DOI: 10.1177/0956797616674999

Supplemental Online Materials

Supplemental Analyses

Study 1

First, we investigated whether ratings of the welfare image differed from the non-recipient image. Table S1 (below) presents the means, 95% confidence intervals, and effect sizes for each rating. As a reminder, in the appearance rating condition, participants rated each image on race (*1* = definitely African American; *6* = definitely White American), gender (*1* = definitely female; *6* = definitely male), likeability (*1* = extremely unlikeable; *6* = extremely likeable), attractiveness (*1*= extremely unattractive; *6* = extremely attractive), and happiness (*1* = extremely unhappy; *6* = extremely happy). In the deservingness rating condition, participants rated each image on humanness (*1* = extremely inhuman; *6* = extremely human), laziness (*1* = extremely lazy; *6* = extremely hardworking) and hostility (*1* = extremely hostile; *6* = extremely gentle). We also asked participants to rate each image on agency, experience, and competence. We used items from Gray, Gray, and Wegner (2007) to assess agency and experience. For agency, we asked the following four questions: "Compared to the average person, to what degree is the pictured person capable of planning/exerting self-control/ acting morally/remembering things" (*1* = much less capable; *6* = much more capable). These four items were averaged together to create an index of agency. For experience, we asked the following four questions: "Compared to the average person, to what degree is the pictured person capable of feeling pain/pleasure/fear/joy" (*1* = much less capable; *6* = much more capable). These four items were averaged together to create an index of experience. Two more items measured the degree to which the person seemed competent and intelligent (*1* = extremely incompetent/unintelligent; *6* = extremely competent/intelligent). These two items were averaged together to form an index of competence.

DOI: 10.1177/0956797616674999

Table S1. Mean, 95% confidence intervals, and partial eta-squared statistics for Study 1 image ratings.

		95% CI			95% CI		
Rating	**Non-Recipient**	**[Lower,**	**Upper]**	**Welfare**	**[Lower,**	**Upper]**	η_p^2
Attractive	3.45	3.27	3.63	2.27	2.10	2.45	0.57
Competent	4.06	3.85	4.26	2.54	2.33	2.75	0.51
Gentle	3.33	3.09	3.57	2.80	2.53	3.07	0.07
Happy	3.59	3.41	3.76	1.97	1.82	2.12	0.67
Hard Working	4.02	3.80	4.24	2.94	2.70	3.18	0.28
High Agency	3.80	3.60	4.01	2.76	2.55	2.98	0.40
High Experience	3.48	3.27	3.70	3.01	2.79	3.23	0.10
Human	3.91	3.62	4.20	2.52	2.24	2.80	0.40
Likeable	3.56	3.38	3.74	2.80	2.61	2.99	0.29
Male	4.52	4.29	4.75	3.90	3.59	4.20	0.09
White American	4.31	4.14	4.49	2.49	2.25	2.73	0.56

DOI: 10.1177/0956797616674999

Study 2

We also investigated whether ratings of the welfare image differed from the non-recipient image. These are the same ratings as completed in Study 1, but this time participants were rating the images generated in the Image Generation Phase of Study 2. Table S2 (below) presents the means, 95% confidence intervals, and effect sizes for each rating.

DOI: 10.1177/0956797616674999

Table S2. Mean, 95% confidence intervals, and partial eta-squared statistics for Study 2 image ratings.

		95% CI			95% CI		
Rating	**Non-Recipient**	**[Lower,**	**Upper]**	**Welfare**	**[Lower,**	**Upper]**	η_p^2
Attractive	4.31	4.14	4.48	2.72	2.51	2.93	0.63
Competent	4.40	4.20	4.61	3.19	2.94	3.43	0.41
Gentle	4.30	4.06	4.55	3.36	3.10	3.62	0.28
Happy	4.64	4.52	4.75	1.85	1.70	2.00	0.91
Hard Working	4.29	4.10	4.49	3.39	3.12	3.66	0.26
High Agency	4.15	3.99	4.31	3.08	2.87	3.28	0.46
High Experience	3.96	3.81	4.11	3.40	3.24	3.56	0.25
Human	5.14	4.95	5.34	4.16	3.84	4.49	0.25
Likeable	4.54	4.40	4.68	3.03	2.82	3.24	0.63
Male	5.15	4.94	5.36	3.21	2.87	3.54	0.51
White American	5.31	5.18	5.44	1.60	1.47	1.72	0.91

