
Incidental Experiences of Regulatory Fit and the Processing of Persuasive Appeals

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This article examines how the subjective experiences of “feeling right” from regulatory fit and of “feeling wrong” from regulatory non-fit influence the way people process persuasive messages. Across three studies, incidental experiences of regulatory fit increased reliance on source expertise and decreased resistance to counterpersuasion, whereas incidental experiences of regulatory non-fit increased reliance on argument strength and increased resistance to counterpersuasion. These results suggest that incidental fit and non-fit experiences can produce, respectively, more superficial or more thorough processing of persuasive messages. The mechanisms underlying these effects, and the conditions under which they should and should not be expected, are discussed.

Keywords: *attitudes; motivation; persuasion; subjective experience; depth of processing*

Students of persuasion have long recognized that logical argumentation is only one of several means for changing people’s opinions. Indeed, the tripartite distinction outlined by Aristotle in *Rhetoric* gives the character of the speaker and the emotional state of the listener an equal share in the persuasion process as logical argumentation. Contemporary accounts of persuasion revolve around describing when and how different

sources of information have greater influence. One primary variable that determines what sources of information influence persuasion is the amount of cognitive processing people dedicate to persuasive appeals (Eagly & Chaiken, 1993; Kruglanski & Thompson, 1999; Petty & Wegener, 1998). Those who superficially process persuasive appeals form attitudes based on easily processed information, such as the source of the appeal, but such attitudes are more unstable and less resistant to counterappeals. In contrast, those who thoroughly process persuasive appeals form attitudes based more heavily on difficult-to-process pieces of evidence, such as the strength of the arguments, and these attitudes are more stable and resistant to further change.

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Many factors influence individuals' motivation and ability to process persuasive appeals systematically as opposed to superficially (Eagly & Chaiken, 1993; Petty & Wegener, 1998). Akin to Aristotle's notion of "emotional state," one such factor is the subjective experience (the affective, cognitive, and bodily feelings) of individuals receiving persuasive appeals (Pham, 2004; Schwarz & Clore, 2007). Prior research has examined how affective subjective experiences influence processing of persuasive information (e.g., Bless, Mackie, & Schwarz, 1992; Tiedens & Linton, 2001). In this article, we extend previous work by investigating how people's subjective experiences of their self-regulatory states affect the persuasion process, even when their experiences are not directly initiated by the persuasive appeal itself. Specifically, we examine how experiences of regulatory fit and regulatory non-fit induced before a persuasive appeal affect the amount of processing dedicated to the appeal.

SUBJECTIVE EXPERIENCES OF REGULATORY FIT AND NON-FIT

Motivational experiences are typically conceptualized in terms of anticipated outcomes (e.g., hope of success or fear of failure; see Atkinson, 1964; Carver & Scheier, 1990; Lopes, 1987). However, recent research has further shown that such experiences can also arise from the relation between one's motivational orientation toward an activity and the manner in which this activity is pursued. When people pursue activities using strategies that fit with and sustain their current motivational orientation, they experience *regulatory fit*, whereas they experience *regulatory non-fit* when they pursue activities in a manner that does not fit with and disrupts their current motivational orientation (Avnet & Higgins, 2006a; Higgins, 2000, 2006).

For example, an athlete preparing for a marathon who focuses on this goal as an opportunity for attaining personal growth would experience regulatory fit by adopting risky and innovative training methods that could promote exceptional performance and sustain this focus on advancement but would experience regulatory non-fit by adopting more cautious and reliable training methods that might produce only a satisfactory performance and disrupt a focus on advancement. In contrast, an athlete preparing for a marathon who focuses on this goal as a necessary personal standard that must be maintained would experience regulatory fit by adopting cautious training methods that sustained this focus on maintenance and would experience regulatory non-fit by adopting riskier training methods that disrupted this focus. Thus, in addition to the general subjective experiences

associated with their common goal, each of these athletes would also have subjective experiences associated with the means by which he or she pursues this goal.

