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Nice guys finish first when presented second: Responsive daters are evaluated more positively following exposure to unresponsive daters

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HIGHLIGHTS

- We examined the role of contrast effects on evaluations of dating targets.
- Following unresponsive targets, responsive targets were rated as more responsive.
- Following unresponsive targets, greater romantic interest in responsive targets.
- Responsiveness effects held regardless of target's physical attractiveness.
- Results highlight the importance of context for dating decisions.

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ABSTRACT

Decisions about who to date are increasingly being made while viewing a large pool of dating prospects simultaneously or sequentially (e.g., online dating). The present research explores how the order in which dating prospects are evaluated affects the role in dating decisions of a variable crucial to relationship success — partner responsiveness. In Study 1, participants viewed dating profiles varying in physical attractiveness and responsiveness. Some participants viewed responsive profiles first whereas others viewed unresponsive profiles first. Results revealed that responsive targets were rated more favorably following exposure to unresponsive targets, regardless of level of attractiveness. Study 2 specifically targeted how contrast effects affect romantic evaluations of a physically unattractive, yet responsive, target. Results again revealed that unattractive, responsive targets were viewed more favorably after exposure to unresponsive dating prospects, regardless of these unresponsive prospects' physical attractiveness. These results highlight the importance of the context in which dating decisions are made.

1. Introduction

In the age of modern dating technology, people are increasingly turning to online dating websites and smartphone apps to meet new dating partners resulting in exposure to a large pool of dating prospects (e.g., Finkel, Eastwick, Karney, Reis, & Sprecher, 2012; Smith & Duggan, 2013; Sprecher, 2009). Exposure to series of dating targets, viewed side-by-side or in sequence (as is standard with modern dating technology), tends to promote an evaluative, assessment-oriented mindset which is geared toward evaluating each target in direct comparison to the others and then selecting the best in the series (Finkel et al., 2012; Kruglanski et al., 2000; Sprecher, Schwartz, Harvey, & Hatfield, 2008). It remains unclear, however, how these relatively recent changes in the dating landscape fully impact relationship initiation processes.

One important way in which evaluation of prospective dates may be affected is through contrast effects. Contrast effects refer to the phenomenon whereby evaluation of a target stimulus is affected by prior or simultaneous exposure to other stimuli. These other stimuli serve as anchors, or reference points, from which to compare a target stimulus. An extensive literature has highlighted the importance of contrast effects during social decision-making and person perception. For instance, people recommend lighter sentences for crimes after first learning about more egregious crimes (Pepitone & DiNubile, 1976), and individual politicians are judged as more trustworthy following exposure to untrustworthy politicians (Bless, Igou, Schwarz, & Wänke, 2000). Research on persuasion has further illustrated that contrast effects play a role in perceptions of others' expertise and perceived argument strength, and can ultimately impact agreement with a persuasive message (e.g., Bohner, Ruder, & Erb, 2002; Tormala & Clarkson, 2007; Tormala & Petty, 2007). In fact, prior stimuli can be so impactful that

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they can affect attitudes toward a target even when the prior stimuli are irrelevant to the target (Tormala & Petty, 2007).

With modern dating contexts featuring simultaneous or sequential presentation of dating prospects, we would expect contrast effects such that evaluations of a particular dating target should be affected by those that came before. Indeed, early research on contrast effects within the romantic domain demonstrated that the perceived attractiveness of moderately attractive targets was significantly lower after exposure to photographs of extremely physically attractive targets than it was for those not first exposed to attractive targets (Kenrick & Gutierres, 1980). Furthermore, exposure to erotic female photographs decreased husbands' evaluations of their own wives' attractiveness, and even their reported love for their wives (Kenrick & Gutierres, 1989). More recent research has explored the role of contrast effects within the modern dating landscape with a focus on speed-dating. Bhargava and Fisman (2014) found that during a speed-dating event, the objective physical attractiveness of one's prior speed-dating partner reduced romantic interest in the subsequent dating partner, particularly for male daters. Of note, however, all of the research on contrast effects in the romantic domain has focused on physical attractiveness.

An important remaining question is whether contrast effects in the romantic domain extend to crucial personality characteristics such as partner responsiveness. Responsive partners are caring, understanding, and validating (Reis, Clark, & Holmes, 2004), and tend to garner more intimate, satisfying, and committed relationships (e.g., Karney & Bradbury, 1995). Both men and women report that traits reflecting warmth, kindness, responsiveness, and trustworthiness are the primary traits they look for in a romantic partner (Buss & Barnes, 1986; Jensen-Campbell, Graziano, & West, 1995; Regan & Berscheid, 1997; Stewart, Stinnett, & Rosenfeld, 2000). Furthermore, less responsive targets generally receive less interest as dates (e.g., Eastwick & Finkel, 2008; Spielmann, MacDonald, et al., 2013). Some research has explored the trade-offs between physical attractiveness and responsiveness during dating decisions and has consistently found that those looking for a serious romantic partner (vs. a casual sex partner) tend to prioritize responsiveness over physical attractiveness (Fletcher, Tither, O'Loughlin, Friesen, & Overall, 2004; Urbaniak & Kilmann, 2003). Therefore, the question of whether contrasts can influence evaluations of partner responsiveness is an important one.