DOI: 10.1177/0956797616674999

Study 3

First, we investigated whether ratings of the welfare image differed from the non-recipient image. Table S3 (below) presents the means, 95% confidence intervals, and effect sizes for each rating. To remind, participants rated each image on perceived race (*1* = Definitely African American; *6* = Definitely White American). To measure deservingness, participants rated each image on the degree to which the pictured person seemed intelligent (*1* = extremely unintelligent; *6* = extremely intelligent) and hardworking (*1* = extremely lazy; *6* = extremely hardworking), the extent to which the pictured person seemed responsible (*1* = extremely irresponsible; *6* = extremely responsible), and the extent to which they believed the pictured person would use food stamps responsibly (*1* = definitely would not use responsibly; *6* = definitely would use responsibly), and would use cash assistance responsibly (*1* = definitely would not use responsibly; *6* = definitely would use responsibly). Finally, participants were asked how supportive they would be to give the pictured person food stamps (*1* = completely unsupportive; *6* = completely supportive) and cash assistance (*1* = completely unsupportive; *6* = completely supportive).

DOI: 10.1177/0956797616674999

Table S3. Mean, 95% confidence intervals, and partial eta-squared statistics for Study 2 image ratings.

		95% CI			95% CI		
Rating	**Non-Recipient**	**[Lower,**	**Upper]**	**Welfare**	**[Lower,**	**Upper]**	**η_p^2**
Competent	4.56	4.44	4.68	3.08	2.93	3.22	0.52
Hard Working	4.34	4.22	4.45	3.26	3.10	3.43	0.32
Responsible	4.54	4.41	4.66	3.41	3.24	3.58	0.31
Responsible with Cash Asst.	4.29	4.16	4.42	3.53	3.37	3.70	0.19
Responsible with Food Stamps	4.40	4.28	4.51	3.63	3.47	3.78	0.22
Supportive of Giving Cash Asst.	4.19	4.03	4.35	3.57	3.40	3.75	0.13
Supportive of Giving Food Stamps	4.36	4.22	4.50	3.81	3.63	3.98	0.13
White American	5.44	5.36	5.52	1.54	1.45	1.64	0.92

DOI: 10.1177/0956797616674999

For exploratory purposes, in Study 3 participants completed three measures we predicted may be associated with the ratings of the welfare and non-recipient image. As a reminder, participants rated the perceived race, competence, work ethic, responsibility (general and with food stamps and cash assistance), and support for giving welfare benefits (food stamps and cash assistance) of the typical welfare and non-recipient images. One measure assessed participants' opposition toward welfare (higher numbers indicate more negative attitudes toward welfare; Gilens, 1996). The second measure investigated perceptions of increasing diversity in America (Craig & Richeson, 2014; Wetts & Willer, in press). We created two questions which assessed this perception: (1) "I am fearful that minority racial groups will become the racial majority," (*1* = strongly disagree; *6* = strongly agree), and (2) "In the future, minority racial groups are expected to have higher average incomes and wealth compared to Whites," (*1* = strongly disagree; *6* = strongly agree). These two items were averaged together to create an index of perceived increasing diversity. The third measure assessed the degree to which participants thought welfare benefits racial minorities. These items were: (1) "Racial minorities are more likely to receive welfare assistance than are Whites," (*1* = strongly disagree; *6* = strongly agree), and (2) "Welfare programs are designed to benefit racial minorities," (*1* = strongly disagree; *6* = strongly agree).

We correlated these three measures with the difference scores of the ratings of perceived race, competence, work ethic, responsibility (general and with food stamps and cash assistance), and support for giving welfare benefits (food stamps and cash assistance) toward the non-recipient and the welfare recipient. To create the difference scores, we subtracted the rating of the welfare image from the rating of the non-recipient image. Higher values indicated that relative to the welfare image, the non-recipient image was more 'White,' competent,

DOI: 10.1177/0956797616674999

hardworking, responsible, and participants were more supportive of giving welfare benefits. The results revealed a similar pattern of findings across all of the difference score ratings (see Table S4). The tendency to rate the welfare recipient image as less deserving of welfare was associated with more negative attitudes toward welfare, the belief that diversity is increasing, and the belief that welfare mainly benefits racial minorities. Overall, these associations suggest that people's beliefs about welfare and stereotypes of welfare recipients are associated with their reactions toward the images.

DOI: 10.1177/0956797616674999

Table S4. Correlations between the difference scores of the dependent variables of interest.

		1	2	3	4	5	6	7	7	8	9
1	Opposition toward welfare										
2	Increasing Diversity	.31*									
3	Welfare Benefits Minorities	.55*	.38*								
4	Race Dif.	0.03	-0.11	.14*							
5	Competence Dif.	.28*	0.01	.31*	.27*						
6	Hard Work Dif.	.40*	.17*	.43*	.15*	.63*					
7	Responsible Dif.	.44*	.17*	.47*	.21*	.55*	.68*				
7	Responsible with Food Stamps Dif.	.48*	.23*	.53*	.15*	.42*	.60*	.81*			
8	Responsible with Cash Asst. Dif.	.46*	.19*	.52*	.25*	.51*	.58*	.72*	.82*		
9	Supportive of Giving Food Stamps Dif.	.31*	0.11	.47*	.16*	.43*	.52*	.72*	.79*	.71*	
10	Supportive of Giving Cash Asst. Dif.	.34*	.17*	.49*	.21*	.44*	.53*	.62*	.74*	.85*	.78*

Note: Asterisks indicate that the 95% confidence interval does not include zero.