Studies have shown that the subjective experiences arising from instances of regulatory fit are feelings of *rightness* about what one is doing, which are associated with perceptions of ease or fluency and feelings of confidence or correctness. In contrast, the subjective experiences arising from instances of regulatory non-fit are feelings of *wrongness* about what one is doing, which are associated with perceptions of difficulty or disfluency and the absence of confidence or feelings of correctness (Camacho, Higgins, & Luger, 2003; Cesario, Grant, & Higgins, 2004; Freitas & Higgins, 2002; Higgins, Idson, Freitas, Spiegel, & Molden, 2003; Lee & Aaker, 2004).

Although these feelings of rightness or wrongness are positive or negative experiences, respectively, they are distinct from general moods in that they have specific implications for whether one's current feelings and evaluations are seen as valid (cf. Gawronski & Bodenhausen, 2006). Thus, whereas a positive mood may typically blunt or counteract negative experiences (e.g., Raghunathan & Trope, 2002), because regulatory fit signifies the "rightness" of one's negative reaction, a fit experience can intensify a negative experience (e.g., Camacho et al., 2003; Cesario et al., 2004). Furthermore, many studies have empirically demonstrated that fit and non-fit experiences, and the effects they have on evaluative judgments, are empirically distinct from positive or negative moods, the pleasures of success or pains of failure, experiences of arousal, and perceptions of effectiveness (Cesario et al., 2004; Cesario & Higgins, 2008; Freitas & Higgins, 2002; Higgins et al., 2003; Vaughn, Malik, Schwartz, Petkova, & Trudeau, 2006; Vaughn, O'Rourke, et al., 2006; see also Avnet & Higgins, 2006b; Higgins, 2006).

EFFECTS OF REGULATORY FIT EXPERIENCES ON PERSUASION

Recent studies have examined how feelings of rightness created by regulatory fit, and the feelings of wrongness created by regulatory non-fit, influence persuasion (Cesario et al., 2004; Cesario & Higgins, 2008; Lee & Aaker, 2004). Two distinct effects of regulatory fit on persuasion have been observed. The first type occurs when an experience of fit or non-fit is created within the context of the persuasive appeal itself, by framing message arguments in a manner that fits either the recipient's current motivational concerns or the motivational content of the message (see Cesario et al., 2004; Cesario & Higgins, 2008; Lee & Aaker, 2004; cf. Evans & Petty,

2003). In this instance, the regulatory fit or non-fit is termed *integral* because the feelings of rightness or wrongness arise due to features within the persuasive appeal itself (cf. Bodenhausen, Mussweiler, Gabriel, & Moreno, 2001; Cohen, Pham, & Andrade, 2008). For example, Cesario and colleagues (2004, Studies 1 and 2) created regulatory fit by framing persuasive messages advocating a new after-school program so that the arguments were presented in terms of either eagerly ensuring matches to desired end states (e.g., the program would ensure that more children graduated) or vigilantly ensuring against mismatches to desired end states (e.g., the program would ensure that fewer children failed). This eager or vigilant framing fit with or sustained the orientation of message recipients who were predominantly growth oriented or security oriented, respectively (see below for the theoretical basis of this fit). Thus, in this instance, the fit or non-fit was integral to the messages because the feelings of rightness or wrongness arose directly from the persuasive appeal itself; these experiences then influenced attitude formation, such that regulatory fit (vs. non-fit) led to more message-congruent attitudes.

In contrast, feelings of rightness (or wrongness) from regulatory fit (or non-fit) are termed *incidental* when experiences of fit (or non-fit) are created entirely outside of a persuasive context (cf. Bodenhausen et al., 2001; Cohen et al., 2008). The incidental feelings of rightness or wrongness evoked by a previous, unrelated situation then influence evaluations of a subsequent persuasive appeal. Using this second approach, Cesario and colleagues (2004, Study 3) first created experiences of fit or non-fit by having people complete a questionnaire in an “unrelated experiment” that took place before the persuasive appeal. Specifically, to induce fit or non-fit, Cesario et al. had participants initially list a growth-oriented or security-oriented personal goal and then describe means to attain the goal in either eager ways (“things you could do to make sure everything goes right”) or vigilant ways (“things you could do to make sure nothing goes wrong”; see also Freitas & Higgins, 2002). Subsequently, participants received a persuasive appeal regarding an after-school program. Participants in the incidental fit condition (e.g., growth/eager or security/vigilant) showed more positive attitudes than those in the incidental non-fit condition (e.g., growth/vigilant or security/eager). To explain this effect of incidental fit experiences, Cesario et al. presented evidence supporting a misattribution mechanism whereby feelings of rightness from regulatory fit are directly transferred to the persuasive appeal, such that recipients “feel right” about the focus of this appeal (see also Higgins et al., 2003).