Another limitation to past research on contrast effects more broadly has been the focus on the manipulation of a single feature of the prior stimulus (e.g., expertise, amount of information, attractiveness). Indeed, although Bhargava and Fisman (2014) collected data on physical attractiveness and perceptions of the personality characteristics of one's previous speed-dating partner, such as ambition and sincerity, the researchers focused their contrast effect analyses exclusively on perceptions of physical attractiveness. The present research therefore explores the role of contrast effects as they relate to multiple features of prior stimuli, specifically the attractiveness and responsiveness of previously viewed dating targets. We tested how ratings of a target's perceived attractiveness, responsiveness, and romantic interest were affected by the attractiveness and responsiveness of prior dating targets. We hypothesized that, above and beyond the effects of physical attractiveness, a prior dating target's responsiveness would affect romantic perceptions of a prospective date. In two studies, participants were presented with a series of ostensibly real online dating profiles consisting of a photograph and written description from the target. Photographs varied in physical attractiveness, and written descriptions varied in responsiveness. Study 1 was an exploratory study in which participants either viewed a sequence of dating profiles beginning with responsive targets followed by unresponsive targets, or they viewed a sequence of dating profiles beginning with unresponsive targets followed by responsive targets. Study 2 involved evaluation of a responsive, physically unattractive target following systematic manipulation of the responsiveness and attractiveness of the preceding profile.

2. Study 1

2.1. Method

2.1.1. Participants

Female undergraduates participated for course credit. Participants were required to be single and heterosexual. Of the 94 eligible participants who completed the study, one participant was excluded due to language difficulties and five were excluded for response sets identified by reverse-scored items. There remained 88 women included in our analyses, ranging in age from 17 to 32 years old ($M = 18.73$, SD = 2.06). This sample size provided approximately 77% power to detect small-to-moderate effect sizes ($\eta^2_p = .03$).

2.1.2. Measures

2.1.2.1. Dating profiles. Participants viewed a series of four ostensibly real online dating profiles. Each profile consisted of an above-the-shoulder photograph of a smiling man, along with a written description ostensibly written by the target. Each profile varied systematically in physical attractiveness and responsiveness. Photos were selected for attractiveness based on pilot testing, which confirmed that the attractive photos were more attractive than the unattractive photos, $F(1,21) = 101.72$, $p < .001$, $\eta^2_p = .83$. Two attractive photos and two unattractive photos were counterbalanced such that the same photo and written description were not always paired together. Two of the descriptions depicted a target who would be responsive. For instance, he made statements such as, "When I'm dating someone, I really care about putting in the effort and making it work," or "When I'm in a relationship, I like to make sure my girlfriend feels understood and that I get who she is and what she needs." Two unresponsive descriptions depicted a target who would be distant, insensitive, and less responsive to his partner's needs. He made statements such as, "I get bored talking about feelings and stuff and I'm not really into talking about people's problems," or "I'm pretty focused on my career so I don't expect my relationship to always come first. I love what I do, so I need someone who respects that and is willing to take the back seat when necessary." Written descriptions were developed by the authors. Pilot testing revealed that responsive profiles were rated as significantly more responsive than unresponsive profiles, $F(1,20) = 221.56$, $p < .001$, $\eta^2_p = .92$.

2.1.2.2. Physical attractiveness ratings. After each profile, participants rated the target's physical attractiveness on a scale from 1 (*not at all*) to 5 (*extremely*) on 3 items ("attractive," "cute," and "handsome"); αs ranged from .74 to .91 across the four profiles.

2.1.2.3. Responsiveness ratings. Participants rated the target's responsiveness on 3 items ("caring," "considerate," and "responsive to his future partner's needs") on a scale from 1 (*not at all*) to 5 (*extremely*); αs ranged from .77 to .90.

2.1.2.4. Romantic interest. Participants evaluated their romantic interest in each target. On a scale from 1 (*not at all*) to 5 (*extremely*), participants responded to 6 items, such as, "How desirable is this individual as a potential dating partner?" and "How interested would you be in going on a date with this individual?"; αs ranged from .88 to .94.[1]

2.1.3. Procedure

In rooms with up to five people, participants completed individual paper-and-pencil questionnaires. Participants viewed a sequence of four dating profiles representing each combination of physical

[1] The factor structure for romantic interest was tested because items represented both evaluation vs. behavioral intention, as well as shorter- vs. longer-term mating goals (e.g., Gangestad & Simpson, 2000). However, across both studies, romantic interest items loaded onto one factor.

attractiveness and responsiveness. Importantly, the order in which participants viewed these profiles was manipulated. Because these data were originally collected for another purpose, the counterbalancing of presentation order was limited. However, two distinct presentation sequences were created. In the *Responsive First* condition, participants first saw responsive targets followed by unresponsive targets. The order was: *Responsive/Attractive*, *Responsive/Unattractive*, *Unresponsive/Attractive*, *Unresponsive/Unattractive*. In the *Unresponsive First* condition, participants first saw unresponsive targets followed by responsive targets. The sequence order was: *Unresponsive/Attractive*, *Unresponsive/Unattractive*, *Responsive/Attractive*, *Responsive/Unattractive*.[2]

3. Results and discussion

To test our hypothesis, we conducted a 2 (profile order: *Responsive First* vs. *Unresponsive First*) × 2 (target responsiveness: *Responsive* vs. *Unresponsive*) × 2 (target attractiveness: *Attractive* vs. *Unattractive*) mixed ANOVA for each dependent variable.

3.1.1. Physical attractiveness ratings

Serving as a manipulation check, this analysis revealed that there was a significant within-participant effect of target attractiveness on ratings of physical attractiveness, $F(1,86) = 485.95$, $p < .001$, $\eta_p^2 = .85$, such that the targets with more attractive photos ($M = 3.52$, $SE = .06$, $CI_{95\%}[3.401,3.634]$) were rated as significantly more attractive than targets with unattractive photos ($M = 1.93$, $SE = .07$, $CI_{95\%}[1.781,2.072]$). There was also a significant within-participant effect of target responsiveness on ratings of physical attractiveness, $F(1,86) = 12.96$, $p = .001$, $\eta_p^2 = .13$. However, this main effect was qualified by a significant interaction between profile order and responsiveness condition, $F(1,86) = 14.35$, $p < .001$, $\eta_p^2 = .14$ (see Table 1). Simple effects tests revealed that responsive targets were viewed as significantly more physically attractive if viewed following an unresponsive target than if viewed first, $p = .003$. However, profile order did not affect physical attractiveness ratings of unresponsive targets, $p = .17$.

