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A Gender Bias in the Attribution of Creativity: Archival and experimental evidence for the perceived association between masculinity and creative thinking

Supplemental Material

Contents

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Methodological Details

Study 1 Manipulation

Divergent Condition

Creativity experts agree that the essence of creativity is the ability to "think outside the box." That is, creativity involves coming up with an idea that is truly original and different from what has come before it. Creative people are those who have the ability to see the world differently from the average person, and to create things that don't conform to traditions.

Convergent Condition

Creativity experts agree that essence of creativity is the ability to "connect the dots." That is, creativity involves coming up with an idea that synthesizes or blends existing ideas in an original way. Creative people are those who have the ability to see the connections between seemingly disparate ideas, and to create things that bring those ideas together in a unique way.

Study 2 Manipulation

[Sara/Jack] Carleson is a [architect/designer] born and raised in Minnesota. [She/He] is currently 32 years old and resides in Los Angeles, California.

Study 2 Items

1. This [architect/designer] "thinks outside the box." (1 "Strongly disagree" to 9 "Strongly agree")
2. This [architect/designer]'s work is truly original. (1 "Strongly disagree" to 9 "Strongly agree")

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3. How creative would you rate this [architect/designer]? (1 “Not at all creative” to 9 “Extremely creative”)
4. How much creative potential do you think this [architect/designer] has?” (1 “No creative potential at all” to 9 “A huge amount of creative potential”)
5. How talented would you rate this [architect/designer]? (1 “Not at all talented” to 9 “Extremely talented”)
6. How gifted would you rate this [architect/designer]? (1 “Not at all gifted” to 9 “Extremely gifted”)

Study 3 TED Talk Descriptor Pretest

Forty-two participants were recruited from Mechanical Turk and asked to rank the fourteen descriptors, presented in a random order, “…in terms of how likely you would be use the word to describe a truly creative idea. By creative, we mean an idea that is truly innovative and “outside the box.” Chi square tests, presented in Table S2, revealed that ‘ingenious’ was more often ranked as #1 (vs. not #1) than all the other descriptors.

Study 4 Control Variable Details

1. R ater gender (0 = female; 1 = male)
2. R ater job level (0 = missing, 1 = top level, 2 = mid level, 3 = senior accountant/ consultant, 4 = low level, 5 = other)

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3. Target job level (0 = missing, 1 = top level, 2 = mid level, 3 = senior accountant/ consultant, 4 = low level, 5 = other)
4. Raters' evaluation of target competence: "[Target's name] can be relied upon in important matters" and "[Target's name] helps team members understand complex issues" were combined to form a competence composite, $r = .36$, $p < .001$.

The relationship between each of the covariates and our dependent variable was constant across treatment groups, thus we treated these covariates as fixed effects variables. Target competence was a continuous level 1 variable, therefore we group mean-centered this variable for ease of interpretation (Randenbush & Bryk, 2002).

Study 4 Analytic Strategy Detail

Following Randenbush & Bryk (2002)'s recommendations on conducting cross-level interactions, we represented the slope term for the level 1 variable (rater relationship) and intercept terms as random effects and the slope term for the level 2 variable (target gender) as a fixed effect. We conducted all analyses using the proc mixed procedure in SAS. We probed the observed two-way interaction using the plotting facility developed by Preacher (www.quantpsy.org/interact/hlm2.htm) which calculates simple intercepts, simple slopes, and the region of significance for the testing and probing of two-way interactions estimated in multi-level models.

Study 5 Manipulation

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[John/Katherine] Burton is a divisional manager at Vasco. [John/Katherine] has been at Vasco for over a decade and has risen through the ranks to management over the last few years. [John/Katherine] is tasked with deciding on [his/her] division's strategic plan for the coming year. In a recent meeting with senior management, [John/Katherine] revealed [his/her] plan. [John/Katherine]'s plan will focus primarily on achieving growth over the next five years. Specifically, [he/she] will direct [his/her] division's resources mainly toward expansion into new markets.

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Table S1. Demographics for experimental studies

	Age	Ethnicity	Education	Political Orientation
Pre-test	*M* = 34.46, *SD* = 11.90	Caucasian – 78% Asian – 11% Black – 4% Hispanic – 5% Other - 2%	Some High School - 2% High School Graduate - 6% Some College - 37% College Graduate - 34% Some Post Graduate - 3% Post Graduate Degree - 18%	*M* = 3.66, *SD* = 1.49
Study 1	18-24 – 19% 25-34 – 43% 35-44 – 16% 45-64 – 20% 65+ - 2%	Caucasian - 83% Asian - 6% Black - 6% Hispanic - 4% Other - 1%	Some High School - 1% High School Graduate – 11% Some College – 38% College Graduate – 36% Some Post Graduate – 8% Post Graduate Degree - 6%	*M* = 3.40, *SD* =1.80
Study 2	18-24 - 25% 25-34 - 48% 35-44 - 15% 45-64 - 10% 65+ - 2%	Caucasian – 70% Asian – 15% Black – 6% Hispanic – 5% Other - 4%	High School Graduate - 12% Some College - 31% College Graduate - 42% Some Post Graduate - 6% Post Graduate Degree - 9%	*M* = 3.32, *SD* = 1.57
Study 5	*M* = 40.82, *SD* = 11.10	Caucasian – 80% Asian – 5% Black – 9% Hispanic – 6%	Some High School - 1% High School Graduate - 14% Some College - 23% College Graduate - 47% Some Post Graduate - 2% Post Graduate Degree - 13%	*M* = 4.38, *SD* = 1.53

Political orientation scale: 1 “very liberal” to 7 “very conservative.”

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Table S2. Descriptor Pretest Results

	#1 Rank Frequency	χ^2 (1, N = 42)	*p*
Ingenious	17		
Fascinating	9	3.56	.059
Inspiring	5	8.87	.003
Jaw-dropping	5	8.87	.003
Beautiful	2	15.30	< .001
Informative	2	15.30	< .001
Persuasive	2	15.30	< .001
Confusing	0	20.42	< .001
Courageous	0	20.42	< .001
Funny	0	20.42	< .001
Longwinded	0	20.42	< .001
Obnoxious	0	20.42	< .001
OK	0	20.42	< .001
Unconvincing	0	20.42	< .001

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Table S3. Ratings of the 100 'Most Viewed' TED talks by Speaker Gender

	Speaker Gender					
	Male		Female			
	M	*SD*	*M*	*SD*	*t*(98)	*p*
Ingenious	7.49	6.13	4.43	4.29	2.41	.018*
Informative	11.75	9.00	10.46	8.13	.658	.512
Persuasive	8.94	7.22	8.57	4.81	.252	.802
Beautiful	6.24	7.03	8.857	6.83	-1.69	.095
Confusing	0.56	1.03	0.32	0.48	1.15	.253
Courageous	4.50	5.83	11.18	9.04	-4.36	< . 001*
Fascinating	14.42	7.74	11.00	5.70	2.12	.036*
Funny	8.39	9.93	6.71	9.29	0.77	.443
Inspiring	20.44	12.97	28.04	11.29	-2.72	.008*
Jaw-dropping	11.46	13.90	4.93	5.28	2.41	.018*
Longwinded	0.81	0.93	0.86	0.71	-0.26	.791
Obnoxious	0.64	1.03	0.68	0.67	-0.19	.850
OK	2.65	2.16	2.36	1.68	0.65	.516
Unconvincing	1.25	1.98	1.50	1.35	-0.62	.540

Note. $^{*}p < .05$