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# Endorser and Bodily Addressing in Public Service Announcements: Effects and Underlying Mechanisms

Lewen Wei , Arienne Ferchaud , & Bingjie Liu 

*Media psychology literature suggests that both celebrity and peer endorsers can be effective in persuasion when taking certain bodily addressing styles but via different mechanisms. To understand the psychological mechanisms underlying audiences' reactions toward print public service announcements (PSAs) and to design effective PSAs accordingly, we explored this issue by conducting a 2 (endorser: peer vs. celebrity)  $\times$  2 (bodily addressing style: front vs. side) between-subjects online experiment ( $N = 423$ ). Findings suggest that celebrity endorsers with a frontal bodily addressing style induced more parasocial interaction experience (PSE) with the endorser from the audiences, whereas peer endorsers with a side bodily addressing elicited a higher level of empathy toward the endorser. Both enhanced PSE and empathy contribute to effectiveness of the PSAs. Implications and limitations are discussed.*

**Keywords:** Bodily Addressing; Empathy; Endorsement; Parasocial Interaction Experience; Public Service Announcement

Public service announcements (PSAs) are messages designed to inform the public (Suggett, 2017). Due to their critical role in promoting prosocial behaviors, PSA designers have put considerable effort into message design in terms of whom to use as an endorser and how they should be featured.

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Color versions of one or more of the figures in the article can be found online at [www.tandfonline.com/rcrr](http://www.tandfonline.com/rcrr).

It is a common practice now to use celebrity endorsers to appeal to the masses. However, distinct from ordinary people in terms of social status and lifestyles, celebrity endorsers might be perceived as of farther in psychological distance to the viewers as compared with peer endorsers (Edwards, Lee, & Ferle, 2009). This distance might compromise the effectiveness of PSAs. In addition to celebrity status, different bodily addressing styles may facilitate or inhibit certain perceptual mechanisms, which can impact PSA effectiveness.

To help design more meaningful and effective PSAs, the current study aims to explore how endorsers and their bodily addressing styles influence message effectiveness and the underlying psychological mechanisms—parasocial interaction experience (PSE) and empathy.

## Literature Review

### *Persuasive Effect of Endorser*

Celebrity endorsement has long been regarded as an effective strategy in marketing and advertising practice as people tend to regard media figures as role models (Ramasubramanian & Kornfield, 2012), which encourages people to adopt celebrity endorsers' recommendation (Jin & Phua, 2014). However, opposing arguments exist. Compared to celebrity endorsers, peer endorsers tend to lead audiences into believing that the reality and truth are presented “with no sugar coating” (Fleck, Michel, & Zeitoun, 2013, p. 87), resulting in more conformation to the advocated values.

Different psychological mechanisms might account for such complex findings, which could operate for both types of endorsers but to different magnitudes. Informed by existing theories, there are two potential underlying mechanisms. For celebrity endorsers, viewers are more likely to develop PSEs (cf. parasocial relationships, see Horton & Wohl, 1956), which allow viewers to engage in “highly automatic mindreading processes (Hartmann & Goldhoorn, 2011, p. 1106) in response to dynamic media. Yet print PSAs can also simulate reciprocal conversations between viewers and endorsers (see parasocial interaction in fandom toward book characters in Schmid & Klimmt, 2011) with repeated exposure, and perceived awareness of attention from celebrity endorsers who are regarded as role models (Ramasubramanian & Kornfield, 2012) could encourage viewers into adopting promoted values.

For peer endorsers, however, despite lessened PSE compared to celebrity endorsers, their similarity with viewers could lead to more empathy (Sørum, Grape, & Silvera, 2003), thus promoting prosocial outcomes (Bagozzi & Moore, 1994). As a multidimensional concept (Hogan, 1969), empathy can be conceptualized as affective empathy to capture viewers' emotional reactions, cognitive empathy to illuminate perspective taking, and associative empathy to highlight identification with the message (Shen, 2010). These conceptual nuances should exert subtly different effects on PSA effectiveness.