No other main effects or interactions in this model were significant: profile order, $F(1,86) = 1.64$, $p = .20$, $\eta_p^2 = .02$, profile order by attractiveness condition interaction, $F(1,86) = .002$, $p = .96$, $\eta_p^2 < .001$, attractiveness condition by responsiveness condition interaction, $F(1,86) = 1.32$, $p = .25$, $\eta_p^2 = .02$, profile order by attractiveness condition by responsiveness condition interaction, $F(1,86) = 1.88$, $p = .17$, $\eta_p^2 = .02$.

3.1.2. Responsiveness ratings

The mixed ANOVA revealed, again as a manipulation check, that there was a significant within-person effect of target responsiveness on responsiveness ratings, $F(1,86) = 958.48$, $p < .001$, $\eta_p^2 = .92$, such that the responsive targets ($M = 4.14$, $SE = .06$, $CI_{95\%}[4.023,4.255]$) were rated as more responsive than the unresponsive targets ($M = 1.57$, $SE = .05$, $CI_{95\%}[1.465,1.675]$). There was also a significant within-person effect of target attractiveness on responsiveness ratings, $F(1,86) = 9.38$, $p = .003$, $\eta_p^2 = .10$, such that attractive targets ($M = 2.95$, $SE = .04$, $CI_{95\%}[2.871,3.031]$) were rated as more responsive than unattractive targets ($M = 2.76$, $SE = .06$, $CI_{95\%}[2.646,2.868]$).

As hypothesized, the main effect of responsiveness was qualified by an interaction between profile order and target responsiveness, $F(1,86) = 8.78$, $p = .004$, $\eta_p^2 = .09$ (see Table 1). Simple effects tests revealed that responsive targets were rated as significantly more responsive if viewed following an unresponsive target than if viewed first, $p = .004$. However, profile order did not affect responsiveness ratings of unresponsive targets, $p = .17$.

In addition to our hypothesized effects, this analysis revealed that both within-person main effects were further qualified by a two-way interaction between target attractiveness and responsiveness, $F(1,86) = 9.34$, $p = .003$, $\eta_p^2 = .10$, revealing that responsive targets were rated as especially responsive if they were attractive ($M = 4.32$, $SE = .06$, $CI_{95\%}[4.200,4.442]$) compared to if they were unattractive ($M = 3.96$, $SE = .07$, $CI_{95\%}[3.816,4.098]$), $p < .001$. However, attractiveness did not moderate the responsiveness ratings of unresponsive targets, $p = .74$. Finally, there was a significant three-variable interaction between profile order, responsiveness and attractiveness, $F(1,86) = 8.17$, $p = .005$, $\eta_p^2 = .09$. As seen in Table 2, the interaction between profile order and responsiveness was more pronounced for unattractive targets. Specifically, while profile order significantly increased the responsiveness ratings of responsive targets when they were unattractive, the effect was only marginally significant among attractive, responsive targets at $p = .06$.

No other effects in this model were significant: profile order, $F(1,86) = 1.81$, $p = .18$, $\eta_p^2 = .02$, profile order by attractiveness condition interaction, $F(1,86) = .43$, $p = .52$, $\eta_p^2 = .005$.

3.1.3. Romantic interest

For romantic interest, the mixed ANOVA revealed a between-person effect of profile order, $F(1,86) = 13.88$, $p < .001$, $\eta_p^2 = .14$, and within-person effects of target attractiveness, $F(1,86) = 116.13$, $p < .001$, $\eta_p^2 = .58$, and target responsiveness, $F(1,86) = 119.04$, $p < .001$, $\eta_p^2 = .58$. However, all main effects were qualified by significant interactions. First, a significant interaction between profile order and target attractiveness, $F(1,86) = 4.93$, $p = .03$, $\eta_p^2 = .05$, revealed that while viewing unresponsive targets first significantly increased romantic interest overall compared to viewing responsive targets first, this effect was stronger for attractive targets, $p < .001$, than for unattractive targets, $p = .04$. Furthermore, as hypothesized, a significant interaction between profile order and target responsiveness, $F(1,86) = 34.51$, $p < .001$, $\eta_p^2 = .29$ (see Table 1), revealed that responsive targets garnered significantly greater romantic interest if participants had first viewed unresponsive targets rather than viewing the responsive targets first, $p < .001$. However, profile order did not affect romantic interest in unresponsive targets, $p = .18$. No other effects in this model were significant: attractiveness by responsiveness interaction, $F(1,86) = 2.70$, $p = .10$, $\eta_p^2 = .03$, profile order by attractiveness by responsiveness interaction, $F(1,86) = .10$, $p = .76$, $\eta_p^2 = .001$.

Taken together, the results of Study 1 provide preliminary support for our hypothesis that contrast effects play a role during dating decisions. Compared to being viewed first, prior exposure to unresponsive dating prospects increased ratings of perceived attractiveness, perceived responsiveness, and romantic interest for responsive targets. In fact, responsive targets received nearly a full point increase on a 5-point scale in romantic interest (from 2.35 to 3.27) based on profile order. Furthermore, contrast effects with regard to target responsiveness were effective above and beyond targets' physical attractiveness.

