

Fit for persuasion: the effects of nonverbal delivery style, message framing, and gender on message effectiveness

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Abstract

This study examined two experimental variables, delivery style and message framing, that have yet to be examined together in the regulatory fit literature. College students (mean age = 30) watched a video message encouraging regular exercise delivered in an eager or vigilant nonverbal style and framed in terms of gain or loss. Results revealed significant fit effects involving gender, delivery style, and message framing. The eager message was perceived as more effective by men whereas the vigilant message was perceived as more effective by women. A message framing by delivery style fit effect also emerged for perceived message effectiveness. The implications and limitations of these findings are discussed.

Good health requires a personal commitment to making healthy lifestyle choices, and such commitment comes from both understanding and valuing the role of personal, everyday choices on overall health (Higgins, 2012). How can health advocates increase the motivational impact and effectiveness of their messages? Research on regulatory fit (Higgins, 2000) suggests that the persuasive impact of a message may be increased by the experience of “fit,” which makes the message “feel right” (Cesario & Higgins, 2008; Cesario, Higgins, & Scholer, 2007; Higgins, 2012). Fit hypotheses have been tested using a variety of factors including the chronic motivational focus of the target, the framing of the message, the nonverbal way in which the message is delivered, the topic of the message, and, most recently, gender (Cesario, Corker, & Jelinek, 2013; Cesario & Higgins, 2008; Cesario et al., 2007; Higgins, 1997; Lee & Aaker, 2004; McKay-Nesbitt, Bhatnagar, & Smith, 2013; Sassenberg, Brazy, Jonas, & Shah, 2013; Shah & Higgins, 2001; Shah, Higgins, & Friedman, 1998).

Most regulatory fit research is examined within the context of Higgins’ regulatory focus theory (Higgins, 1997), which distinguishes between two regulatory systems that guide goal representation and goal pursuit (see also Higgins & Silberman, 1998). The *promotion* system functions to meet nurturance needs for love and affirmation. Goals represented within this system are framed in terms of ideals and aspirations. Goal pursuit is typically eager, open to possibilities, and loath to missing opportunities for gain. In contrast, the *prevention* system functions to meet safety and security needs, and goals represented within this system are framed in terms

of obligations, duties, and rules. Goals are typically pursued in a careful, vigilant manner that guards against mistakes and loss.

Higgins (2000) argues that when a match or “fit” exists between motivational focus and the manner in which goals are pursued, “engagement” in goal pursuit increases. For prevention-focused individuals, a fit means using vigilant goal-pursuit strategies, whereas for promotion-focused individuals it means using eager strategies. Fit leads individuals to become more engaged in the goal-pursuit process and contributes to them feeling right about what they are doing (Cesario, Grant, & Higgins, 2004; Cesario & Higgins, 2008; Freitas & Higgins, 2002; Higgins, 2005). Feeling right about a decision may motivate change, and people even find moral value in the decisions they make when regulatory fit is perceived (Camacho, Higgins, & Luger, 2003; Latimer et al., 2008).

The impact of regulatory fit on persuasion has been demonstrated in research that matches motivational focus with variables other than goal-pursuit strategies. Cesario and Higgins (2008), for example, presented a persuasive message in either an eager manner (i.e., with nonverbal cues that conveyed openness and eagerness) or a vigilant manner (i.e., with nonverbal cues that conveyed vigilance and care). They found that the message was more effective when the speaker’s nonverbal delivery style matched an individual’s chronic motivational focus. These results are exciting for those interested in maximizing the effectiveness of personally delivered or audiovisual messages. Nevertheless, it is desirable to replicate

these findings and extend them to situations that do not involve knowing the motivational orientation of audience members.

Some research has demonstrated that regulatory fit effects can be observed by manipulating some aspect of the persuasion context without measuring motivational focus as an individual difference variable. Lee and Aaker (2004), for example, examined the fit between the terminology of a message and the general motivational concerns of the message rather than the recipient. They found fit effects such that a message with a promotion concern (i.e., energy level) was more effective when the message was worded using promotion terminology (i.e., *Get Energized!*), and a message reflecting prevention concerns (i.e., clogged arteries) was more effective when presented using prevention terminology (i.e., *Don't Miss Out on Preventing Clogged Arteries*). They also found that brand (i.e., Welch's juice) evaluations were more favorable and the ease of processing the message was higher in fit versus non-fit conditions.

Spiegel, Grant-Pillow, and Higgins (2004) also tested fit effects in relation to health-related tasks using only experimental variables. Participants were exposed to a message that urged them to eat more fruits and vegetables. The promotion-focused message was concerned with accomplishment whereas the prevention message was concerned with safety. Suggested consequences of eating choices were manipulated by indicating the benefits of eating or the costs of not eating fruits and vegetables. Participants then kept a record of the fruits and vegetables they ate over the course of a week. Spiegel et al. (2004) found that participants in the "fit" conditions (i.e., promotion/benefits and prevention/costs) ate more fruits and vegetables than participants in the non-matching conditions. This and other research suggest that fit principles can be successfully applied to persuade individuals to make healthy lifestyle choices such as eating healthier and getting cancer screenings (Latimer, Katulak, Mowad, & Salovey, 2005; Rothman, Bartels, Wlaschin, & Salovey, 2006; Spiegel et al., 2004).