Notably, in evaluating PSA effectiveness, we consider it to be captured by both favorable attitude (i.e., cognitive evaluation, see Dillard, Shen, & Vail, 2007) and behavioral intentions (i.e., future-oriented plans, see Jin & Phua, 2014) toward the

advocated value in parallel. In discussing whether to strictly adhere to the causal attitude-intention relationship informed by the Theory of Planned Behavior (TPB, Ajzen, 1991), some recent scholarly work has lent empirical support for disentangling these two outcome variables (e.g., Nabi & Myrick, 2018). Therefore, we propose:

- H1: *Celebrity endorsers will induce more PSE than peer endorsers, which leads to more prosocial responses in terms of (a) attitudes and (b) behavioral intentions.*
- H2: *Peer endorsers will induce more (a) affective empathy, (b) cognitive empathy, (c) associative empathy than celebrity endorsers, which leads to more prosocial responses in terms of (a) attitudes and (b) behavioral intentions.*
- RQ1: *Do celebrity or peer endorsers lead to more prosocial responses in terms of (a) attitudes and (b) behavioral intentions?*

That said, a successful PSA hinges upon not only who endorses the message but also how the endorser is positioned to deliver the message—that is, the endorser’s bodily addressing style. As shown by prior research, varying whether endorsers face toward or away from the camera can change perceptions in the audience (Dibble, Hartmann, & Rosaen, 2016; Hartmann & Goldhoorn, 2011). Therefore, to further examine elements that affect PSA effectiveness, the following section will discuss the other key message variable, bodily addressing style, and how it might make a difference in PSA campaigns via proposed mechanisms.

### *Conditional Effect of Bodily Addressing Styles*

Bodily addressing style refers to the way endorsers position their body gestures when delivering the message. It is perceived as a strong signal for conversational engagement (Sidner, Lee, & Lesh, 2003, October). Eye contact featured in frontal body addressing in particular functions to induce more active responses during interpersonal interaction (Ellsworth & Carlsmith, 1968) and convey more positive attitudes (Mehrabian, 1969). Frontal bodily addressing with direct eye contact helps foster a stronger sense of interaction with media characters (Cummins & Cui, 2014), as it triggers the illusion of the endorser’s dedication to the conversation. In contrast, people with side-facing bodily addressing avoid direct eye contact, which may lead audience members to perceive characters as not having fixed attention during the interaction.

Different bodily addressing styles might influence the processes of PSE and empathy differently. Celebrity endorsers tend to foster a higher level of PSE among the audiences. It could be further heightened if there is a clear and explicit sign of interaction (Hartmann & Goldhoorn, 2011), possibly in the form of endorsers’ bodily addressing styles (Horton & Wohl, 1956). When media characters make certain poses, such as looking audiences directly in the eyes, audiences might experience a feeling that the character is aware of their presence. While bodily addressing styles could also impact PSE induced by peer endorsers (e.g., Dibble et al., 2016), the effect might not be as salient as that by celebrities due to their status as role models (Ramasubramanian & Kornfield, 2012). Hence, we predict:

H3: *Bodily addressing style will moderate the effect of endorser's identity on viewers' prosocial responses toward PSA endorsers in terms of (a) attitudes and (b) behavioral intentions that is mediated by PSE.*

Peer endorsers inherently bear more similar characteristics to the viewers (Sørum et al., 2003) than celebrity endorsers, which could lead to higher levels of empathy. Nonetheless, it remains a puzzle how this relationship would be subject to different bodily addressing styles. On one hand, compared to a side bodily addressing featured with little interaction with viewers, a frontal bodily addressing could further bridge psychological distance, as the direct eye contact signals willingness to communicate (Argyle & Dean, 1965). As a result, it could heighten perceived intimacy with peer endorsers and help foster a higher level of empathy that leads to more favorable prosocial outcomes than celebrity endorsers. On the other hand, direct eye contact would require more cognitive efforts from viewers to process endorsers' conversational signals (McCarthy, Lee, Itakura, & Muir, 2006), which could impede the development of affective, cognitive, and associative empathy toward endorsers. Given these competing mechanisms, we propose the research question:

RQ2: *Will endorsers' bodily addressing style moderate the effect of endorser on viewers' prosocial responses toward PSA endorsers in terms of (a) attitudes and (b) behavioral intentions that is mediated by (a) affective empathy, (b) cognitive empathy, and (c) associative empathy?*

## Method

### *Study Design*

To understand the effect of the endorser's identity and their bodily addressing style on the effectiveness of PSA messages, we conducted a 2 (message endorsers: peer vs. celebrity)  $\times$  2 (bodily addressing style: front vs. side) factorial between-subjects experiment. To increase external validity of the study, we tested our hypotheses in two contexts, i.e., anti-sexual-abuse and anti-smoking, which have been widely featured in current prosocial campaigns due to their important social implications in recent years. To avoid case-category confound (Jackson, 1992), each participant was exposed to five endorsers who have similar celebrity status and bodily addressing style depending on the conditions they were in.