However, Study 1 was not originally designed to test this hypothesis, and was therefore limited in its counterbalancing design. Study 2 was designed as a confirmatory study to systematically test our hypothesis with a larger sample. Additionally, Study 1 included only female participants. Because some literature suggests that physical attractiveness should matter more for men than for women during mate selection (e.g., Feingold, 1990), we recruited both male and female participants in Study 2. The primary variable of interest in Study 2 was romantic interest in a responsive, yet physically unattractive, dating target. We opted to focus exclusively on evaluations of an unattractive, responsive target due to statistical power considerations. By limiting the number of conditions in the study design, we reduced the number of participants required for adequate power. Additionally,

[2] Data were originally collected to test another hypothesis. A subset of these data were used in Study 5 of Spielmann, MacDonald, et al. (2013) and Study 5 of Spielmann, Maxwell, MacDonald, and Baratta (2013). However, none of the associations presented here have previously been reported.

Table 1
Dependent variables as a function of target responsiveness and profile order in Study 1, controlling for target attractiveness.

		Profile order			
		Unresponsive first		Responsive first	
DV	Target responsiveness	*M* (*SE*)	$CI_{95\%}$	*M* (*SE*)	$CI_{95\%}$
Physical attractiveness	Responsive targets	3.11 (.10)	2.898, 3.312	2.64 (.11)	2.427, 2.859
	Unresponsive targets	2.48 (.09)	2.306, 2.658	2.66 (.09)	2.474, 2.843
Responsiveness	Responsive targets	4.31 (.08)	4.152, 4.471	3.97 (.08)	3.799, 4.133
	Unresponsive targets	1.50 (.07)	1.351, 1.641	1.64 (.08)	1.491, 1.795
Romantic interest	Responsive targets	3.27 (.10)	3.062, 3.474	2.35 (.11)	2.138, 2.569
	Unresponsive targets	1.73 (.08)	1.562, 1.895	1.89 (.09)	1.717, 2.066

because Study 1 revealed that contrast effects more strongly predicted romantic interest in attractive targets than unattractive targets, focusing on a responsive, yet physically unattractive, target in Study 2 provided a conservative test of our hypothesis that contrast effects for responsiveness would affect romantic interest, above and beyond physical attractiveness.

4. Study 2

4.1. Method

4.1.1. Participants

Single, heterosexual men and women were recruited via Amazon.com's Mechanical Turk. Two-hundred and ninety-five eligible participants completed the survey in its entirety. However, 28 participants were excluded for response sets identified by reverse-scored items. This proportion is consistent with recent research suggesting that 10–12% of respondents in this format of data collection can be classified as careless responders (Meade & Craig, 2012). In total, 267 participants (137 women, 130 men), ranging in age from 18 to 74 years old (M = 31.04, SD = 11.10), were included in analyses. This sample size provided approximately 82% power to detect small-to-moderate effect sizes.

4.1.2. Procedure

Participants viewed two ostensibly real online dating profiles of the opposite sex, with the second profile always depicting a *Responsive*/*Unattractive* target. The first of the two profiles was randomly assigned, such that participants either first saw a *Responsive*/*Attractive* target, an *Unresponsive*/*Attractive* target, a *Responsive*/*Unattractive* target (i.e., same qualities as target of interest), or an *Unresponsive*/*Unattractive* target. Following each target, participants completed the measures below. However, we report only the results for the second target, the *Responsive*/*Unattractive* target.

4.1.3. Measures

4.1.3.1. Dating profiles. Male dating profiles were the same as in Study 1. For female profiles, the written descriptions were the same with substitution of female pronouns. Female photos were selected for attractiveness based on pilot testing, which confirmed that the attractive photos were more attractive than the unattractive photos, $F(1,24) = 399.08$, $p < .001$, $\eta_p^2 = .94$. As in Study 1, two attractive and two unattractive photos, as well as two responsive and unresponsive descriptions, were counterbalanced.

4.1.3.2. Physical attractiveness ratings. Participants reported their perceptions of the *Responsive*/*Unattractive* target's physical attractiveness using the same scale as Study 1, with the exception that ratings for "beautiful" replaced "handsome" for female targets; $M = 2.40$, SD = .99, $\alpha = .94$.

4.1.3.3. Responsiveness ratings. Participants reported their perceptions of the *Responsive*/*Unattractive* target's responsiveness using the same scale as Study 1; $M = 4.00$, SD = .78, $\alpha = .89$.

4.1.3.4. Romantic interest. Participants' romantic interest in the *Responsive*/*Unattractive* target was assessed on a scale from 1 (*not at all*) to 5 (*extremely*) using a modified measure from Study 1, consisting of 11 items (e.g., "To what extent does this person possess qualities that you esteem in a relationship partner?" and "How close is this person to your ideal/dream partner?"); $M = 2.56$, SD = .98, $\alpha = .96$.

4.1.3.5. Preferred dating target. Finally, participants indicated in a forced-choice paradigm which of the two dating targets they would be most interested in dating: the first target (i.e., the experimentally manipulated target) or the second target (i.e., the *Responsive*/*Unattractive* target).

5. Results and discussion

We conducted a 2 (attractiveness of first profile: *Attractive* vs. *Unattractive*) × 2 (responsiveness of first profile: *Responsive* vs. *Unresponsive*) MANOVA with perceived attractiveness, perceived responsiveness, and romantic interest in the *Responsive*/*Unattractive* second target as the dependent variables. The multivariate tests revealed a significant effect of responsiveness condition, $F(3,261) = 9.15$, $p < .001$, $\eta_p^2 = .10$, but no significant effect of attractiveness condition, $F(3,261) = .43$, $p = .73$, $\eta_p^2 = .005$, and no significant interaction between responsiveness and attractiveness conditions, $F(3,261) = 1.34$, $p = .26$, $\eta_p^2 = .02$. We next examined the tests of between-subjects effects for each dependent variable.

Table 2
Responsiveness ratings as a function of target attractiveness, target responsiveness, and profile order in Study 1.