However, other research on the influence of incidental subjective experiences on persuasion has shown that

in addition to this type of direct transfer of evaluation, such experiences can also act as signals for initiating subsequent information processing (Schwarz & Clore, 2007). Thus, it is also possible that misattributed feelings of rightness produced by incidental regulatory fit could generally signal that what one is doing is going smoothly and thorough processing of one’s thoughts and actions is unnecessary. These feelings might then lead to more superficial processing of a persuasive appeal (see Eagly & Chaiken, 1993; Petty & Wegener, 1998). In contrast, misattributed feelings of wrongness produced by incidental regulatory non-fit could generally signal the presence of some problem that requires more thorough processing of one’s thoughts and actions. These feelings might then lead to more thorough processing of a persuasive appeal. The primary objective of the present studies was to extend previous research on regulatory fit and persuasion by testing this additional mechanism through which regulatory fit experiences might affect attitude formation in terms of how superficially or thoroughly people process persuasive appeals.

SUBJECTIVE EXPERIENCES AND THE PROCESSING OF PERSUASIVE APPEALS

Studies have shown that subjective experiences can act as implicit signals concerning whether one’s immediate goals are being satisfied (see Pham, 2004; Schwarz & Clore, 2007). Feelings of certainty, ease, or general positivity signal that goal pursuit is progressing without obstacle, allowing for only a superficial analysis of incoming information. In contrast, feelings of uncertainty, unease, or general negativity signal that goal pursuit might be threatened, implying the need for a more thorough analysis of incoming information.

These subjective experiences can then influence how a persuasive appeal is processed and what factors are influential in attitude formation. Consistent with the proposition that positive feelings signal a decreased need for thorough processing, studies that have evoked positive moods prior to persuasive messages have found that people’s attitudes are more influenced by cues that require only superficial processing and are not related to the message arguments themselves; in contrast, when negative moods are evoked prior to persuasive messages, people’s attitudes are more influenced by information that is difficult to process, such as the strength of the message arguments (Bless, Bohner, Schwarz, & Strack, 1990; Bless et al., 1992; Mackie & Worth, 1989; but see Wegener, Petty, & Smith, 1995). Similarly, the previous activation of emotions associated with certainty (e.g., contentment or anger) signals a decreased need for processing and increased reliance on easily

processed cues about the expertise of the source of a persuasive message, whereas the activation of emotions associated with uncertainty (e.g., surprise or sadness) signals an increased need for thorough processing of the message itself (Tiedens & Linton, 2001).

To the extent that the experiences of rightness or wrongness produced by incidental experiences of regulatory fit or non-fit can similarly act as general signals of whether one's immediate needs and goals are being met, such feelings should also affect reliance on easy- or difficult-to-process persuasive cues. Indeed, recent findings by Vaughn and colleagues (Vaughn, Malik, et al., 2006; Vaughn, O'Rourke, et al., 2006) have provided evidence consistent with this type of mechanism. In one set of studies, participants who experienced regulatory fit before an impression formation task expended less effort adjusting their first impressions and engaged in less information processing overall than did those who experienced regulatory non-fit. In another set of studies, participants who experienced regulatory fit before completing a problem-solving task judged more quickly that they had "done enough" and disengaged sooner than did participants who experienced regulatory non-fit. Importantly, in both of these lines of work, feelings of rightness (or wrongness) were found to be a critical mediator of such effects that was independent of people's general moods.