The present study

To summarize, the research reviewed shows that instantiations of regulatory fit can influence the effectiveness of persuasive messages. Fit, compared to non-fit, has led to greater perceived message effectiveness, higher brand evaluation, and a greater likelihood of engaging in healthy behaviors. Cesario and Higgins (2008) demonstrated the benefit of fit between motivational focus and the nonverbal style of message delivery. Other work has shown fit effects relevant to message framing without measuring individual differences in motivational focus (Lee & Aaker, 2004; Rothman et al., 2006; Spiegel et al., 2004). However, no research has examined nonverbal delivery style and message framing together. The present

study fills this gap in the literature. Our primary hypothesis was that fit would increase perceived message effectiveness. Specifically, we predicted a crossover interaction such that a gain-framed message delivered in an eager style would be perceived as more effective than when delivered in a vigilant style, and a loss-framed message delivered in a vigilant style would be perceived as more effective than when delivered in an eager style.

Gender

Gender has been largely ignored or found to be of no consequence in the regulatory focus and fit literature (e.g., Cesario & Higgins, 2008; Cesario et al., 2013; Freitas & Higgins, 2002; Higgins et al., 2001; Lee & Aaker, 2004). However, recent research suggests that gender may, in fact, matter. For example, Sassenberg et al. (2013) argued that because of socialized power differences between the sexes, a prevention focus likely fits women more than men, whereas a promotion focus may fit men more than women. Results across three studies supported this idea. Promotion-focused men and prevention-focused women showed more gender-based in-group favoritism than prevention-focused men and promotion-focused women. Another recent study in the marketing literature (McKay-Nesbitt et al., 2013) reported that men were generally more promotion focused and women were more prevention focused as assessed by the General Regulatory Focus Measure (see Lockwood, Jordan, & Kunda, 2002).¹ Even more pertinent to the present study, men reported greater intentions to engage in physical activity than women following a promotion-focused message. Presumably, the promotion-focused message "fit" the men more than it did the women. In contrast, a prevention-focused message was expected to lead to greater exercise intentions for women, but the data showed only a nonsignificant trend in that direction.

In light of these recent findings and given that the topic of our persuasive message was exercise (*cf.* McKay-Nesbitt et al., 2013), gender effects may be expected to emerge in the current research. Therefore, we included gender in the analyses. We would expect any gender effects found to be consistent with the idea that promotion concerns "fit" men more than women and prevention concerns "fit" women more than men. Nevertheless, because our study was designed and conducted prior to these articles appearing in the literature, *a priori* hypotheses involving gender were not formulated.

¹The predominant measure used in studies of regulatory focus and fit is the Regulatory Focus Questionnaire (RFQ; Higgins et al., 2001). Oddly, the choice to use the GRFM over the RFQ in this study went unexplained by McKay-Nesbitt et al. (2013), despite the fact that gender differences have not been reported using Higgins' measure. The inconsistency in gender effects between RFQ and the GRFM merits further investigation.

In addition to the primary dependent variable of perceived message effectiveness, we examined a number of variables with potential relevance to the process by which fit may influence message effectiveness. First, we examined perceptions of how easy the message was to process because Lee and Aaker (2004) found that fit increased ease of message processing. If processing fluency contributes to the experience of fit feeling “right,” as Lee and Aaker found, there should be a message framing by delivery style interaction on this variable such that the messages in fit conditions are easier to process than those in non-fit conditions. Second, following the example of Cesario and Higgins (2008), mood was also measured. Fit effects are theoretically distinct from mood or mere hedonic (pleasant/unpleasant) experience, and research consistently shows that mood does not account for fit effects. Thus, we expected to rule out mood as a plausible mediator of fit effects.

Finally, we examined three additional measures with precedence in the persuasion literature. This literature is replete with factors that influence the persuasion process, and often these factors interact to determine ultimate message effectiveness. For example, a person who thinks carefully about a message and generates unfavorable cognitive responses is typically less influenced by high source credibility compared to someone who thinks less carefully about the message (Petty & Cacioppo, 1986). Likewise, someone for whom a topic is personally important will be less easily persuaded than someone who cares little about the topic (Zuwerink & Devine, 1996). The present study included measures of the personal importance of the topic, source credibility, and cognitive responses to maximize our ability to account for the process by which fit may influence perceived message effectiveness.

Method

Participants

A convenience sample of 108 participants was obtained by placing a notice on a campus intranet announcement site, distributing flyers around the campus, and personally asking individuals to participate. Data were collected on 7 consecutive days (excluding the weekend). During the first 3 days, pizza was offered as an incentive. On the fourth through seventh days of data collection, extra credit was offered.² The sample included 40 males (37%), 66 females (61.1%), and 2 transgender individuals (1.9%) who were dropped from all analyses. Ages of the participants ranged from 18 to 61 ($M = 29.65$, $SD = 12.38$). Ethnicity varied with 66 of the par-

ticipants describing themselves as Caucasian/White, 34 as African American/Black, 6 as “Other,” and 1 each as Hispanic/Latino and Asian.

Design and procedure

Individuals were asked to participate in a study regarding perceptions of regular exercise that would take around 15 minutes to complete. No more than two people participated in a given session. Participants sat alone at a table set up with a laptop computer and a set of headphones. After signing an informed consent form, participants were randomly assigned to one of the four experimental conditions of a 2 (Delivery Style) \times 2 (Message Frame) factorial. Participants were told that they would be viewing an excerpt from a morning news show related to the issue of regular exercise. Participants then watched a 45 second video clip (see *Materials*) and afterward completed a questionnaire (see *Dependent measures*).

A written, funneled debriefing was used in an effort to detect any suspicion regarding the message or its style of delivery. Three questions presented on three separate slips of paper asked (1) “What was the speaker’s main reason for wanting people to make healthy lifestyle choices?” (2) “How would you describe his demeanor, mannerisms, and energy?” and (3) “Did you feel there was any inconsistency between what he was saying and how he said it? If yes, please describe.” No participants expressed any suspicion or insight about the true purpose of the study. After debriefing, a written explanation of the study was given to each participant.