		Profile order				
		Unresponsive first		Responsive first		
Target attractiveness	Target responsiveness	*M* (*SE*)	$CI_{95\%}$	*M* (*SE*)	$CI_{95\%}$	*p*
Attractive	Responsive targets	4.44 (.08)	4.268, 4.602	4.21 (.09)	4.031, 4.381	.06
	Unresponsive targets	1.61 (.09)	1.423, 1.795	1.56 (.10)	1.361, 1.750	.70
Unattractive	Responsive targets	4.19 (.10)	3.994, 4.383	3.73 (.10)	3.522, 3.930	.002
	Unresponsive targets	1.38 (.11)	1.170, 1.599	1.73 (.11)	1.506, 1.955	.03

5.1. Physical attractiveness ratings

There were no effects of the first target's responsiveness, $F(1,263) = .05$, $p = .83$, $\eta_p^2 < .001$, or attractiveness, $F(1,263) = 1.21$, $p = .27$, $\eta_p^2 = .005$, on participants' perceptions of the second target's physical attractiveness. There was also no significant interaction between conditions, $F(1,263) = .04$, $p = .85$, $\eta_p^2 < .001$. Therefore, unlike in Study 1, perceptions of the *Responsive/Unattractive* target's physical attractiveness were not affected by the features of a previously-viewed target.

5.2. Responsiveness ratings

There was a significant effect of the first target's responsiveness on perceptions of the second target's responsiveness, $F(1,263) = 11.28$, $p = .001$, $\eta_p^2 = .04$, suggesting that those who had first seen an unresponsive target ($M = 4.14$, $SE = .06$, $CI_{95\%}$[4.015,4.265]) rated the *Responsive/Unattractive* target as more responsive than those who had first seen another responsive target ($M = 3.82$, $SE = .07$, $CI_{95\%}$[3.680,3.960]). Neither the main effect of the first target's attractiveness, $F(1,263) = .003$, $p = .95$, $\eta_p^2 < .001$, nor the interaction between conditions, $F(1,263) = 1.23$, $p = .27$, $\eta_p^2 = .005$, were significant. In other words, first seeing an unresponsive target—regardless of that target's physical attractiveness—increased the perceived responsiveness of the *Responsive/Unattractive* target.

5.3. Romantic interest

As hypothesized, there was a significant effect of the first target's responsiveness on romantic interest in the second target, $F(1,263) = 9.60$, $p = .002$, $\eta_p^2 = .04$, suggesting that those who had first seen an unresponsive target ($M = 2.72$, $SE = .08$, $CI_{95\%}$[2.560,2.875]) expressed greater romantic interest in the *Responsive/Unattractive* target than those who had first seen another responsive target ($M = 2.35$, SD = .09, $CI_{95\%}$[2.169,2.522]). Neither the main effect of the first target's attractiveness, $F(1,263) = .94$, $p = .33$, $\eta_p^2 = .004$, nor the interaction between conditions, $F(1,263) = .38$, $p = .54$, $\eta_p^2 = .001$, were significant. In other words, first seeing an unresponsive target—regardless of that target's physical attractiveness—increased romantic interest in the *Responsive/Unattractive* target.

Next, we tested whether the effect of the first target's responsiveness on romantic interest ratings was mediated by perceptions of responsiveness. Using the indirect macro for SPSS (Preacher & Hayes, 2008), we conducted a bootstrap analysis with 5000 resamples, entering the first target's attractiveness condition as a covariate. This analysis revealed a significant mediation effect (indirect effect estimate = −.07, $SE = .02$, $CI_{95\%}$[−.12, −.03]), suggesting that increased romantic interest in the *Responsive/Unattractive* target following initial exposure to an unresponsive target was due in part to increased perceptions of target responsiveness.

5.4. Preferred dating target

Finally, we tested whether contrast effects played a role in participants' preference between the two dating targets. Partner preferences within each condition are displayed as percentages in Fig. 1. We conducted a binary logistic regression with target preference as the dependent variable (coded as 0 = manipulated first target, 1 = *Responsive/Unattractive* second target). Responsiveness condition (0 = responsive, 1 = unresponsive) and attractiveness condition (0 = attractive, 1 = unattractive) were entered in Step 1 as categorical predictors, and the two-way interaction between conditions was entered in Step 2. Results revealed a significant effect of responsiveness condition, $B = 1.70$, $SE = .29$, $p < .001$, *odds ratio* = 5.46, $CI_{95\%}$[3.114,9.584], such that prior exposure to an unresponsive target made people 5.46 times more likely to prefer the *Responsive/Unattractive* second target. There was also a significant effect of attractiveness condition, $B = 1.22$, $SE = .29$, $p < .001$, *odds ratio* = 3.40, $CI_{95\%}$[1.934,5.983], such that being previously exposed to an unattractive target made people 3.40 times more likely to prefer the *Responsive/Unattractive* target. The interaction between conditions was not significant, $B = -.47$, $SE = .58$, $p = .41$, *odds ratio* = .625, $CI_{95\%}$[.202,1.933].

While this forced-choice analysis is unconventional due to the fact that not all participants selected between the same two options, it still reveals a meaningful pattern of results in line with our hypothesis that responsive targets are evaluated more favorably following exposure to unresponsive targets. As visualized in Fig. 1, in both conditions where participants chose between an unresponsive target seen first (whether attractive or unattractive) and a responsive target seen second, we observed a strong preference for the responsive target, despite her/his unattractiveness.