Extending these general influences of subjective experiences of regulatory fit or non-fit on information processing to research on persuasion, if incidental experiences of regulatory fit that precede a persuasive appeal encourage superficial processing, these experiences should produce attitudes based on easily processed cues and less resistance to change. In contrast, if experiences of regulatory non-fit that precede a persuasive appeal encourage thorough processing, these experiences should produce attitudes based on information that is more difficult to process and more resistant to change (Chaiken, Liberman, & Eagly, 1989; Petty & Cacioppo, 1986). These are the primary hypotheses tested in the current studies.

OVERVIEW OF THE PRESENT STUDIES

Study 1 investigated the influence of easily processed information concerning source expertise on people's attitudes following experiences of regulatory fit or non-fit. Study 2 then examined the influence of more difficult-to-process information concerning argument strength on people's attitudes following experiences of regulatory fit or non-fit. Finally, Study 3 assessed how resistant to counterpersuasion attitudes formed after experiences of regulatory fit or non-fit were. We predicted that experiences of fit would increase the effects

of the easily processed information about source expertise on people's attitudes, whereas experiences of non-fit would increase the effects of the difficult-to-process information about argument strength. In addition, we predicted that attitudes formed using more easily processed cues following experiences of fit would be more vulnerable to counterpersuasion than attitudes formed by thorough processing of message arguments following experiences of non-fit.

Studies 1 and 2 also examined an exploratory issue concerning effects of regulatory fit on the perceived persuasiveness of the arguments included in the persuasive appeals. Just as people's overall attitudes toward the object of a persuasive appeal can be influenced by many factors, so too can their impressions of the particular messages that constitute this appeal. Therefore, we examined the possibility that the superficial processing encouraged by incidental experiences of regulatory fit might also increase the influence of easily processed cues when judging the persuasiveness of the arguments presented (cf. Cacioppo, Petty, & Sidera, 1982; Lee & Aaker, 2004), whereas the thorough processing encouraged by incidental experiences of regulatory non-fit might decrease any influence of easily processed cues. If this pattern of results were observed, it would suggest that any differences in processing that occur following experiences of regulatory fit or non-fit influence attitudes by altering the basic way in which people interpret persuasive appeals. However, if no effects of regulatory fit or non-fit on judgments of the perceived persuasiveness of the arguments were observed, this would suggest that differences in processing that occur following experiences of regulatory fit or non-fit do not affect how the appeals themselves are interpreted, but instead influence how much people rely on these appeals when forming their attitudes (Bless et al., 1990; Petty, Cacioppo, & Goldman, 1981). This measure is exploratory because although it intuitively seems that persuasiveness and attitude ratings should be affected in identical ways, most research has examined influences on people's final attitudes, not attitudes toward the messages themselves or how these two attitudes relate to each other.

STUDY 1: SOURCE EXPERTISE

In Study 1, university students read a fictional newspaper article advocating senior comprehensive exams. The author of the article was identified as having either high or low expertise concerning educational issues. Past research shows that people are more persuaded by easily processed cues, such as source expertise, when the personal relevance of an appeal is low (e.g., Petty et al., 1981; see Chaiken et al., 1989; Petty & Cacioppo, 1986).

Thus, to create conditions of low relevance, the comprehensive exam policy involved another institution and would commence after the participants' expected graduation date. As outlined above, we predicted that following incidental experiences of regulatory fit, feelings of rightness would signal that superficial processing is acceptable, leading to increased persuasion when the article was written by someone with high (vs. low) expertise. In contrast, following incidental experiences of regulatory non-fit, feelings of wrongness should signal that more thorough processing is required, even if the article's content has low personal relevance, and thus eliminate the effects of source expertise on persuasion.

Method

Participants. Participants were 37 male and 38 female Columbia University students (mean age = 20.27, $SD = 2.87$) who either received course credit or US\$5 for participating. Participant sex did not have any simple or interactive effects in the analyses reported below.