Materials

Four 45 second videos about the importance of regular exercise were created. The content of the message was either gain framed to indicate the benefits of exercising or loss framed to indicate the costs of not exercising, and each message was delivered in an eager or vigilant style. The *gain-framed* message read as follows (keywords are in bold):

Well, that’s a good point. Of course not everyone is physically able. Still, in general I am **eager** in my practice to encourage people to begin exercising now! A growing body of medical research shows that **exercising** has multiple **benefits**. By exercising daily, you stand to **gain** energy, muscle-strength, and the ability to maintain an ideal body weight. You can also **gain** optimal mental health and brain function. Overall, **with regular exercise you gain** both physical health and mental health. These are good reasons for why exercise should be a non-negotiable part of your daily routine. Again, as a health professional, I am **eager** to **help promote positive lifestyle choices**.

The *loss-framed* message read as follows:

²Recruiting method/incentive had no significant impact on the results reported, and all four experimental groups were evenly distributed across both methods of obtaining participants.

Well, that's a good point. Of course not everyone is physically able. Still, in general I am **vigilant** in my practice to encourage people to begin exercising now! A growing body of medical research shows that **not exercising** has multiple **costs**. By **not** exercising daily, you stand to **lose** energy, muscle-strength, and the ability to maintain an ideal body weight. You can also **lose** optimal mental health and brain function. Overall, **without regular exercise you lose** both physical health and mental health. These are good reasons for why exercise should be a non-negotiable part of your daily routine. Again, as a health professional, I am **anxious to help prevent negative lifestyle choices**.

A professional actor volunteered to perform as "Dr. Liston," identified in the video as the director of the fictitious "National Health Clinic." This actor was trained to use either *eager* or *vigilant* nonverbal cues while delivering the messages (cf. Cesario & Higgins, 2008). For the *eager* delivery style, he leaned and reached forward using upward and open hand motions. He also used an upbeat and excited tone of voice. For the *vigilant* delivery style, he presented the message while leaning backward and using downward, closed hand motions along with a more somber and staid tone of voice (see Appendix).³

Dependent measures

Perceived message effectiveness

The primary dependent variable was a six-item index of perceived message effectiveness. As in Cesario and Higgins (2008), this index included items reflecting both attitudes toward the message and behavioral intentions regarding regular exercise. Three items assessed the extent to which the message was effective, inspiring, and "hit home." One item reflected the behavioral intention to keep up a daily exercise routine. These items were assessed on a scale ranging from 1 (*strongly disagree*) to 9 (*strongly agree*). To increase the potential for detecting minor but systematic changes in attitude certainty, we used an enlarged scale (cf. Lord, Ross, & Lepper, 1979) to assess post-message certainty that exercise is (1) good for physical health and (2) good for mental health. This scale ranged from -8 (*less certain*) to +8 (*more certain*). Because of the different scale ranges (9-point and 17-point), all six ratings were first converted to *z* scores and then combined to form an overall index of perceived message effectiveness (Cronbach's $\alpha = .82$).⁴

³This project was conducted as a senior honor's thesis. Due to both time and resource constraints, videos were not pilot tested. However, participants' reactions to both the source and the message were assessed by measuring source evaluations and cognitive responses (see *Dependent measures*).

⁴A seventh item assessed whether participants were "likely to be active on a daily basis." We did not include this item in the final index because it reduced

Ease of processing

As in Lee and Aaker (2004), processing fluency was assessed via self-report. Participants were asked if the speakers' message delivery was easy to process (1 = *strongly disagree* to 9 = *strongly agree*).

Mood

Mood was assessed in the same way as in Cesario and Higgins (2008). Participants indicated on a 9-point scale (1 = *not at all* to 9 = *extremely*) how they were feeling (*happy, relaxed, bad, sad, good, and anxious*) after viewing the video. A mood index was created by subtracting average negative mood scores from average positive mood scores. Thus, higher scores reflect more positive mood.

Personal importance

Personal importance, source credibility, and cognitive responses were measured in essentially the same manner as in Zuwerink and Devine (1996). First, participants indicated the personal importance of regular exercise by rating the following statements (1 = *strongly disagree* to 9 = *strongly agree*): (1) "My attitude toward regular exercise is very important to me personally" (2) "I am personally very concerned about the issue of regular exercise" (3) "I personally do not care about regular exercise." Ratings were combined into a personal importance index after reverse scoring the third item (Cronbach's $\alpha = .78$). Higher scores indicated higher personal importance.

Source credibility

Judgments of source credibility were made on the following 7-point semantic differentials: nonexpert/expert, insincere/sincere, credible/non-credible (R), trustworthy/not trustworthy (R), likeable/not likeable (R), and knowledgeable/not knowledgeable (R). After reverse scoring (R), items were combined to form an index for which higher scores indicate higher perceived source credibility (Cronbach's $\alpha = .89$).

Cognitive responses

Finally, a thought-listing measure was used to examine cognitive responses to the message (cf. Cesario & Higgins, 2008). Participants were given 3 minutes to write out any thoughts that came to mind while watching the video. After writing each thought in a separate box, they were asked to indicate whether each thought was favorable, neutral, unfavorable, or unrelated to the message.⁵ Because many participants did not

reliability to .73. The significant ANOVA effects we report were essentially the same, however, with the inclusion of this item.