5.5. Effects of participant sex and age

Since Study 2 included both men and women, and participants with a greater age range than Study 1, we tested for moderation by

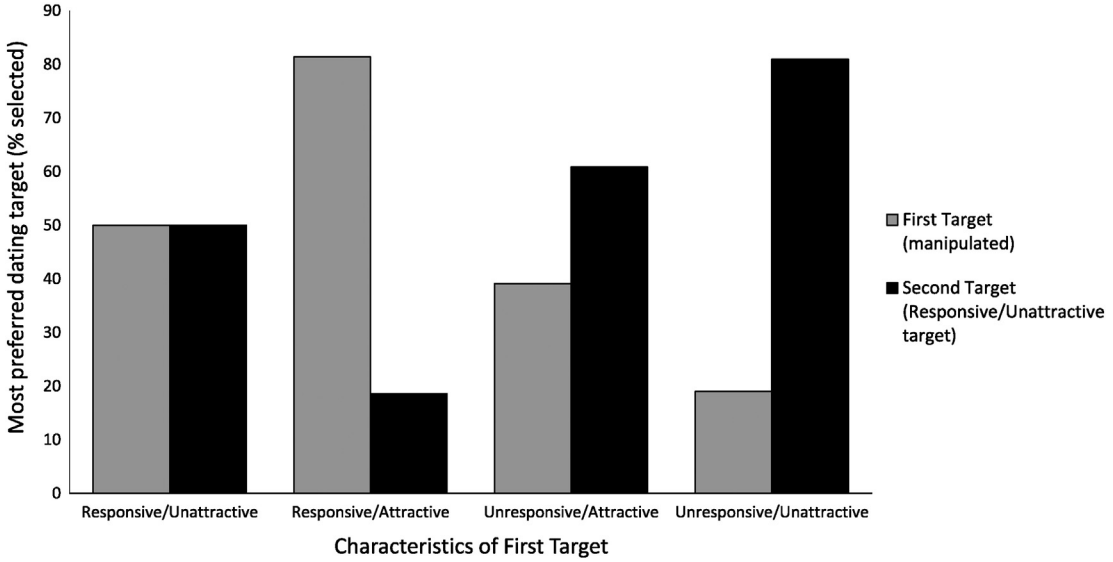

Fig. 1. Forced-choice preference between targets in Study 2.

participant sex and age. First, testing for moderation by sex in the MANOVA above, none of the effects were moderated by sex, all *ps* > .11.

Including sex as a moderator in the logistic regression for preference between targets revealed a significant moderation by sex for the effect of responsiveness condition, $B = 2.37$, $SE = .69$, $p < .001$, *odds ratio* = 10.65, $CI_{95\%}$[2.776,40.894]. Simple effects tests revealed that the effect of the responsiveness condition on preference for the *Responsive/Unattractive* target was especially strong for men, $B = 3.30$, $SE = .57$, $p < .001$, *odds ratio* = 27.07, $CI_{95\%}$[8.787,83.400], while it was marginally significant for women, $B = .93$, $SE = .53$, $p = .08$, *odds ratio* = 2.54, $CI_{95\%}$[.905,7.136].

Next, to test for moderation by participant age, we conducted a series of hierarchical regressions predicting each dependent variable. Responsiveness and attractiveness conditions, as well as participant age (standardized) were entered in Step 1, and all two-way and three-way interactions were entered in Steps 2 and 3, respectively. Age did not moderate the effects of the conditions on ratings of physical attractiveness or romantic interest. However, age did moderate responsiveness ratings of the *Responsive/Unattractive* target. There was a significant interaction between age and responsiveness condition, $\beta = -.21$, $p = .03$, revealing that the contrast effects of having first seen a responsive target were especially strong for older participants. At 1 SD above the mean for age, participants perceived the *Responsive/Unattractive* target as more responsive after first seeing someone unresponsive than responsive, $\beta = -.66$, $p < .001$. However, at 1 SD below the mean for age, the responsiveness condition did not have an effect on participants' responsiveness ratings, $\beta = -.24$, $p = .15$.

There was also a marginally significant interaction between age and attractiveness condition predicting perceived responsiveness, $\beta = .17$, $p = .08$. However, simple effects tests revealed an opposite effect for age as above. At 1 SD above the mean for age, there was no effect of attractiveness condition on perceptions of the *Responsive/Unattractive* target's responsiveness, $\beta = .06$, $p = .69$. However, at 1 SD below the mean for age, those who had previously seen someone unattractive rated the *Responsive/Unattractive* target as marginally more responsive than those who had first seen someone attractive, $\beta = -.27$, $p = .09$.

Including age as a moderator in the logistic regression on the forced-choice preference between targets revealed no significant moderation by age on target preference, all *ps* > .36. Taken together, then, although there were some effects of participant sex and age, they did not replicate systematically across variables.

6. General discussion

The present findings demonstrate the importance of context during mate selection. Across two studies, male and female participants perceived higher responsiveness in, and expressed greater romantic preference for, a responsive person—even when that person was physically unattractive—following exposure to unresponsive people. While mate selection is never done in a vacuum, the current age of modern dating technology may amplify the likelihood of making direct comparisons between dating prospects with the goal of selecting the best in the series (e.g., Finkel et al., 2012). This study is the first to show that evaluations of a dater's personality can be affected by sequential or simultaneous exposure to dating prospects.

Practically speaking, these data suggest that people choosing online dates may need to be aware that scrolling through a series of disappointing options could lead them to overvalue an acceptable option. Although we do not have data to suggest a remedy to the contrast effect, one possibility is that acceptable options could be put aside for later, to be viewed on their own without contrasts. Further, "nice guys" looking to finish first may want to avoid paying for options that offer to bump their profile for premium viewing; these responsive individuals may benefit from being viewed later in the pool of prospects.

