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With the ever increasing diversity of our societies, *Whistling Vivaldi* offers a perspective on one of the more relevant issues of our time: how stereotypes affect us. The author, Claude Steele, is a social psychologist with a doctorate from the Ohio State University, and is currently provost at Columbia University. Dr. Steele has received many academic and professional accolades, most notably two awards for Distinguished Scientific Contributions from the American Psychology Association and American Psychology Society, respectively. Central to his accomplishments is his quest to better understand the nature of race, gender, and ethnicity and their impacts on the individual and society. This enduring goal can be attributed to a pivotal experience from Dr. Steele's childhood. When Claude turned thirteen he tried to obtain a

job at the local Country Club as a golf caddy. After being ignored all day standing outside the gated entrance he began to question whether his identity limited him access to some opportunities. Claude is black, and in Chicago during the 1950s, black children were relegated certain times they could visit swimming pools and skating rinks; and they most certainly could not carry golf clubs at the Country Club. Dr. Steele's experience led him to theorize on how identity can alter one's success in a given society, not only by limiting an individual's access to certain opportunities, but also by affecting one's performance.

Identity contingencies are, as discussed by Dr. Steele, 'conditions one has to deal with in a setting in order to function in it (p. 68).' These contingencies are affected by one's social identities as white, black, rich,

poor, politically conservative or liberal, educated or uneducated, and so on. Of particular interest to Dr. Steele are the contingencies brought on by stereotype threat.¹ As he describes it, [w]e could all take out a piece of paper and write down the major stereotypes of other members of our society (p. 5).’ He argues that there would be a high degree of similarity on the content of these lists generated by society’s members, and this substantiates the fact that each member is keenly aware of his or her own social identity. Stereotype threat then arises when an individual becomes consumed with the fear of confirming a particular stereotype by his or her actions (e.g., a female performing poorly on a math exam). Dr. Steele does not simplify the subject by arguing stereotype threat could be attenuated by eliminating stereotypes. Instead, he proposes that if you want to change the behaviors and outcomes associated with social identity, don’t focus on changing the internal manifestations of the identity, such as values, and attitudes. Focus instead on changing the contingencies to which all of the internal stuff is an adaptation (p. 84).’ The analogy Dr. Steele uses to connect the reader to the influential powers of stereotype threat is the story of Brent Staples, also the muse for the title of the book. Brent, too, is a black male who grew up in Chicago. Walking down the street between his classes while attending the University of Chicago, Brent

noticed white couples locking arms and crossing the street to avoid him. Fearful actions displayed by these couples were not based on the actions of Brent, but were based on his stereotype threat as an aggressive, violence prone black man. Out of nervousness, Brent began to whistle Vivaldi’s *Four Seasons* as he walked down the street. He noticed the positive impact of his whistling as the tension drained from peoples bodies’ when they heard him (p. 6). By whistling classical music Brent made the aggressive stereotype less applicable to him and demonstrated how he, too, was educated and refined. But can dealing with the pressures of stereotype threat be as easy as whistling Vivaldi?

The primary objective of the social and psychological research presented in *Whistling Vivaldi* is to better understand why individuals underperform in certain circumstances, with the thesis being that stereotype threat plays a pivotal role. *Whistling Vivaldi* covers this material in eleven chapters, but the book is essentially organized into four fundamental themes: describing stereotype threat; exemplifying the impact of stereotype threat on performance based tests; exploring the mechanisms linking stereotype threat to poor performance; and providing scientifically backed methodology (i.e., peer-reviewed publications) for attenuating the effects of stereotype threat. Dr. Steele uses the platform of the book to cre-

ate a narrative that covers his personal research history including the etiology of his ideas, his preeminent studies and their conclusions, and finally offers ideas for desired applications. Through this literary style, a broad audience would appreciate and enjoy the book; however, its conclusions and applications will be of more value to individuals interested in the underlying causes of academic underachievement. For instance, future educators and administrators would be particularly interested in his work on stereotype threat's impact on female science and math testing as well as standardized test underachievement in black students. The caveat is that a detailed discussion on these topics is absent from the book. Instead the reader must refer to the actual peer-reviewed articles written by Dr. Steele and co-authors. Dr. Steele kindly provides a reference list associated with each chapter at the end of the book, however, so that readers can easily find these articles online or in a library.