⁵It is common practice in the persuasion literature to ask participants to code their own thoughts.

follow coding instructions, all uncoded thoughts were categorized independently by two coders blind to conditions. Inter-rater reliability for the coding scheme was very high (Cohen's $\kappa = .94$).

Results

Personal importance

Because high personal importance typically predicts resistance to persuasive messages (Zuwerink & Devine, 1996), we intended to control for its effects on perceived message effectiveness via analysis of covariance (ANCOVA). The statistical assumptions of ANCOVA require that a covariate be independent of (i.e., not interact with) the experimental variables. To test the validity of this assumption, we submitted personal importance to a 2 (Delivery Style) \times 2 (Message Frame) \times 2 (Gender) between-subjects analyses of variance.⁶ No significant effects were observed (all F s < 1). Therefore, we used personal importance as a covariate in subsequent analyses unless otherwise noted.

Source credibility

In lieu of pilot testing, participants' reactions to the messages were examined by having them rate the credibility of the speaker and write out their thoughts regarding the message. If possible, we thought to use them as covariates along with personal importance in the analysis of perceived effectiveness. However, results for both variables precluded their use as covariates.

The analysis of source credibility revealed a main effect for message frame, $F(1, 97) = 4.83, p = .03, \eta^2 = .05$,⁷ such that the speaker was evaluated less positively following a loss-framed message ($M = 4.93, SD = 1.41$) than a gain-framed message ($M = 5.52, SD = 1.14$). This main effect was qualified by a two-way interaction between delivery style and message frame, $F(1, 97) = 4.96, p = .028, \eta^2 = .05$. For the message delivered in an eager manner, source evaluations did not depend on whether the message was framed in terms of loss ($M = 5.21, SD = 1.21$) or gain ($M = 5.37, SD = 1.04$). However, when the message was delivered in a vigilant manner, the source was evaluated more negatively in the loss-frame condition ($M = 4.65, SD = 1.55$) than gain-frame condition ($M = 5.67, SD = 1.24$). For whatever reason, the speaker did not come across well in the vigilant/loss condition compared to the other three conditions. Because this is a "fit" condition, this finding works against the primary hypothesis that

messages would be considered more effective in fit conditions (i.e., vigilant/loss and eager/gain) over non-fit conditions.

One additional effect observed for source credibility was a delivery style by gender interaction, $F(1, 97) = 4.55, p = .035, \eta^2 = .05$. This interaction revealed that women tended to perceive the source as more credible when the delivery style was vigilant ($M = 5.37, SD = 1.32$) rather than eager ($M = 5.07, SD = 1.30$). Men, in contrast, rated the source with an eager delivery as more credible ($M = 5.65, SD = 0.60$) than the source with a vigilant delivery ($M = 4.78, SD = 1.69$). These results are consistent with the notion that a promotion focus "fits" men more than a prevention focus whereas the opposite may be true for women. No other effects were significant.

Cognitive responses

An index of cognitive responses was created by subtracting all unfavorable thoughts from all favorable thoughts listed in response to the message. Higher numbers indicate more favorable thoughts. As with source credibility, the analysis of this measure yielded an interaction between delivery style and message frame, $F(1, 98) = 6.14, p = .015, \eta^2 = .06$.⁸ For the message delivered in an eager manner, message framing did not matter. No more favorable thoughts were generated in response to the gain-framed message ($M = 1.69, SD = 2.65$) than the loss-framed message ($M = 1.93, SD = 3.01$). When the message was delivered in a vigilant manner, however, cognitive responses were less favorable in response to the loss-framed message ($M = 0.11, SD = 3.00$) than gain-framed message ($M = 2.62, SD = 3.30$). As with source credibility, this result works against our fit hypothesis regarding message effectiveness and confirms that the speaker and his message were least positively regarded in the vigilant/loss condition. No other effects were significant.

Perceived message effectiveness

The z -score index of perceived message effectiveness constituted the primary dependent measure. This index was initially analyzed with a 2 (Delivery Style) \times 2 (Message Frame) \times 2 (Gender) between-subjects ANCOVA using personal importance as the only covariate. As expected, personal importance was significant in this analysis, $F(1, 97) = 34.28, p < .001, \eta^2 = .26$. Contrary to the hypothesis, however, the delivery style by message frame interaction did not emerge, $F < 1$. Given the results for source credibility and cognitive responses, this outcome is perhaps not surprising. Nevertheless, the story is not complete at this point, and we will return to an assessment of the central hypothesis when presenting mediation analyses.

⁶In the eager/gain condition there were 13 males and 13 females. The eager/loss condition contained 7 males and 20 females. In the vigilant/loss condition there were 12 males and 15 females, and the vigilant/gain condition contained 8 males and 18 females.

⁷Personal importance was significant in this analysis, $F(1, 97) = 5.91, p = .017, \eta^2 = .06$.

⁸Personal importance was not a significant covariate in this analysis, so it was not included in the ANOVA reported here.

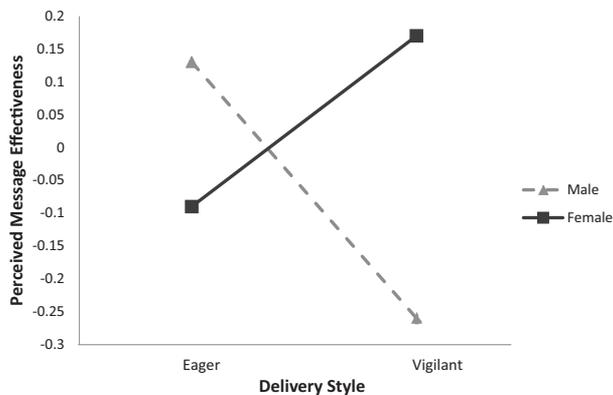


Figure 1 Perceived message effectiveness as a function of delivery style and gender.