These conclusions should be taken within the context of a number of limitations and qualifications. First, the photos used in the present study did not represent extreme levels of physical attractiveness or unattractiveness (e.g., attractive photos: $M = 3.52$ in Study 1 and 3.55 in Study 2; unattractive photos: $M = 1.93$ in Study 1 and 2.01 in Study 2). As disparities in physical attractiveness become more extreme, the relative importance of responsiveness may not be as strong as the present findings suggest. The moderate levels of attractiveness in the present studies may also shed light on why we did not replicate Kenrick and Gutierres (1980, 1989) contrast effects for physical attractiveness ratings. It is possible that our photos were not extreme enough to stimulate direct comparisons between targets. In terms of responsiveness, online profiles in which targets explicitly commented on low responsiveness may have represented a unique type of profile not frequently observed in online dating contexts, as online daters are typically motivated to present themselves in the best light (e.g., Ellison, Hancock, & Toma, 2011). The contrasts between responsive and unresponsive profiles may therefore have been more extreme than the contrasts between attractive and unattractive photos, exaggerating the preference for responsiveness over attractiveness in our studies. Future research should explore the role of contrast effects where responsiveness is manipulated more subtly.

Relationship goals ought also to be considered when discussing the prioritization of responsiveness vs. attractiveness during dating decisions. Indeed, researchers have found that responsiveness is more highly valued when considering a partner for a serious relationship, while attractiveness is more highly valued for sexual encounters (Fletcher et al., 2004; Urbaniak & Kilmann, 2003). In the present research, we conducted supplementary analyses of a possible moderating role of desire to be in a relationship (as measured from an avoidance perspective with the Fear of Being Single Scale; Spielmann, MacDonald, et al., 2013), and found that fear of being single did not reliably moderate the contrast effects.[3] However, more directly assessing goals for short- vs. long-term relationship striving during online dating in future research would serve as a stronger test of the role of relationship goals in the susceptibility to contrast effects of responsiveness and attractiveness.

Another open question concerns how these effects would extend to larger pools of dating prospects. Indeed, in the present research, participants considered relatively small comparison groups (four profiles in Study 1, two profiles in Study 2). Research suggests that while the decision-making process between four and twenty dating profiles is found to be no different in terms of difficulty, satisfaction, or regret (Lenton, Fasolo, & Todd, 2008), significant increases in the pool of dating prospects (from pools of 20s to 30s, for instance) necessitate a more shallow and heuristic-based level of processing of each potential dating target due to time constraints and cognitive overload (e.g., Lenton & Francesconi, 2010). Therefore, perhaps as dating pools increase and elaboration becomes more difficult, there may be a reduction in the impact of more complex aspects of person perception such as evaluation of responsiveness or other personality traits.

Finally, the present findings can only speak to the role of contrast effects during the early stages of romantic initiation. It remains unclear what would be the romantic fate of these daters following initial garnering of romantic interest, particularly for those who are unattractive. However, simply gaining a prospective partner's initial attention may yield important benefits. For instance, people often find it more difficult to reject dates than they believe it will be (Joel, Teper, & MacDonald, 2014). Therefore, in online dating contexts, less attractive yet responsive daters may still have a higher likelihood of progressing to a face-to-face meeting when their online profile is contrasted with less responsive dating prospects. However, it remains an open question whether contrast effects occurring early during mate selection would continue to promote success during longer-term relationship formation, or

[3] In Study 1, fear of being single did not moderate any of the reported effects. In Study 2, fear of being single did not moderate the effects of attractiveness ratings or romantic interest, but did moderate the effects of responsiveness ratings.

whether individual preferences for more attractive partners would hinder relationship development once the salience of responsiveness contrasts decreases. However, based on the present findings, it does seem that nice guys (and gals)—even the unattractive ones—can indeed finish first if preceded by someone not-so-nice.

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References

Bhargava, S., & Fisman, R. (2014). Contrast effects in sequential decisions: Evidence from speed dating. *The Review of Economics and Statistics*, *96*, 444–457. http://dx.doi.org/10.1162/REST_a_00416.

Bless, H., Igou, E. R., Schwarz, N., & Wänke, M. (2000). Reducing context effects by adding context information: The direction and size of context effects in political judgment. *Personality and Social Psychology Bulletin*, *29*, 1036–1045. http://dx.doi.org/10.1177/01461672002611002.

Bohner, G., Ruder, M., & Erb, H. -P. (2002). When expertise backfires: Contrast and assimilation effects in persuasion. *British Journal of Social Psychology*, *41*, 495–519. http://dx.doi.org/10.1348/014466602321149858.

Buss, D. M., & Barnes, M. (1986). Preferences in human mate selection. *Journal of Personality and Social Psychology*, *50*, 559–570. http://dx.doi.org/10.1037/0022-3514.50.3.559.

Eastwick, P. W., & Finkel, E. J. (2008). Sex differences in mate preferences revisited: Do people know what they initially desire in a romantic partner? *Journal of Personality and Social Psychology*, *94*, 245–264. http://dx.doi.org/10.1037/0022-3514.94.2.245.

Ellison, N. B., Hancock, J. T., & Toma, C. L. (2011). Profile as promise: A framework for conceptualizing veracity in online dating self-presentations. *New Media and Society*, *14*, 45–62. http://dx.doi.org/10.1177/1461444811410395.

Feingold, A. (1990). Gender differences in effects of physical attractiveness on romantic attraction: A comparison across five research paradigms. *Journal of Personality and Social Psychology*, *59*, 981–993. http://dx.doi.org/10.1037//0022-3514.59.5.981.

Finkel, E. J., Eastwick, P. W., Karney, B. R., Reis, H. T., & Sprecher, S. (2012). Online dating: A critical analysis from the perspective of psychological science. *Psychological Science in the Public Interest*, *13*, 3–66. http://dx.doi.org/10.1177/1529100612436522.

Fletcher, G. J. O., Tither, J. M., O'Loughlin, C., Friesen, M., & Overall, N. (2004). Warm and homely or cold and beautiful? Sex differences in trading off traits in mate selection. *Personality and Social Psychology Bulletin*, *30*, 659–672. http://dx.doi.org/10.1177/0146167203262847.