DOI: 10.1177/0956797616674999

Replication of Study 3 with Study 1 Images

Method

We investigated whether the average welfare and non-recipient images influenced participants' support for awarding or withholding welfare benefits. Participants were asked to rate each image on perceived responsibility (general responsibility and responsibility with food stamps and cash assistance, which are two forms of welfare benefits). In addition, participants rated the extent to which they support giving the pictured person food stamps and cash assistance.

Participants

All participants rated both the average welfare and non-recipient image on a series of dimensions. Given this within-subjects design, we needed at least 90 participants in each group (180 total) to have adequate power (.80) detect a small effect (f = .15; G*Power software, Faul, Erdfelder, Buchner, & Lang, 2009). Participants (N = 234; 119 men, 114 women, and 1 participant reported 'other') were recruited from Amazon Mechanical Turk. The racial/ethnic composition of the sample was as follows: 83.8% White, 5.6% Black, 5.6% Hispanic, and 5% other or multiracial. The average age was 38.51 years (SD = 12.81), and the median income was $40,000-$49,999.

Materials and Procedure

Participants were told they would see a series of "fuzzy" images of real people. As an explanation for the blurry nature of the images, participants were told that the images look distorted because they were a composite of photos of people who have applied for government welfare programs. Additionally, participants were told some of the applicants turned out to be responsible recipients of welfare benefits, while others were irresponsible recipients of the

DOI: 10.1177/0956797616674999

benefits. Then, participants were asked to make a series of judgements about each image. Importantly, participants were given no indication whether the image was supposedly a composite of responsible or irresponsible welfare recipients. Participants then rated four filler images (the same filler images used in Study 1 and 2) so that the comparison between the two images of interest would not be salient to participants. The images of interest were the average welfare and non-recipient images generated from Study 1.

To replicate key findings from Study 1, participants first rated each image on the degree to which the pictured person seemed intelligent (*1* = extremely unintelligent; *6* = extremely intelligent) and hardworking (*1* = extremely lazy; *6* = extremely hardworking). Then, participants were asked the extent to which the pictured person seemed responsible (*1* = extremely irresponsible; *6* = extremely responsible). We also asked participants the extent to which they believed the pictured person would use food stamps responsibly (*1* = definitely would not use responsibly; *6* = definitely would use responsibly), and would use cash assistance responsibly (*1* = definitely would not use responsibly; *6* = definitely would use responsibly). Finally, participants were asked how supportive they would be to give the pictured person food stamps (*1* = completely unsupportive; *6* = completely supportive) and cash assistance (*1* = completely unsupportive; *6* = completely supportive). The participants also completed demographic information including gender, age, and race/ethnicity.

Results

We investigated whether ratings of the mean welfare image differed from the mean non-recipient image. Figure S1 presents the means and 95% confidence intervals for each rating. We replicate findings in Study 1, in that the welfare image was rated as significantly less intelligent and hardworking ($M_{intelligent}$ = 2.73, 95% CI [2.56, 2.88]; $M_{hardworking}$ = 2.92, 95% CI [2.76, 3.08])

DOI: 10.1177/0956797616674999

than the non-recipient image ($M_{intelligent}$ = 4.06, 95% CI [3.93, 4.19]; $M_{hardworking}$ = 4.06, 95% CI [3.92, 4.20]), $\eta_p^2{}_{intelligent}$ = .47 and $\eta_p^2{}_{hardworking}$ = .36.