Interestingly, this ANCOVA did reveal an interaction between delivery style and gender, $F(1, 97) = 7.40, p = .008, \eta^2 = .07$. As can be seen in Figure 1, a gender fit effect was revealed such that men found the eager delivery style to be more effective ($M = 0.13, SD = 0.57$) than the vigilant delivery style ($M = -0.26, SD = 0.78$), whereas women found the vigilant delivery style more effective ($M = 0.17, SD = 0.75$) than the eager delivery style ($M = -0.09, SD = 0.73$). This interaction is consistent with recent suggestions (Kim, 2012; McKay-Nesbitt et al., 2013) that men and women respond differently to messages that fit a prevention focus (i.e., a vigilant delivery) compared to a promotion focus (i.e., an eager delivery). No other main effects or interactions were significant.

Ease of processing

As noted previously, perceived ease of processing was measured as a potential mediator of fit effects (Lee & Aaker, 2004). Because the fit effect to emerge in the previous analysis was a delivery style by gender interaction, this same interaction would need to be observed on the ease of processing measure in order for it to qualify as a potential mediator of that effect (Baron & Kenny, 1986). However, the analysis revealed only a main effect for gender, $F(1, 98) = 4.80, p = .031, \eta^2 = .047$.⁹ Women reported that the speaker's delivery of the message was easier to process ($M = 7.59, SD = 1.51$) compared to men ($M = 6.73, SD = 2.35$). No other effects were significant.

Because the delivery style by gender interaction did not emerge on this variable, processing fluency cannot explain the delivery style by gender fit effect observed for perceived message effectiveness. Bolstering this conclusion, when ease of processing was included as a covariate in the ANCOVA on perceived message effectiveness, it was significant, $F(1, 96)$,

⁹Personal importance was not significant in this analysis and was excluded from the ANOVA reported here.

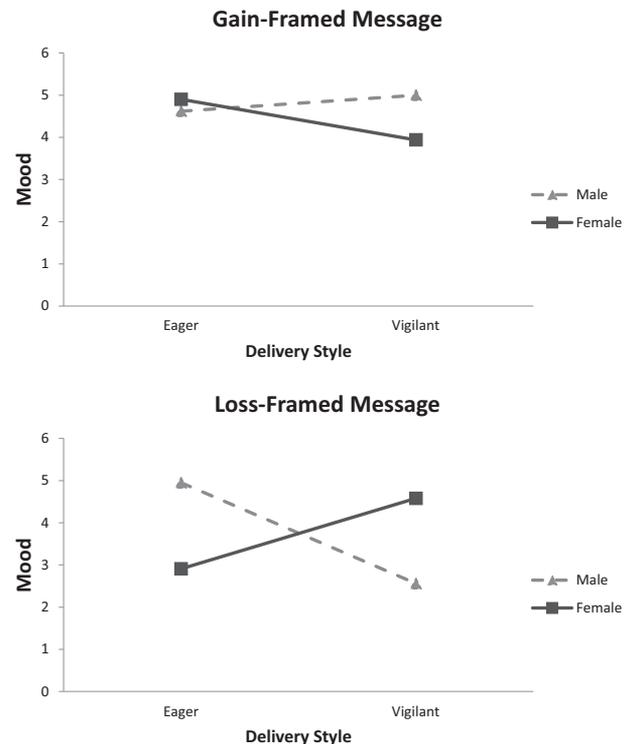


Figure 2 Mood as a function of delivery style, message frame, and gender.

$F(1, 97) = 11.40, p = .001, \eta^2 = .11$, but the gender by delivery style interaction remained significant, $p = .006$. Thus, this study does not corroborate Lee and Aaker's (2004) finding that processing fluency underlies fit effects.

Mood

Regulatory fit theory argues that feeling "right" about a message is not the same thing as experiencing a pleasant or unpleasant mood in response to fit (Cesario & Higgins, 2008). Thus, mood was measured with the expectation that it would *not* serve to mediate fit effects. In fact, the two-way interaction between delivery style and gender, as observed on perceived message effectiveness, was *not* significant in the analysis of mood.¹⁰ However, a significant three-way interaction between delivery style, message frame, and gender was observed, $F(1, 97) = 6.30, p = .014, \eta^2 = .06$. To understand this interaction, the delivery style by gender interaction was examined separately for gain-framed and loss-framed messages.

As the top panel of Figure 2 shows, when the message was gain framed, mood did not differ as a function of delivery

¹⁰Personal importance was not significant in the analysis of mood, and one participant did not complete the mood ratings.

style or gender. Men reported an average mood of 4.62 ($SD = 2.15$) in the eager delivery condition and 5.00 ($SD = 1.69$) in the vigilant delivery condition. For women, their mood was 4.90 ($SD = 1.61$) in the eager delivery condition and 3.94 ($SD = 2.87$) in the vigilant delivery. Pairwise comparisons revealed no significant differences in these gain-framed conditions ($ps > .34$). However, when the message was framed in terms of loss, the women reported a more positive mood ($M = 4.58$, $SD = 2.85$) than the men ($M = 2.56$, $SD = 3.22$) following a vigilant delivery, $p = .048$. In contrast, men tended to report a more positive mood following the eager delivery of the loss-framed message ($M = 4.95$, $SD = 1.27$) than the women ($M = 2.91$, $SD = 3.13$), $p = .08$ (see the bottom panel of Figure 2).

