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Asian maths whizz and talkative females: how stereotypes can actually boost performance

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We live in a society obsessed with labelling people: Caucasian, male, banker, married, democrat, degree-holder, blackberry user, lives with parents... and the list goes on.

Regardless of its necessity, labels serve to inform (but often misinform) us about the traits of others and of ourselves. They influence the ways in which we form social identities – the categories to which people claim membership.

Categories can include age, ethnicity, gender, nationality, occupation, or even the type of car one drives, said Margaret Shih, an associate professor in human resources and organisational behaviour at the UCLA Anderson School of Management. She was speaking at the [Social Sciences & Humanities Seminar Series](http://www.socsc.smu.edu.sg/events/seminar_series/social_sciences_2009.asp) (http://www.socsc.smu.edu.sg/events/seminar_series/social_sciences_2009.asp), organised by SMU's [School of Social Sciences](http://www.socsc.smu.edu.sg/) (<http://www.socsc.smu.edu.sg/>).

Shih believes that labels often carry deep meanings, and they have a bearing on how we navigate our social environment – including organisations.

"If you're the only person in your category working in the organisation, say a woman working among a group of men; you're highly visible. There's a lot more riding on your performance. If you do really well, everybody can see your success. But if you do poorly, everyone can see your failure. A lot of times, you'd not just represent yourself, but also, your group."

Labels and stereotypes

Labels, in and of themselves, can trigger expectations associated with the group.

Women, for instance, are stereotyped to be good at arts and crafts. Inaccurate as such stereotypes might be, members of the group (e.g. women) will have to contend with its conjoined social expectations (in this case; to outperform men at tasks related to arts and crafts).

Some members might find such expectations discomfoting. However, can such discomforts affect actual outcomes?

Past studies have shown that people tend to do worse when they know they are being stereotyped, even if the area to which they are stereotyped is irrelevant to the performance domain - for example, a lawyer versus a farmer at an arts and crafts task.

One study looked at negative stereotypes associated with African Americans and their academic performance. Two groups of African American women were tasked to take a verbal test. One group had to check-off their race in a form prior to the test. The other group did not.

By checking-off their race on the form, participants were reminded of their racial identity - which might trigger ingrained associations or perceptions of that label. The group that did not receive the racial-identity prompt outperformed the group that did.

Similar trends were observed in studies of the elderly, where one of two groups was made aware of their elderly status prior to a memory test; and of white Caucasian men, where one of two groups was made aware of their racial identity before taking an athletic test.

While each identity carries certain stereotypes, how do we respond to all the different stereotypes that come with our multiple identities? After all, a person can be "Asian", "woman", "professor", "wife" and "mother" all at once.

Shih was especially interested to find out what happens when people carry opposite stereotypes within their multiple identities: Women are stereotyped to be bad at mathematics. Asian Americans are stereotyped to be good at mathematics. What happens when you ask an Asian American woman to take a maths test?

The Jekyll and Hyde of stereotypes

In the first study, Shih separated her all-female Asian American participants into three groups. Prior to a maths test, group one was asked to fill a survey about their ethnic heritage, group two was asked to do a gender-related survey, and group three represented the neutral condition, so they did a survey about their telephone service.

As Shih had anticipated, maths scores were higher where participants had been reminded of their ethnicity, compared to the other two conditions. It was as if their mathematical abilities became enhanced when they associated with the positive stereotype.

Just to make sure, Shih took this same study to Vancouver, where there was no prevalent stereotype that Asian Canadians were any better at mathematics, compared to other ethnicities. The same process was followed, this time, with three groups of Asian Canadian women.

Like in the previous study, participants performed poorer when they were made aware of their female identity. Those reminded of their Asian identity did no better than participants in the neutral condition.

So by eliminating a positive stereotype, the boost in performance was somehow nullified. To confirm the correlation between positive stereotypes and performance boosts, Shih decided to experiment with a different domain.

The third study pitted the "women are good verbal communicators" stereotype against that of "Asians make poor verbal communicators".

The all-female Asian American participants were split into three groups. Before taking the verbal test, groups were made to fill out one of three surveys that would prompt them of their ethnicity, gender, or, in the neutral condition, an irrelevant trait.

Results showed that participants made aware of their female identity scored higher than those who were made aware of their Asian identity. This, combined with the results of the previous studies, proves that positive identity-related stereotypes can impact performance favourably.

"When we think about multiple identities and performance, we find that making alternate identities salient buffers individuals from stereotype threats. So if you belong to a group that is negatively stereotyped, you might show a decline in performance. But if you focus on another identity, an alternate identity, you will avoid the stereotype threat effect," Shih explained.

In all three studies, however, identity stereotypes were activated subtly. None of the participants knew that their identities were being tied to their performance. They were only made aware of their identities, not of the stereotypes associated with their identities.

Will they perform any differently if they were made explicitly aware of their identity stereotypes?