To frame his argument that stereotype threat is linked to intellectual performance, Dr. Steele discusses one of his early studies on female underperformance in advanced math classes in college. He does not posit that women possess a lesser biological capacity for mathematical analysis, but instead suggests women present a psychological vulnerability due to gender stigmatization (stereotype threat). For

the first study, men and women of equally strong math skills and commitment to math education took either a 30-minute GRE math test or a 30-minute GRE literature test. Men and women performed equally well on the literature exam, but women significantly underperformed on the difficult math test. What this result meant for Dr. Steele was that during a difficult math test women, aware of the stereotype of their underperformance on math exams, become concerned about confirming their gender's negative stereotype, and thus they are presented with an identity contingency, absent from men, during the exam.

Dr. Steele discusses how similar effects of stereotype threat play out everyday from bad standardized-test scores by minorities to professional athletes playing for historically underachieving sport franchises; but how can stereotype threat affect performance? Dr. Steele acknowledges that people often see themselves in terms of whichever one of their identities is most under attack. This is because we often have an emotional connection to our identities. We tend to think well of our identities because we like to think well of ourselves. When identities are under attack people can become myopic, diverting attention from the task at hand. That is the psychological basis, but there is also a physiological basis to stereotype threat's effect on performance. Stereotype threatening test environments can

increase anxiety, as marked by increases in mean arterial blood pressure; but perhaps the most striking example of the physiology of stereotype threat was observed by having women take an advanced math test while concurrently having neural structures analyzed by functional MRI [work conducted by collaborators of Dr. Steele (Krendl et al. 2008, *Psychology Science*, 19(2):168-175)]. Mathematical learning is typically observed in the angular gyrus and left parietal and prefrontal cortex of the brain; however, under stereotype threat there was an excitement of the brain regions better associated with social and emotional processing. Overall, for women this contingency 'diverts attention and mental capacity away from the task at hand, which worsens performance' and 'further exacerbates anxiety (p. 126).'

Dr. Steele does not present the dilemma and leave the audience perplexed. He offers many suggestions to reduce stereotype threat in testing environments. Briefly, these solutions range from changing how proctors administer exams, prompting short writing sessions on self-worth and values before starting tests, and educating young individuals on brain plasticity and convincing them that working through 'hard' questions improves future brain performance. A major critique that is appropriate to address here is that stereotype threat necessitates the individual to actually care about

his or her performance on the task at hand. For instance an individual that more strongly identifies with sports, may not value mathematics, therefore relinquishing stereotype threat during a mathematical exam. This means stereotype threat is very much internalized, and any educator hoping to drastically improve test scores should not consider solutions provided within the text the ultimate means to an end.

Whistling Vivaldi provides a passionate and detailed argument for reassessing underperforming individuals and structuring curriculum to avoid stereotype threatening test environments. Dr. Steele mentions that ~85% of jobs are obtained through networking, and accessing these networks is a matter of opportunity contingent on educational success. Whether these social networks actually exist for particular minority groups, independent of educational success, however, is never addressed. Also, it could be argued that stereotype threat is not the only cause of educational and vocational disparities. However, after reading this book there will be no denying that happenstances of birth (being born white, black, male, female, rich, poor) can create certain identity contingencies that will help or hinder an individual's future success. But, with proper action by individuals responsible for creating test-taking and learning environments (e.g., educators, administrators, admissions staff) Dr. Steele

believes that the negative identity contingencies can become irrelevant; and identities can be seen as positively and uniquely contributing to complex and diverse societies.

Endnotes:

¹ Specifically, the circumstance, whether physical or psychological in nature, brought forth by a fear of confirming a particular stereotype that an individual must overcome in order to get what s/he wants or needs in a situation. Dr. Steele uses the example of white athletes competing in athletics dominated by black athletes, the National Basketball Association, where there is a national stereotype that the white athletes have inferior athletic ability. [The white athletes] have to survive and prosper against a lifelong gauntlet of performance situations loaded with this extra race-linked threat. No single good athletic performance would put the stereotype to rest. The effort to disprove it would be Sisyphean... ' (p. 11).