Mediation analyses

Given that the form of the interaction between delivery style and gender on mood in the loss-framed conditions parallels that found for perceived message effectiveness, we tested the possibility that mood might mediate this effect. To that end, we conducted a mediation analysis using multiple regression techniques (Judd & Kenny, 1981). In the first step, we regressed the basic experimental model (i.e., each of the seven terms in the $2 \times 2 \times 2$ factorial design along with personal importance) on perceived message effectiveness. This step replicates the ANCOVA reported earlier: The only significant experimental effect was a delivery style by gender interaction. This model accounted for 31% of the variance in perceived message effectiveness, $F(8, 97) = 5.42$, $p < .001$.¹¹

Next, because a three-way interaction was observed on mood, an interactional mediation model was necessary. After centering mood (Aiken & West, 1991), interaction terms were created by crossing mood with each of the seven terms in the full factorial model. In the second step of the regression on perceived message effectiveness, we entered the main effect of mood and these interaction terms. The interaction involving mood, delivery style, gender, and message frame was insignificant in this analysis, $p = .282$, but the main effect of mood was significant, $F(1, 88) = 4.72$, $p = .032$. Most critically, the interaction between delivery style and gender remained significant, $F(1, 88) = 6.27$, $p = .014$. Thus, mood did *not* mediate the delivery style by gender fit effect on perceived message effectiveness either simply or in interaction with the experimental conditions.

Because entering an additional eight terms in the regression model reduces degrees of freedom by a great deal, we systematically trimmed insignificant interaction terms one at a time and examined the output for indications that mood would mediate the gender fit effect. It did not. No significant interaction effects involving mood emerged in this process,

¹¹Variables were coded as follows: promotion = +1, prevention = -1; gain = +1, loss = -1; female = +1, male = -1.

and the delivery style by gender effect remained significant at each step. Thus, we feel confident in concluding that mood did *not* mediate the delivery style by gender fit effect. The final trimmed model included the seven terms of the basic experimental model, personal importance, and the mood main effect. Mood significantly predicted perceived message effectiveness, $F(1, 95) = 5.77$, $p = .018$, $\beta = .21$, as did personal importance, $F(1, 95) = 39.46$, $p < .001$, $\beta = .52$, but the delivery style by gender interaction remained significant, $F(1, 95) = 5.68$, $p = .019$, $\beta = .21$. This final model accounted for 37% of the variance in perceived message effectiveness, $F(9, 95) = 6.26$, $p < .001$.

Finally, we conducted a mediation analysis to determine if the delivery style by gender interaction on perceived message effectiveness was mediated by perceptions of source credibility, which, as previously reported, revealed the same gender by delivery style interaction. After centering source credibility, interaction terms were created by crossing it with each of the seven terms in the experimental model. In the second step of the regression on perceived message effectiveness (after entering the basic experimental model), we entered the main effect of source credibility and each of these new interaction terms. As with mood, we systematically trimmed nonsignificant terms. In this series of regressions, none of the interactions involving source credibility significantly predicted perceived message effectiveness.

The trimmed regression model included the seven terms of the full factorial, personal importance, and source credibility. It accounted for 61% of the variance in perceived message effectiveness, $F(9, 96) = 16.94$, $p < .001$. Personal importance was a significant predictor, $F(1, 96) = 30.00$, $p < .001$, $\beta = .36$, as was source credibility, $F(1, 96) = 75.67$, $p < .001$, $\beta = .62$. However, the delivery style by gender interaction was reduced to non-significance, $F(1, 96) = 2.87$, $p = .093$, $\beta = .12$, suggesting that this interaction was mediated by perceptions of source credibility. In other words, it appears that because men perceived the source as more credible in the eager delivery conditions, they also perceived the message to be more effective in those conditions. Conversely, because the women perceived the source as more credible in the vigilant delivery conditions, they perceived him to be more effective in those conditions.

Importantly, this final model revealed one additional effect—the predicted interaction between delivery style and message frame, $F(1, 96) = 4.88$, $p = .03$, $\beta = .15$. Predicted values are plotted in Figure 3. As is evident, the form of this interaction is consistent with the central hypothesis that the message would be perceived as more effective in conditions of fit than non-fit. Independent of gender, the gain-framed message was perceived as more effective when delivered in an eager rather than vigilant style, and the loss-framed message was perceived as more effective when delivered in a vigilant rather than an eager style. Thus, after accounting for variance

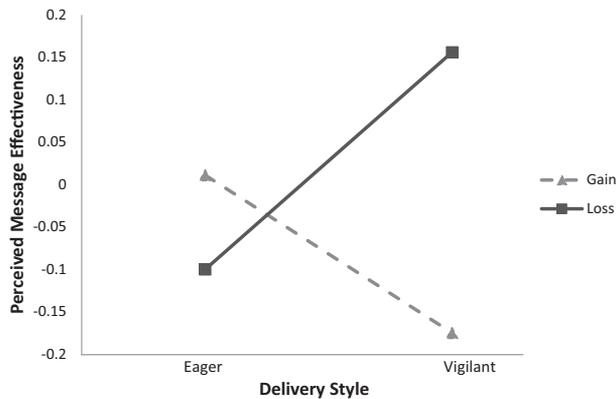


Figure 3 Perceived message effectiveness as a function of delivery style and message frame.

in perceived message effectiveness due to gender differences in perceptions of source credibility, the predicted delivery style by message frame fit effect emerged.¹²

Discussion

Our primary hypothesis was that a fit between nonverbal delivery style and message framing would lead to greater perceived message effectiveness compared to non-fit. After accounting for individual differences in the importance of exercise and perceptions of source credibility, this predicted fit effect emerged in the context of encouraging regular exercise. Eager/gain-framed messages and vigilant/loss-framed messages were perceived as more effective than their non-fit counterparts (see Figure 3). Consistent with the most previous research on regulatory fit (Higgins, 2012), this interaction was not moderated by gender nor mediated by mood. To our knowledge, this study is the first to offer a conceptual replication of Cesario and Higgins (2008), who demonstrated that matching nonverbal delivery style with motivational focus increases persuasion. We also corroborated their finding that mood does *not* mediate fit effects. Despite mood differences between experimental conditions, the *process* by which fit affected the perceived effectiveness of the message was not a function of these differences.