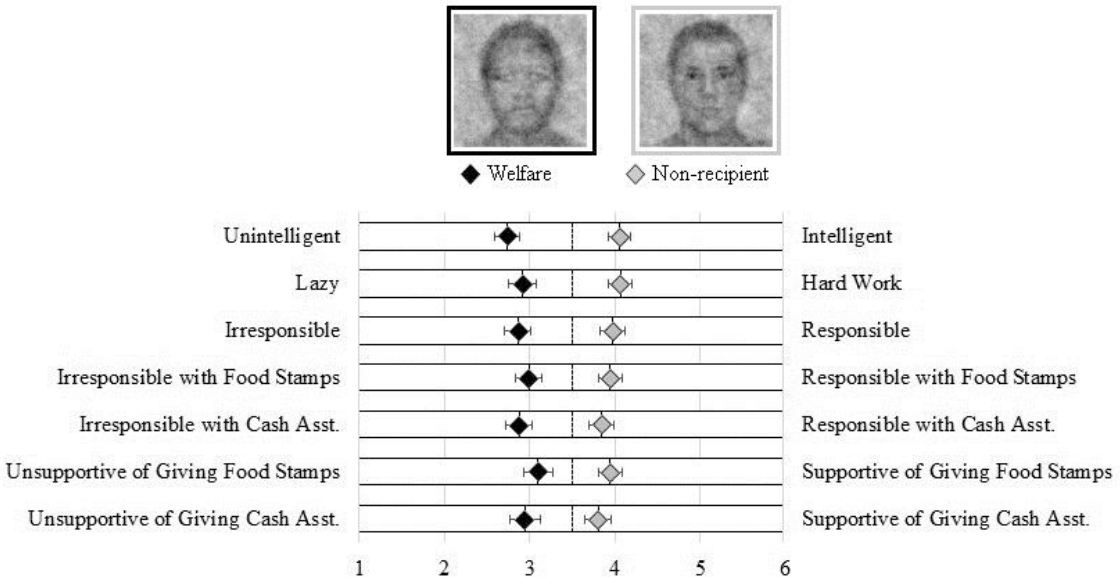

Figure S1. The means and 95% confidence intervals for each rating in Study 3.

Note: Diamonds represent the mean rating and error bars represent 95% confidence intervals. The dashed vertical line represents the midpoint of the scale.

Our primary hypothesis was that participants would rate the welfare image as less responsible than the non-recipient image. As predicted, participants rated the welfare image as significantly less responsible (M = 2.86, 95% CI [2.71, 3.02]) than the non-recipient image (M = 3.98, 95% CI [3.83, 4.12]), η_p^2 = .36. In addition, participants thought the welfare image would be less responsible with food stamps (M = 3.00, 95% CI [2.84, 3.15]) than the non-recipient image (M = 3.95, 95% CI [3.81, 4.09]), η_p^2 = .32. And, participants thought the welfare image

DOI: 10.1177/0956797616674999

would be less responsible with cash assistance (M = 2.88, 95% CI [2.72, 3.04]) than the non-recipient image (M = 3.84, 95% CI [3.70, 3.99]), η_p^2 = .32.

Next, we investigated whether the images would influence participants' support for giving welfare benefits. We hypothesized that participants would be less supportive of giving welfare benefits when they considered the welfare (vs. non-recipient) image. As predicted, participants were less supportive of giving food stamps to the person depicted in the welfare image (M = 3.10, 95% CI [2.93, 3.27]) than the non-recipient image (M = 3.95, 95% CI [3.81, 4.09]), η_p^2 = .26. Additionally, participants were less supportive of giving cash assistance to the person depicted in the welfare image (M = 2.95, 95% CI [2.78, 3.13]) than the non-recipient image (M = 3.80, 95% CI [3.65, 3.96]), η_p^2 = .26. These results suggest that the mental images people form of welfare recipients can have a causal influence on their attitudes toward welfare. When the average person imagines giving benefits to a person who looks like the typical mental image of a welfare recipient, they are less likely to support providing benefits.

Finally, we investigated whether perceptions of intelligence, work ethic, and responsibility were associated with support for giving welfare benefits. We averaged together the three responsibility items for the welfare and non-recipient images. We created a difference score by subtracting the average responsibility rating toward the welfare image from the average responsibility toward the non-recipient image. Higher numbers indicate that the non-recipient image was more responsible than the welfare image. We also averaged together support for giving cash assistance and food stamps for the welfare and non-recipient images. Then, we created a different score: higher numbers indicate more support of giving welfare benefits to the non-recipient image than welfare image. Finally, we created difference scores for perceptions of

DOI: 10.1177/0956797616674999

intelligence and work ethic. Higher numbers indicate that the non-recipient image was smarter and more hard-working than the welfare image.

We hypothesized that participants who perceived the welfare image as less intelligence, hardworking, and responsible than the non-recipient image would be less supportive of giving welfare benefits to the welfare (vs. non-recipient) image. To investigate this hypothesis, we correlated these difference scores (see Table S5). Consistent with our hypothesis, participants who perceived the welfare image as less responsible, intelligent, and hardworking than the non-recipient image in turn were less supportive of giving welfare benefits to the welfare (vs. non-recipient) image, all r's > .6, p's < .001.

	Intelligence Difference Score	Hardworking Difference Score	Responsible Difference Score
Hardworking Difference Score	.71*		
Responsible Difference Score	.68*	.84*	
Supportive of Giving Welfare Benefits Difference Score	.61*	.76*	.88*

Table S5. Correlations among the difference scores.

Note: An asterisk indicates that the 95% confidence interval for the correlation does not include zero.