After consenting, all the participants were randomly assigned to see PSAs varying in endorser type (peer vs. celebrity), endorsers' bodily addressing style (front vs. side), and issue topic (anti-sexual abuse vs. anti-smoking), resulting in eight different stimuli. All those in the celebrity (peer) conditions saw five celebrities (peers) as endorsers with either front or side bodily addressing style, depending on the conditions they were assigned to. After viewing the stimuli images, they were instructed to complete a questionnaire probing their reactions toward those PSAs.

### Participants

A total number of 449 participants located in the United States were recruited from the Amazon's Mechanical Turk marketplace. We removed 26 participants who failed to identify the categories of endorsers (celebrity or not) or the advocated values in the PSAs, resulting in a final data set of 423 cases, the majority of whom were female (56.12%) and Caucasians (76.1%). They ranged in age from 19 to 74 years old ( $M = 38.05$ ,  $SD = 12.43$ ).

### Experimental Stimuli

To avoid bias caused by the gender and ethnic background of the endorsers, for each type of endorsers (celebrity and peer), we included five endorsers with various genders and ethnic backgrounds. Five celebrities were chosen based on their societal influence and demographic backgrounds: Angelina Jolie, Shemar Moore, Emma Watson, John Cho, and Oprah Winfrey. Their photos with both frontal and side addressing styles were carefully selected and downloaded from Google Image, all demonstrating a neutral demeanor. To match these celebrities' demographics (i.e., ethnicity and gender), other physical characteristics (i.e., hair style and appearance similarity), and poses, we invited five colleagues matching each celebrity figure correspondingly on all those aspects and took two photos of each imitating celebrities' bodily addressing styles, frontal and side.<sup>1</sup>

PSAs were created by editing the photos with Adobe PhotoShop. For the anti-smoking PSA, smoke effect was added around facial areas, with a textual message on the top saying "Thanks for not smoking others' fresh air away." For the anti-sexual-abuse PSA, bruise effects were added to characters' faces, and a textual message was embedded on the top saying "Zero tolerance, act together against sexual abuse" indicating the theme of the PSA.

### Measurement

Unless indicated, all the items were measured on a 7-point Likert-type scale from 1 (*strongly disagree*) to 7 (*strongly agree*).

**Manipulation check.** We checked the success of the endorser identity manipulation by asking participants whether they recognized any character in the PSAs they had seen. They were supposed to indicate "yes" if in celebrity conditions and "no" if in peer conditions.

**Attention check.** To make sure participants paid attention and understood advocated values in the PSAs they had seen, we asked participants to identify the topic of the PSAs. Those failing to report correct answers were removed from the final data set.

**PSE** was measured by the six-item EPSI scale (Hartmann & Goldhoorn, 2011), which was chosen because it measures a single parasocial interaction, rather than the accumulated relationship that builds over time. Sample items included "I had the

feeling that the characters of the PSAs I just saw was aware of me,”  $\alpha = .95$ ,  $M = 2.67$ ,  $SD = 1.73$ .

**Empathy** was measured with the 12-item scale developed by Shen (2010). Sample items included “The character’s emotions are genuine” (affective empathy:  $\alpha = .90$ ,  $M = 3.50$ ,  $SD = 1.68$ ; cognitive empathy,  $\alpha = .89$ ,  $M = 4.43$ ,  $SD = 1.66$ ; associative empathy,  $\alpha = .86$ ,  $M = 4.11$ ,  $SD = 1.66$ ).

**Attitude.** A 7-point semantic differential scale was used to evaluate participants’ attitude toward the value advocated in the PSAs with four items including “bad/good,”  $\alpha = .97$ ,  $M = 5.40$ ,  $SD = 1.66$ .

**Behavioral intention** was measured by adapting the three-item scale developed by Conner and Norman (1996). Sample items include “I would comply with values advocated in these PSAs in the future,”  $\alpha = .91$ ,  $M = 5.33$ ,  $SD = 1.63$ .

