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Use of Patient Experience Scales Differs by Education and Asian Race/Ethnicity

Evidence from a Vignette Study

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INTRODUCTION

Extreme response tendency (ERT)[1] refers to the extent to which a survey respondent tends to select extreme rather than intermediate values of a response scale. Given the same care, a person with high ERT is more likely than a person with low ERT to select extremely positive or negative response options. ERT is known to be lower among Asian adults and those who attended college, with implications for interpreting differences in patient experience scores.[2,3] Although the mean education of Asian people is high,[4] those with less education are an important segment of this population and may be more vulnerable than those with more education.[5] Understanding the combined effect of education and race/ethnicity on reports about patient experience is needed to fully comprehend healthcare inequities affecting Asian people. We address these issues by reanalyzing data from a sample of Asian and White participants who were presented a series of standardized vignettes describing physician–patient encounters with differing levels of physician responsiveness.[3]

METHODS

Sample

Participants were recruited from the KnowledgePanel, a probability-based online panel that provides a statistically valid representation of US adults. A sample of 2162 English-speaking panelists was drawn, oversampling those with less than a high school education, those with at least a 4-year college degree, and Asian panelists. Of the 1358 panelists who responded, 575 were non-Hispanic Asian (hereafter "Asian") and 505 were non-Hispanic White ("White"). We limit analyses to these groups, as our focus was on comparing Asian response patterns to those of the largest racial/ethnic group. Table 1 shows sample demographic characteristics overall and by race.

Procedures

RAND's Institutional Review Board approved the study. Data were collected April–May 2012 using a repeated-measures experimental design in which respondents were presented five vignettes describing a doctor-patient interaction. Each vignette began with a patient describing reoccurring headaches. Vignettes differed only in how responsive the physician was to the patient's concerns. Vignettes were presented in random order and are referred to here as

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Table 1 Demographic Characteristics (%) by Race/Ethnicity and for All Study Participants[†]

	%		
	Asian[‡] **($n=575$)**	**White ($n=505$)**	**All**
Race/ethnicity			
White			47
Asian			53
Age, years			
18–44	56	34**	46
45–64	35	41*	38
65 +	9	25***	16
Sex			
Female	58	50**	54
Education			
High school or less	7	45***	25
Some college or more	93	55***	75

*$p<0.05$, **$p<0.01$, ***$p<0.001$ for a test of Asian versus White percentage

[†]Table adapted from Mayer et al. (2016)

[‡]38% of Asian respondents were Chinese

Vignettes 1 (least responsive) to 5 (most responsive). After reading each, respondents answered three questions about how much the doctor:

- Listened carefully to the patient
- Showed respect for what the patient had to say
- Spent enough time with the patient

Response options were *not at all*, *very little*, *to some extent*, and *to a great extent*, and were transformed linearly to a 0–100 possible range.

Analysis

Analyses were conducted using the entire sample and stratified by respondent education: high school or less vs. any college or more. We used linear regression to predict responses to each item from vignette indicators, control variables (see Table 2), an indicator for Asian race, and interactions between each vignette and Asian race.

RESULTS

We focus here on results for the "listen carefully" item; results were similar for other items.

In the model that included all participants (Table 2), respondents provided more favorable evaluations as the physician behavior described became more responsive (all ps <0.001). Interaction terms indicate that the Asian-White difference changed from positive to negative as the care depicted improved. Asian participants evaluated the vignette depicting the least responsive physician behavior 5.2 points more positively than White participants ($p<0.01$) and the most responsive behavior 4.7 points less positively ($p<0.001$).

Interaction coefficients from education-stratified models revealed that the tendency for Asian participants to give more negative evaluations as care improves was more than twice as strong in the lower than the higher education group. For Vignette 1 (worst care), Asian participants in the lower and higher education groups evaluated the physician's behavior 16.7 and 4.3 points *more* favorably than White participants, respectively. For Vignette 5 (best care), Asian participants in the lower and higher education groups evaluated

Table 2 Regression Models Predicting Evaluations of Physician Behavior from Vignettes, Asian Race, and Their Interaction