Procedure and design. Participants were informed that the experimental session involved two separate studies. The first study, described as part of a large data-gathering survey, involved the manipulation of incidental experiences of regulatory fit. The second study, described as a study of how people "read and process text," involved an article presenting a persuasive message that advocated for comprehensive exams and the assessment of participants' attitudes. Some participants learned that the author of the article was an expert in the field of education, whereas others learned that the author was a "concerned community member." This study therefore featured a 2 (regulatory fit: fit vs. non-fit) \times 2 (source expertise: high vs. low) between-subjects design. After reading the article, participants reported their attitude toward comprehensive exams and the perceived persuasiveness of the message arguments.

Manipulating regulatory fit. Although regulatory fit can be produced in a variety of ways (Avnet & Higgins, 2006a), much of the existing research has examined such fit from the perspective of regulatory focus theory (Higgins, 1997; Molden, Lee, & Higgins, 2008). Regulatory focus distinguishes between two fundamental types of human needs: (a) attainment, growth, and achieving aspirations (i.e., *promotion* concerns) versus (b) maintenance, security, and meeting obligations (i.e., *prevention* concerns). Because promotion concerns create a predominant focus on advancement or attainment, these concerns are best sustained by *eager* strategies of seeking all possible means of ensuring gains. In contrast, because prevention concerns create a predominant focus

on maintenance and security, these concerns are best sustained by *vigilant* strategies of seeking all possible means for protecting against losses (Higgins, 2000).

To manipulate experiences of regulatory fit and non-fit, we used the method commonly employed in regulatory fit research, which was developed by Freitas and Higgins (2002). Participants first listed one promotion-focused goal (i.e., "something you ideally would like to do . . . a hope or aspiration you currently have") or one prevention-focused goal (i.e., "something you believe you ought to do . . . a duty or obligation you currently have"). They then described how they might achieve this goal using either eager strategies (i.e., things they could do "to make sure everything goes right" and "help them to realize" their goal) or vigilant strategies (i.e., things they could do "to avoid anything that could go wrong" and "stop them from realizing" their goal). This resulted in four different versions of the questionnaire, and participants were randomly assigned to one of two regulatory fit conditions (promotion-focused goals paired with eager strategies or prevention-focused goals paired with vigilant strategies) or one of two regulatory non-fit conditions (promotion-focused goals paired with vigilant strategies or prevention-focused goals paired with eager strategies).

The feelings of rightness that should emerge from the two separate fit conditions are theoretically equivalent, as are the feelings of wrongness that should emerge from the two non-fit conditions (Avnet & Higgins, 2006a; Higgins, 2000). Therefore, as has been the common practice in previous research on regulatory fit (Cesario et al., 2004; Lee & Aaker, 2004; Vaughn, Malik, et al., 2006; Vaughn, O'Rourke, et al., 2006), all analyses in the studies presented here simply used the collapsed fit and non-fit categories.¹ All participants completed the fit manipulation for two separate goals, with the type of goal and type of strategy elicited held constant for each person.

Constructing the persuasive message. The persuasive message that participants read argued that comprehensive exams should be instituted for graduating seniors, but at a different institution than their own and beginning after their expected graduation date. The message was formatted to resemble a newspaper article and was described as something arbitrarily selected from a campus newspaper. Using materials adapted from previous persuasion research (see Petty et al., 1981), the message was designed to be of moderate strength and included three arguments that have been repeatedly found to be relatively strong (e.g., "Graduate schools . . . are beginning to show clear and significant preferences for students who received their undergraduate degrees from institutions with comprehensive exams.") and two that

have been repeatedly found to be relatively weak (e.g., “Many universities are considering adopting comprehensive exams [and] any university [that did] could be at the forefront of a national trend.”).²

Manipulating source expertise. In both the fit and non-fit conditions, the expertise of the message source was manipulated by placing a short, easily processed insert in the center of the ostensible newspaper article. In the high-expertise condition, this insert read: “David S. Albeck holds the Bendicen Chair as a joint Education/Philosophy Department Professor and is head director of NSU’s Institute of Educational Development.” In the low-expertise condition, this insert read: “David S. Albeck is a NYC native and serves on the NYC Community Constituency Board.”³

Measuring attitudes. Participants’ attitudes toward the comprehensive exam policy were assessed using an index of five items ($\alpha = .95$), including ratings of how good of an idea, how important, and how necessary the exams are; how supportive participants are of the exams; and their overall opinion of the policy, on 1 (*low*) to 7 (*high*) scales.