The results did not replicate Lee and Aaker's (2004) finding that "processing fluency" mediates fit effects. One plausible reason for this outcome concerns the question used to assess processing fluency. This question asked participants to rate how easy the "message delivery" was to process. But message

delivery is not precisely the same thing as the message itself. Thus, the measure of processing fluency is not unambiguously parallel to that of Lee and Aaker, who asked about how easy the message was to process. A second plausible reason is that processing fluency may not be something about which people are capable of accurate insight. If so, then self-reports of processing fluency may not be a reliable measure of actual ease of processing. As it stands, the current study does little to advance our understanding of the role of processing fluency on regulatory fit effects.

Although regulatory fit principles emerged out of research based on individual differences in motivational focus (Higgins, 1997), some studies have shown that fit between different aspects of a situation or a message can be generalized without the need to assess individual differences (Latimer et al., 2005; Lee & Aaker, 2004; Spiegel et al., 2004). The current study contributes to this literature and extends the concept of regulatory fit to instances of a match between the content of the message and the way in which that message is delivered. One practical implication of our findings is to encourage those who wish to influence others (e.g., doctors, mothers, personal trainers) to match their body language to their message. One should eagerly emphasize the benefits to be gained or cautiously present the potential losses that can be avoided by complying with the message.

The current study also found that women respond positively in terms of their perceptions of the source, judgments of message effectiveness, and mood when the message fits a prevention focus (i.e., vigilant and/or loss framed). Men, on the other hand, tend to respond more favorably to messages that fit a promotion focus (i.e., eager and/or gain framed). As Sassenberg et al. (2013) have argued, it may be that society chronically fosters a prevention mind-set in women and a promotion mind-set in men. Consequently, prevention-consistent messages (e.g., prevent harmful outcomes, play it safe) may be more appealing and persuasive for women whereas promotion messages (e.g., don't miss an opportunity to gain something, go for it!) may be a better fit for men. Thus, it seems advisable to attend to the gender of one's audience, playing it more subtle and safe when addressing women and perhaps being more eager and enthusiastic when addressing men.

Future research should pursue this line of reasoning and seek to establish the conditions under which gender fit effects do or do not emerge. It is possible that the exercise topic itself, because it is relevant to physical strength, contributes to the gender fit effect (*cf.* McKay-Nesbitt et al., 2013). It would be desirable to replicate our findings using different topics and utilizing both male and female actors. It would also be interesting to vary the class and/or race of the actor delivering the message. In the current video, the Caucasian male actor appeared to be healthy, able bodied, middle aged, and middle class. The case for both delivery-by-gender and

¹²To be thorough, we conducted a regression on perceived message effectiveness that also included mood along with source credibility and personal importance. Mood was not a significant predictor in this model, and the delivery style by message frame interaction remained significant ($p = .046$). Thus, mood did not mediate this delivery-by-frame interaction.

delivery-by-frame fit effects on perceived message effectiveness would be bolstered by demonstrating that source characteristics such as these do not moderate fit effects.

In the current study, we chose not to assess individual differences in prevention versus promotion focus. Instead, by relying on random assignment, we found a fit effect between message frame and delivery style that emerged over and above such individual differences. In practice, it is typical for a would-be influencer to encounter audiences with a range of individual differences in motivational orientation—from extremely prevention focused to extremely promotion focused. The current findings suggest that fit between the message and how it is delivered has the potential to benefit everyone in the audience in a similar manner (with the possible exception of gender). We acknowledge, however, that it would be desirable to demonstrate delivery-by-frame fit effects for both men and women and for both promotion-focused and prevention-focused individuals. Such findings would bolster the argument that fit increases persuasiveness no matter one's gender or motivational orientation.

Although relying on random assignment is defensible, we acknowledge the potential limitations created by not assessing baseline attitudes toward regular exercise and/or current level of fitness. In future work, it might be desirable to use a pre-post design to provide a more stringent test of the effects of fit on attitude change. The current research demonstrated

only that fit influences perceived message effectiveness over and above other variables such as the personal importance of exercise. We did not provide definitive evidence that the manipulations contributed to attitude change *per se*. Similarly, future research could attempt to establish the beneficial effects of fit on actual behavior rather than just behavior intentions. Finally, a weakness of this study is the fact that the videos were not pilot tested. Future research could improve upon this work by ensuring that both cognitive responses to the messages and evaluations of source credibility are similar across conditions.

Conclusion

Although not without limitations, the current study provided evidence for the benefit of a fit between the verbal content of a persuasive message and the manner in which it is delivered. When content and delivery matched, the message was perceived to be more effective than when they did not match, over and above differences in the personal importance of the topic and perceived source credibility. In addition, we found evidence for gender fit effects on mood and on source credibility. These gender fit effects should be pursued in future research. In the meantime, would-be persuaders would do well to match their framing of message content to the manner in which the message is delivered in order to maximize its potential effectiveness.

