat from the air, but it might just help prevent its pernicious effects from materializing.

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