## Results

### *Effect of Endorser and Bodily Addressing*

Informed by significant correlations between outcome variables as shown in Table 1, we first conducted a multivariate analysis of variance (MANOVA), with endorser and bodily addressing style as two independent variables and PSE, affective empathy, cognitive empathy, associative empathy, attitude, and behavioral intention as the dependent variables.

Overall, there was a significant main effect of endorser, Wilk’s  $\Lambda = .97$ ,  $F(6, 414) = 2.239$ ,  $p = .039$ , partial  $\eta^2 = .031$ . Other than that, we detected neither significant main effects of bodily addressing style, Wilk’s  $\Lambda = .98$ ,  $F(6, 414) = 1.338$ ,  $p = .239$ , partial  $\eta^2 = .019$ , nor an interaction effect between endorser and bodily addressing style, Wilk’s  $\Lambda = .98$ ,  $F(6, 414) = 1.459$ ,  $p = .191$ , partial  $\eta^2 = .021$ .

The follow-up analysis of covariance revealed that participants reported significantly more associative empathy toward peer endorsers ( $M = 4.27$ ,  $SE = .11$ ) than celebrities ( $M = 3.95$ ,  $SE = .11$ ),  $p = .049$  (see Table 2). This pattern in affective empathy and cognitive empathy was not statistically significant. Moreover, we found that the interaction effect of endorser identity and bodily addressing style was significant on PSE. While no significant difference was detected between peer and celebrity endorsers with

**Table 1.** Correlation Matrix.

	1	2	3	4	5	6
1. PSE						
2. Affective empathy	.51***					
3. Cognitive empathy	.38***	.80***				
4. Associative empathy	.35***	.78***	.81***			
5. Attitude	.20***	.45***	.44***	.44***		
6. Behavioral intention	.15**	.36***	.41***	.39***	.49***	

side bodily addressing style, celebrity endorsers ( $M = 3.15$ ,  $SE = .17$ ) elicited significantly higher PSE among participants than peer endorsers ( $M = 2.52$ ,  $SE = .17$ ) when facing forward.

### *Underlying Mechanisms*

#### *Mediation*

To test H1 and H2, Model 4 of simple mediation in the PROCESS Macro (Hayes, 2013) was tested with type of endorser as the independent variable; PSE, affective empathy, cognitive empathy, and associative empathy as the mediating variable separately; and attitude and behavioral intention as the dependent variable respectively, with 5,000 bootstrapped samples and 95% confidence intervals (CI) requested.

Disconfirming H1, H2(a), and H2(b), indirect effects via PSE, affective empathy, and cognitive empathy were not significant. In support of H2(c), participants engendered more associative empathy toward peer endorsers compared to celebrity endorsers, which led to more favorable attitude toward advocated values ( $B = -.14$ , Boot  $SE = .07$ , 95% CI  $[-.30, -.01]$ ) and behavioral intentions ( $B = -.12$ , Boot  $SE = .06$ , 95% CI  $[-.26, -.01]$ ).

#### *Moderated mediation*

To test H3, Model 7 of moderated mediation in PROCESS Macro (Hayes, 2013) was tested with bodily addressing style as the moderator of the first-stage mediation and other similar setup aforementioned, as shown in Figure 1.<sup>2</sup>

The analysis revealed a significant moderated mediation via PSE on both attitude (Index =  $-.13$ , Boot  $SE = .07$ , 95% CI  $[-.30, -.01]$ ) and behavioral intention (Index =  $-.10$ , Boot  $SE = .06$ , 95% CI  $[-.24, -.01]$ ). Specifically, when posing with a frontal bodily addressing style, celebrities elicited a higher level of PSE, which facilitated more favorable attitudes ( $B = .12$ , Boot  $SE = .05$ , 95% CI  $[.03, .25]$ ) and behavioral intentions ( $B = .09$ , Boot  $SE = .04$ , 95% CI  $[.03, .20]$ ). No such pattern was observed in the side-facing conditions. Hence, H3 was supported.

To answer RQ2, Model 7 was tested again with affective empathy, cognitive empathy, and associative empathy as the mediating variable respectively, with other variables remaining the same as the last test.