Putting it blatantly

Shih tweaked her experiment. This time, she brought both male and female Asian American participants into the lab and assigned them randomly into three groups.

In the Asian-identity condition, participants did a survey about their ethnic background before commencing a maths test. In the neutral condition, participants did a survey on their telephone company. In the stereotype condition, participants did a questionnaire which required them to rate the validity of Asian American stereotypes, including "Asian Americans are good at mathematics".

"And right before the math test, we told them: *In this study, we're interested in studying how true the 'Asian Americans are good at math' stereotype really is. So you're Asian, please take this math test.* It was that blatant," said Shih.

Much like in the previous studies, participants in the Asian-identity condition answered more questions correctly. In the stereotype condition, however, participants performed worse, compared to the other two groups.

So it seems that positive stereotypes can boost performance, but only as long as they are implicit. Once individuals learn that they are being stereotyped, there is a negative effect on performance.

This is in line with past studies which show that people try harder when faced with blatant negative stereotypes (to prove that the stereotype is false), but such efforts can be self-defeating, because they often do not yield desired outcomes.

"People don't like being stereotyped. When we bring participants into the lab and make them feel stereotyped in irrelevant dimensions, like "Young adults are rowdy" – nothing to do with the performance domain they are in – they actually do worse as well. It could be that people just don't like being pigeonholed," Shih explained.

So it is important to consider *how* stereotypes are activated, especially within the performance environment - how

we adapt to identity cues, she added.

Title's deed

We form perceptions of people based on the way they behave, look, sound, smell, etc. These identity cues tell us how we are supposed to think of, or interact with that person.

For example, different perceptions are formed when someone is introduced as "Dr. ABC", as opposed to "Miss ABC". The "Dr" title signals to others that this person is accomplished, so she is likelier to be treated with respect than if she had used "Miss".

Shih believes that subtle identity cues, such as that of titles and names, can cause our perceptions and memories to sway in multiple directions. Putting this notion to the test, she invited 199 participants to read a college application from "Emily Chen".

Everyone read the same (fictitious) application, which included transcripts, a personal statement, letters of reference, and a list of extracurricular activities. The applicant's name informed the participants that she was 'female' and 'Asian'.

Participants were later randomly assigned to one of four questionnaires. One asked participants to recall the "Asian American" applicant's SAT mathematics score; others cued for the "Asian" applicant, the "female" applicant, or just plain "applicant".

All the participants had seen Emily Chen's SAT mathematics score previously. However, when asked to recollect what they had already seen, people recalled a higher maths score when they were cued with "Asian American".

In another similar setup, Shih and her team invited a group of participants to interact, individually, with a college applicant named "Amy Chen". The interaction took place via an email / instant messaging environment.

Participants were split into three groups. One group interacted with the account, *amy@wjh.harvard.edu* (female identity cue), another with *chen@wjh.harvard.edu* (Asian identity cue), and the third group, with *ac@wjh.harvard.edu* (neutral).

"Amy Chen" revealed her SAT mathematics score through the course of interactions. But when participants were asked at the end of the session to recall the score, those cued with the Asian identity remembered a higher score.

"It seems that very subtle cues can influence the memories and perceptions of others... even when objective data is available," Shih noted. After all, participants in both studies were informed of the SAT scores, but somehow, stereotypes had clouded their memories.

Changing behaviours

Women often feel a need to be extra vigilant when they go car-shopping to avoid being ripped off, said Shih. This is because there are implicit stereotypes of women and their mechanical knowledge.

We often adapt our behaviours to the environment. But what happens if we were to tweak environmental cues? Will it mitigate stereotype effects and, more importantly, boost performance?

Shih examined two stereotypes for her next study: (1) women are good at arts and crafts, and (2) men are good at building and engineering. Participants were separated, randomly, into male-female pairs, and each pair had to work together on a paper-folding task. In one section, that task was casually referred to as an "arts and crafts" project. In the other section, it was a "building and construction" project.


Female partners would often be first to contradict their male counterparts and they would also be first to make a suggestion if it were an "arts and crafts task". Males would often contradict their female counterparts, and be first to make a suggestion, if it were a "building and construction task".


"So it seems stereotypes can impact work-relevant behaviours, like leadership, and that the environment provides cues on how we're expected to behave... This highlights the importance of situational cues – how you refer to a person or to a task – even though it might be very subtle."

Shih noted that people are automatically vigilant to the cues in their environment; cues tell people how they are supposed to behave. Take the classroom, for example. A new lecturer would know exactly where to stand because he or she takes cues from the classroom's furniture.

To derail the negative effects of stereotypes on performance, organisations could look to reframe such cues: refer to tasks as "arts and crafts" or "building and engineering". In doing so, expectations are redefined and the content of the stereotype is altered, said Shih. Organisations that do this well might likely receive a welcome performance boost.

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