Measuring perceived persuasiveness. Participants’ judgments of the persuasiveness of the arguments in the article were assessed using an index of six items ($\alpha = .92$), including ratings of how persuasive, convincing, compelling, influential, effective, and coherent they found the arguments, on 1 (*low*) to 7 (*high*) scales.

Results

A 2 (regulatory fit) \times 2 (source expertise) analysis of variance (ANOVA) on attitudes toward the exam policy revealed only a significant Regulatory Fit \times Source Expertise interaction, $F(1, 70) = 4.08, p = .047$ (see Figure 1). As predicted, following incidental experiences of regulatory fit, participants reported more positive attitudes toward the exam policy when the article was ostensibly written by an expert ($M = 4.70, SD = 1.08$) as compared to a non-expert ($M = 3.78, SD = 1.32$), $F(1, 70) = 4.11, p = .046, d = 0.75$. In contrast, following incidental experiences of regulatory non-fit, participants did not differ in their attitudes toward the policy as a function of the source’s ostensibly high ($M = 3.96, SD = 1.57$) or low expertise ($M = 4.33, SD = 1.51$), $F(1, 70) = 0.68, p = .41, d = -0.23$.

Although perceived persuasiveness of the message arguments and overall attitudes were correlated for participants experiencing both fit, $r(35) = .63, p < .001$, and non-fit, $r(35) = .75, p < .001$, a parallel ANOVA on judgments of the persuasiveness of the arguments in the article revealed no significant simple

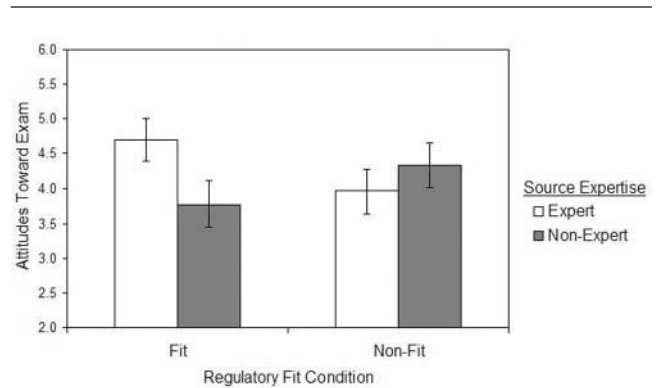


Figure 1 Attitudes toward exam policy as a function of regulatory fit and the expertise of the message source, Study 1. Error bars represent the standard error.

or interactive effects of the expertise or regulatory fit manipulations (all $ps > .16$).

Discussion

Overall, the results of Study 1 supported our primary hypothesis that incidental experiences of regulatory non-fit decrease the use of easily processed cues in persuasive appeals compared to incidental experiences of regulatory fit. When regulatory fit was induced before the presentation of an article arguing for comprehensive exams, an easily processed cue concerning the expertise of the author affected participants’ attitudes toward the proposal, whereas when regulatory non-fit was induced before presentation of the article, this expertise cue did not affect participants’ attitudes. Because the comprehensive exam proposal was specifically designed to be of low relevance to the students, which typically leads people to base their attitudes on more easily processed expertise cues (Chaiken et al., 1989; Petty & Cacioppo, 1986), the lack of expertise effects following experiences of non-fit can be interpreted as evidence for more thorough processing of the message arguments themselves (cf. Vaughn, O’Rourke, et al., 2006). However, although the perceived persuasiveness of the arguments was positively related to participants’ attitudes, these effects were not mirrored in participants’ judgments of the persuasiveness of the arguments, suggesting that incidental experiences of regulatory fit or non-fit were not related to the use of any additional cues in interpreting the persuasive message itself.