Gangestad, S. W., & Simpson, J. A. (2000). The evolution of mating: Trade-offs and strategic pluralism. *Behavioral and Brain Sciences*, *23*, 675–687. http://dx.doi.org/10.1017/S0140525X0000337X.

Jensen-Campbell, L. A., Graziano, W. G., & West, S. G. (1995). Dominance, prosocial orientation, and female preferences: Do nice guys really finish last? *Journal of Personality and Social Psychology*, *68*, 427–440. http://dx.doi.org/10.1037/0022-3514.68.3.427.

Joel, S., Teper, R., & MacDonald, G. (2014). People overestimate their willingness to reject potential romantic partners by overlooking their concern for others. *Psychological Science*, *25*, 2233–2240.

Karney, B. R., & Bradbury, T. N. (1995). The longitudinal course of marital quality and stability: A review of theory, methods, and research. *Psychological Bulletin*, *118*, 3–34. http://dx.doi.org/10.1037/0033-2909.118.1.3.

Kenrick, D. T., & Gutierres, S. E. (1980). Contrast effects and judgments of physical attractiveness: When beauty becomes a social problem. *Journal of Personality and Social Psychology*, *38*, 131–140. http://dx.doi.org/10.1037/0022-3514.38.1.131.

Kenrick, D. T., & Gutierres, S. E. (1989). Influence of popular erotica on judgments of strangers and mates. *Journal of Experimental Social Psychology*, *25*, 159–167. http://dx.doi.org/10.1016/0022-1031(89)90010-3.

Kruglanski, A. W., Thompson, E. P., Higgins, E. T., Atash, M. N., Pierro, A., Shah, J. Y., & Spiegel, S. (2000). To "do the right thing" or to "just do it": Locomotion and assessment as distinct self-regulatory imperatives. *Journal of Personality and Social Psychology*, *79*, 793–815. http://dx.doi.org/10.1037/0022-3514.79.5.793.

Lenton, A. P., & Francesconi, M. (2010). How humans cognitively manage an abundance of mate options. *Psychological Science*, *21*, 528–533. http://dx.doi.org/10.1177/0956797610364958.

Lenton, A. P., Fasolo, B., & Todd, P. M. (2008). "Shopping" for a mate: Expected versus experienced preferences in online mate choice. *IEEE Transactions on Professional Communication*, *51*, 169–182. http://dx.doi.org/10.1109/TPC.2008.2000342.

Meade, A. W., & Craig, S. B. (2012). Identifying careless responses in survey data. *Psychological Methods*, *17*, 437–455. http://dx.doi.org/10.1037/a0028085.

Pepitone, A., & DiNubile, M. (1976). Contrast effects in judgments of crime severity and the punishment of criminal violators. *Journal of Personality and Social Psychology*, *33*, 448–459. http://dx.doi.org/10.1037/0022-3514.33.4.448.

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, *40*, 879–891. http://dx.doi.org/10.3758/BRM.40.3.879.

Regan, P. C., & Berscheid, E. (1997). Gender differences in characteristics desired in a potential sexual and marriage partner. *Journal of Psychology and Human Sexuality*, *9*, 25–37. http://dx.doi.org/10.1300/J056v09n01_02.

Reis, H. T., Clark, M. S., & Holmes, J. G. (2004). Perceived partner responsiveness as an organizing construct in the study of intimacy and closeness. In D. J. Mashek, & A. P. Aron (Eds.), *Handbook of closeness and intimacy* (pp. 201–225). Mahwah, NJ: Erlbaum.

Smith, A., & Duggan, M. (2013, October). *Online dating & relationships.* Washington, D.C.: Pew Research Center (http://www.pewinternet.org/2013/10/21/online-dating-relationships/, accessed on April 7, 2015).

Spielmann, S. S., MacDonald, G., Maxwell, J. A., Joel, S., Peragine, D., Muise, A., & Impett, E. A. (2013a). Settling for less out of fear of being single. *Journal of Personality and Social Psychology*, *105*, 1049–1073. http://dx.doi.org/10.1037/a0034628.

Spielmann, S. S., Maxwell, J. A., MacDonald, G., & Baratta, P. L. (2013b). Don't get your hopes up: Avoidantly attached individuals perceive lower social reward when there is potential for intimacy. *Personality and Social Psychology Bulletin*, *39*, 219–236. http://dx.doi.org/10.1177/0146167212472541.

Sprecher, S. (2009). Relationship initiation and formation on the internet. *Marriage & Family Review*, *45*, 761–782. http://dx.doi.org/10.1080/01494920903224350.

Sprecher, S., Schwartz, P., Harvey, J., & Hatfield, E. (2008). TheBusinessofLove.com: Relationship initiation at internet matchmaking services. In S. Sprecher, A. Wenzel, & J. Harvey (Eds.), *Handbook of relationship initiation* (pp. 249–265). New York: Psychology Press.

Stewart, S., Stinnett, H., & Rosenfeld, L. B. (2000). Sex differences in desired characteristics of short-term and long-term relationship partners. *Journal of Social and Personal Relationships*, *17*, 843–853. http://dx.doi.org/10.1177/0265407500176008.

Tormala, Z. L., & Clarkson, J. J. (2007). Assimilation and contrast in persuasion: The effects of source credibility in multiple message situations. *Personality and Social Psychology Bulletin*, *33*, 559–571. http://dx.doi.org/10.1177/0146167206296955.

Tormala, Z. L., & Petty, R. E. (2007). Contextual contrast and perceived knowledge: Exploring the implications for persuasion. *Journal of Experimental Social Psychology*, *43*, 17–30. http://dx.doi.org/10.1016/j.jesp.2005.11.007.

Urbaniak, G. C., & Kilmann, P. R. (2003). Physical attractiveness and the "nice guy paradox": Do nice guys really finish last? *Sex Roles*, *49*, 413–426. http://dx.doi.org/10.1023/A:1025894203368.