Although none of the overall indices of moderated mediation was significant, a closer look at conditional indirect effects showed that, in contrast with perceptions of celebrities, participants actually experienced a higher level of empathy toward endorsers on all three dimensions when the peer endorsers took a side-facing bodily address. This increase in empathy thus resulted in more positive attitudes (e.g., affective empathy,  $B = -.21$ , Boot  $SE = .10$ , 95% CI  $[-.42, -.03]$ ) and behavioral intentions (e.g., affective empathy,  $B = -.17$ , Boot  $SE = .08$ , 95% CI  $[-.33, -.03]$ ). When endorsers took a frontal bodily address, however, there was no such indirect effect via empathy.



**Table 2.** Univariate Analysis of Variance on Outcome Variables.

	PSE	Affective Empathy	Cognitive Empathy	Associative Empathy	Attitude	Behavioral Intention
Endorser	$F(1, 419) = 2.87$ , $p = .091$ , $\eta^2 = .007$	$F(1, 419) = 1.738$ , $p = .188$ , $\eta^2 = .004$	$F(1, 419) = 3.329$ , $p = .069$ , $\eta^2 = .008$	$F(1, 419) = 3.897$ , $p = .049$ , $\eta^2 = .009$	$F(1, 419) = .000$ , $p = .999$ , $\eta^2 = .000$	$F(1, 419) = 1.60$ , $p = .207$ , $\eta^2 = .004$
Bodily addressing style	$F(1, 419) = 3.848$ , $p = .050$ , $\eta^2 = .009$	$F(1, 419) = .214$ , $p = .644$ , $\eta^2 = .001$	$F(1, 419) = .475$ , $p = .491$ , $\eta^2 = .001$	$F(1, 419) = .052$ , $p = .820$ , $\eta^2 = .000$	$F(1, 419) = .487$ , $p = .486$ , $\eta^2 = .001$	$F(1, 419) = .091$ , $p = .763$ , $\eta^2 = .000$
Endorser x Bodily addressing style	$F(1, 418) = 4.229$ , $p = .040$ , $\eta^2 = .010$	$F(1, 418) = 2.827$ , $p = .093$ , $\eta^2 = .007$	$F(1, 418) = .390$ , $p = .553$ , $\eta^2 = .001$	$F(1, 418) = .282$ , $p = .596$ , $\eta^2 = .001$	$F(1, 418) = 1.102$ , $p = .294$ , $\eta^2 = .003$	$F(1, 418) = .413$ , $p = .521$ , $\eta^2 = .001$

Note.  $\eta^2$  is partial  $\eta^2$ .

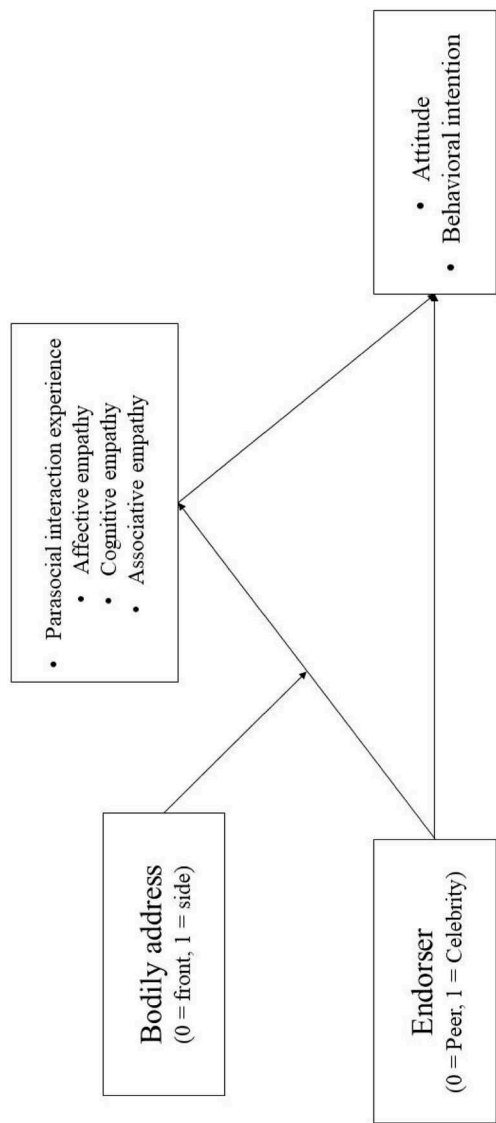


Figure 1 Modeling moderated mediation.