	Listened carefully to the patient			Showed respect for what the patient had to say			Spent enough time talking with the patient		
Parameter	**All participants**	**High school or less**	**Some college or more**	**All participants**	**High school or less**	**Some college or more**	**All participants**	**High school or less**	**Some college or more**
Intercept	21.30 (1.95)***	18.48 (3.66)***	32.27 (5.03)***	10.43 (1.71)***	9.19 (3.29)**	17.27 (4.90)***	10.59 (1.81)***	12.81 (3.66)***	13.90 (5.03)**
Vignette 2	9.11 (1.19)***	8.06 (1.81)***	9.99 (1.59)***	12.09 (1.10)***	10.76 (1.69)***	13.20 (1.45)***	8.07 (0.95)***	7.63 (1.56)***	8.45 (1.18)***
Vignette 3	39.31 (1.24)***	39.03 (1.90)***	39.54 (1.63)***	45.88 (1.33)***	43.87 (2.07)***	47.55 (1.71)***	35.68 (1.40)***	33.58 (2.18)***	37.42 (1.81)***
Vignette 4	54.07 (1.41)***	52.29 (2.14)***	55.55 (1.88)***	65.37 (1.43)***	62.14 (2.28)***	68.04 (1.82)***	58.28 (1.51)***	54.64 (2.39)***	61.32 (1.91)***
Vignette 5	65.31 (1.36)***	64.57 (2.18)***	65.94 (1.73)***	75.82 (1.25)***	73.57 (2.08)***	77.70 (1.51)***	75.05 (1.37)***	70.80 (2.32)***	78.59 (1.59)***
Asian	5.17 (1.67)**	16.66 (5.05)**	4.25 (1.89)*	7.93 (1.51)***	17.20 (4.89)***	8.06 (1.62)***	9.60 (1.50)***	17.83 (5.01)***	10.57 (1.59)***
Vignette 2×Asian	−2.90 (1.68)	−9.86 (5.28)	−3.22 (2.00)	−2.62 (1.62)	−5.36 (5.17)	−3.45 (1.90)	−2.90 (1.46)*	−10.33 (5.27)	−2.72 (1.64)
Vignette 3×Asian	−7.96 (1.84)***	−16.51 (5.91)**	−7.58 (2.15)***	−7.58 (1.93)***	−9.64 (5.89)	−8.98 (2.25)***	−7.37 (1.98)***	−14.67 (5.65)*	−8.46 (2.32)***
Vignette 4×Asian	−8.14 (2.08)***	−15.35 (6.73)*	−9.00 (2.45)***	−11.39 (2.11)***	−15.29 (7.87)	−13.56 (2.40)***	−12.07 (2.19)***	−22.20 (8.21)**	−14.15 (2.49)***
Vignette 5×Asian	−9.84 (2.04)***	−26.73 (7.26)***	−9.24 (2.32)***	−11.29 (1.96)***	−27.62 (8.21)***	−11.88 (2.13)***	−12.79 (2.06)***	−25.75 (8.16)***	−15.13 (2.21)***
Differences by race[†]									
Asian-White, Vignette 1	5.17 (1.67)**	16.66 (5.05)**	4.25 (1.89)*	7.93 (1.51)***	17.20 (4.89)***	8.06 (1.62)***	9.60 (1.50)***	17.83 (5.01)***	10.57 (1.59)***
Asian-White, Vignette 2	2.27 (1.70)	6.80 (5.12)	1.02 (1.96)	5.31 (1.68)**	11.85 (5.39)*	4.61 (1.88)*	6.70 (1.56)***	7.50 (5.00)	7.84 (1.70)***
Asian-White, Vignette 3	−2.79 (1.58)	0.15 (4.15)	−3.33 (1.80)	0.35 (1.72)	7.57 (4.55)	−0.92 (1.99)	2.23 (1.87)	3.07 (5.01)	2.11 (2.18)
Asian-White, Vignette 4	−2.97 (1.57)	1.31 (4.75)	−4.75 (1.76)**	−3.46 (1.66)*	1.91 (5.11)	−5.50 (1.90)**	−2.47 (1.86)	−4.37 (5.81)	−3.59 (2.16)
Asian-White, Vignette 5	−4.68 (1.37)***	−10.07 (4.69)*	−4.99 (1.44)***	−3.36 (1.40)*	−10.42 (5.40)	−3.82 (1.49)*	−3.19 (1.53)*	−7.92 (5.64)	−4.57 (1.63)**

Entries are beta coefficients and their associated standard errors. Response options were not at all (1), very little (2), to some extent (3), and to a great extent (4). Responses were transformed linearly to a 0–100 possible range. Model coefficients were used to compute Asian-White differences in ratings of each vignette

Estimates are from linear regression models that control for age, sex, and continuous education and account for clustering of vignettes within respondents using the Taylor series variance method

Vignettes differed in the degree to which the physician was responsive to the patient's concerns; Vignette 1 (the reference category in these models) described a physician who was least responsive; Vignette 5 described a physician who was most responsive

*N*s (unique combinations of participant and vignette evaluation) ranged from 5344 to 5363 for models that included all respondents, 1316 to 1322 for models that included respondents with a high school education or less, and 4027 to 4033 for models that included respondents with some college education or more

[†]Statistical significance of Asian-White differences by vignette evaluated with Wald tests

[*] $p < 0.05$, [**] $p < 0.01$, [***] $p < 0.001$

the physician's behavior 10.1 and 5.0 points *less* favorably than White participants, respectively.

DISCUSSION

Among Asian respondents, those who did not attend college had the lowest ERT, opposite to what has been found for education overall. This raises the question of whether education may be a proxy for generational status, cultural norms, or other factors that affect scale use.[6] It also suggests that such factors may be important to consider in understanding care experiences of Asian people, and that there is value in disaggregating investigations of racial/ethnic disparities in care experiences by socioeconomic status.

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