References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173–1182.
- Camacho, C. J., Higgins, E. T., & Luger, L. (2003). Moral value transfer from regulatory fit: What feels right is right and what feels wrong is wrong. *Journal of Personality and Social Psychology, 84*, 498–510.
- Cesario, J., Corker, K. S., & Jelinek, S. (2013). A self-regulatory framework for message framing. *Journal of Experimental Social Psychology, 49*, 238–249.
- Cesario, J., Grant, H., & Higgins, E. T. (2004). Regulatory fit and persuasion: Transfer from “feeling right”. *Journal of Personality and Social Psychology, 86*, 388–404.
- Cesario, J., & Higgins, E. T. (2008). Making message recipients “feel right”: How non-verbal cues can increase persuasion. *Psychological Science, 19*, 415–420.
- Cesario, J., Higgins, E. T., & Scholer, A. A. (2007). Regulatory fit and persuasion: Basic principles and remaining questions. *Social and Personality Psychology Compass, 2*, 444–463.
- Freitas, A. L., & Higgins, E. T. (2002). Enjoying goal-directed action: The role of regulatory fit. *Psychological Science, 13*, 1–6.
- Higgins, E. T. (1997). Beyond pleasure and pain. *American Psychologist, 52*, 1280–1300.
- Higgins, E. T. (2000). Making a good decision: Value from fit. *American Psychologist, 55*, 1217–1230.
- Higgins, E. T. (2005). Value from regulatory fit. *Current Directions in Psychological Science, 14*, 209–213.
- Higgins, E. T. (2012). *Beyond pleasure and pain: How motivation works*. New York: Oxford University Press.
- Higgins, E. T., Friedman, R. S., Harlow, R. E., Idson, L. C., Ayduk, O. N., & Taylor, A. (2001). Achievement orientations from subjective histories of success: Promotion pride versus prevention pride. *European Journal of Social Psychology, 31*, 3–23.
- Higgins, E. T., & Silberman, I. (1998). Development of regulatory focus: Promotion and prevention as ways of living. In J. Heckhausen & C. S. Dweck (Eds.), *Motivation and self-regulation across the life-span* (pp. 78–113). New York: Cambridge University Press.
- Judd, C. M., & Kenny, D. A. (1981). Process analysis: Estimating mediation in treatment evaluations. *Evaluation Review, 5*, 602–619.
- Kim, H. J. (2012). The effects of gender and gain versus loss frame on processing breast cancer screening

- messages. *Communication Research*, 39, 385–412.
- Latimer, A. E., Katulak, N., Mowad, L., & Salovey, P. (2005). Motivating cancer prevention and early detection behaviors using psychologically tailored messages. *Journal of Health Communications*, 10, 137–155.
- Latimer, A. E., Rivers, S. E., Rench, T. A., Katulak, N. A., Hicks, A., Hodorowski, J. K., et al. (2008). A field experiment testing the utility of regulatory fit messages for promoting physical activity. *Journal of Experimental Social Psychology*, 44, 826–832.
- Lee, A. Y., & Aaker, J. L. (2004). Bringing the frame into focus: The influence of regulatory fit on processing fluency and perception. *Journal of Personality and Social Psychology*, 86, 205–218.
- Lockwood, P., Jordan, C. H., & Kunda, Z. (2002). Motivation by positive or negative role models: Regulatory focus determines who will best inspire us. *Journal of Personality and Social Psychology*, 83, 854–864.
- Lord, C. G., Ross, L., & Lepper, M. R. (1979). Biased assimilation and attitude polarization: The effects of prior theories on subsequently considered evidence. *Journal of Personality and Social Psychology*, 37, 2098–2109.
- McKay-Nesbitt, J., Bhatnagar, N., & Smith, M. C. (2013). Regulatory fit effects of gender and marketing message content. *Journal of Business Research*, 66, 2245–2251.
- Petty, R. E., & Cacioppo, J. T. (1986). The elaboration likelihood model of persuasion. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (pp. 123–205, Vol. 19). San Diego, CA: Academic Press.
- Rothman, A. J., Bartels, R. D., Wlaschin, J., & Salovey, P. (2006). The strategic use of gain- and loss- framed messages to promote healthy behavior: How theory can inform practice. *Journal of Communication*, 56, S202–S220.
- Sassenberg, K., Brazy, P. C., Jonas, K. J., & Shah, J. Y. (2013). When gender fits self-regulatory preferences: The impact of regulatory fit on gender-based ingroup favoritism. *Social Psychology*, 44, 4–15.
- Shah, J., & Higgins, E. T. (2001). Regulatory concerns and appraisal efficiency: The general impact of promotion and prevention. *Journal of Personality and Social Psychology*, 80, 693–705.
- Shah, J., Higgins, E. T., & Friedman, R. S. (1998). Performance incentives and means: How regulatory focus influences goal attainment. *Journal of Personality and Social Psychology*, 74, 285–293.
- Spiegel, S., Grant-Pillow, H., & Higgins, E. T. (2004). How regulatory fit enhances motivational strength during goal pursuit. *European Journal of Social Psychology*, 34, 39–54.
- Zuwerink, J. R., & Devine, P. G. (1996). Attitude importance and resistance to persuasion: It's not just the thought that counts. *Journal of Personality and Social Psychology*, 70, 931–944.

Appendix

Delivery Style Screen Shots

Screen shot of messages (promotion and prevention) delivered in an *eager* style



Screen shot of messages (promotion and prevention) delivered in a *vigilant* style



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