## Discussion

As the findings suggest, the effectiveness of PSAs is contingent both upon who the endorsers are and their bodily addressing styles. We did not find celebrity endorsers necessarily better than peers in terms of changing one's attitudes and behavioral intentions toward values advocated by the PSAs. Instead, findings suggest that both can be effective—through different psychological mechanisms—if appropriate bodily addressing styles are employed.

Celebrity endorsers only fostered greater PSE when a frontal bodily address was used, which led to more favorable prosocial attitudes and behavioral intentions. This finding is consistent with Hartmann and Goldhoorn (2011), who found that audiences were more likely to experience parasocial interaction with celebrities than peers, in particular with a frontal bodily addressing style. However, such effects diminished when celebrity endorsers took a side bodily addressing style. This might be attributed to a lack of conversation signals for the audience to engage with in reading PSA messages.

For peer endorsers, consistent with past research (Fleck et al., 2013), more empathy was induced as compared with celebrity endorsers. However, the pattern only applies to associative empathy such that participants related more to messages presented by peer endorsers, resulting in more PSA effectiveness. For affective and cognitive empathy, they played a conditional role in explaining effect of peer endorsers only when a side-facing position was taken. One reason could be that the increased cognitive efforts induced by the frontal bodily addressing and direct eye contact forced greater cognitive processing, which prevented them from initiating the perspective-taking of endorsers. It could also be that the side bodily addressing in the current contexts (anti-smoking and anti-sexual abuse) made peer endorsers look more vulnerable and thus deserving of empathy (Batson, 2011).

## Implications

This study theoretically extends Hartmann and Goldhoorn's findings on PSE with TV performers (2011). In the context of static PSAs, bodily addressing styles could exert profound influence over not only perceived intimate interaction experience with endorsers but also reactions toward advocated values. Notably, our findings validated the relevance of PSE with mere exposure to static images and shed light on empirical practices of using print PSAs to elicit prosocial outcomes.

As indicated in this study, celebrity endorsers with a frontal bodily addressing style or peer endorsers with a side bodily addressing style should lead to the strongest prosocial outcomes. With sufficient funding to hire celebrities as PSA endorsers, positioning the celebrity to face the camera could help generate higher levels of PSE for the audience, leading to greater PSA effectiveness. If practitioners hesitate to invest in celebrities, especially in early stages of PSA promotions, employing peer endorsers could render a similar level of effectiveness if they are using a side bodily address, which would induce more empathy. Thus, the audience would thus be more likely to accept the advocated values. That said, in the current study, we captured PSA effectiveness using both parameters (i.e., attitude and behavioral

intentions) altogether. Thus, practitioners might need to identify their own campaign end points before proceeding with our findings.

### *Limitation and Future Work*

Several limitations could be addressed in future studies. First, although findings suggest that both celebrity and peer endorsers are effective in promoting PSA values, due to the lack of a baseline level, we could only compare them with each other and are thus not sure if they were truly effective in terms of changing prior-existing attitudes and behavioral intentions. Also, we did not measure an individual's history in terms of smoking or sexual abuse. Therefore, we were not able to test if such individual difference might interact with the message features being tested here.

Secondly, we only explored static PSAs. Future research might explore PSAs presented via different modalities, such as videos, to further compare PSA effectiveness. Furthermore, the observed persuasive effect might be more prominent on more controversial issues than anti-smoking and anti-sexual assault, such as LGBT rights. Future research could continue to explore our proposed psychological mechanisms to yield stronger theoretical and practical implications.

Thirdly, bodily addressing styles involve more than the direction of bodily positions and eye contact. Thus, we can only conclude about the holistic effect of bodily addressing style; more research is needed to identify the specific operative features to help achieve maximum PSA effectiveness.

### **Notes**

1. Study stimuli were not included in this manuscript to protect copyrights. However, stimuli pictures are available upon request from the corresponding author.
2. To test alternative models in probing moderated mediation, we employed Model 7 with our proposed mediators as parallel mediators and other setups the same. All the mediation paths were nonsignificant, except for the one via affective empathy on attitude when it was side bodily addressing. Hence, these models did not fit our data as well as the ones we presented in the main text.

### **Disclosure statement**

No potential conflict of interest was reported by the authors.

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