STUDY 2: ARGUMENT STRENGTH

Study 1 suggested that people rely on easily processed persuasive cues following incidental experiences of regulatory fit, whereas incidental experiences of regulatory

non-fit eliminate the effect of such heuristic cues. Our hypotheses further specify, however, that experiences of non-fit should not only decrease reliance on easily processed cues but also increase reliance on difficult-to-process elements of persuasive appeals. To test this proposal, Study 2 directly manipulated such difficult-to-process elements. As in Study 1, university students read a fictional newspaper article advocating comprehensive exams. In some conditions the arguments presented were relatively weak, and in others they were relatively strong. Because processing the strength of arguments requires more cognitive effort, strength manipulations typically influence attitudes only when message recipients engage in thorough, elaborative processing (Chaiken, 1980; Petty et al., 1981). Accordingly, in line with our hypotheses concerning the processing evoked by incidental experiences of regulatory fit or non-fit, we predicted that participants' attitudes would be influenced by argument strength following incidental experiences of regulatory non-fit but not following incidental experiences of regulatory fit.

Method

Participants. Participants were 29 male and 32 female Columbia University students (mean age = 21.15, $SD = 4.07$) who received US\$5 for participating. Participant sex did not have any simple or interactive effects in the analyses reported below.

Procedure and design. Procedures were identical to those of Study 1. Overall, the study employed a 2 (regulatory fit: fit vs. non-fit) \times 2 (argument strength: weaker vs. stronger) between-subjects design.

Manipulating regulatory fit. Experiences of regulatory fit were manipulated in the same manner as in Study 1.

Manipulating strength of the persuasive message. The message was prepared and printed to resemble a newspaper article as in Study 1. One message contained four relatively strong arguments (e.g., "Teachers and courses at schools with the exams were rated more positively by students after the exams were instituted. The improvements . . . appear to be due to departments encouraging teachers to adopt more effective teaching strategies to best prepare their students for the comprehensive exams."), whereas the other contained four relatively weak arguments (e.g., "The majority of parents who wrote in thought the exams were a good idea. Since most parents contribute financially to their child's education and also favor the exams, the university should support them."). The arguments were adapted from previous persuasion studies (e.g., Petty et al., 1981).

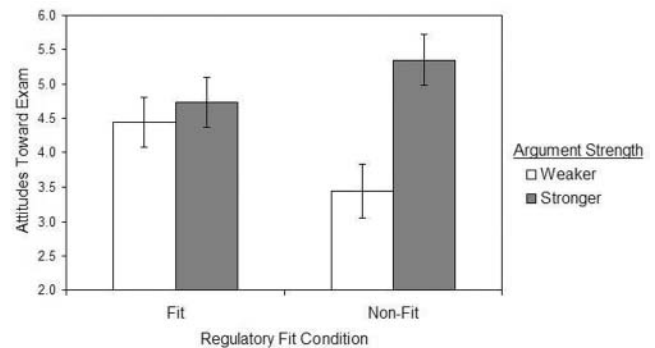


Figure 2 Attitudes toward exam policy as a function of regulatory fit and the strength of the arguments, Study 2. Error bars represent the standard error.

Measuring attitudes. Participants' attitudes toward the senior comprehensive exam policy were assessed using an index of five items ($\alpha = .97$), including how good an idea the exams are, how much participants agree with the policy, how favorable toward the exams they are, how supportive they are of the exams in general, and their overall attitude toward the exams, on 1 (*low*) to 9 (*high*) scales.

Measuring perceived persuasiveness. Participants' judgments of the perceived persuasiveness of the arguments in the article were assessed using an index of four items ($\alpha = .95$), including how persuasive, convincing, compelling, and influential they found the arguments to be, on 1 (*low*) to 9 (*high*) scales.

Results

A 2 (regulatory fit) \times 2 (argument strength) ANOVA on attitudes toward the exam policy revealed a significant argument strength main effect, $F(1, 57) = 8.53$, $p = .005$, accompanied by a Regulatory Fit \times Argument Strength interaction, $F(1, 57) = 4.65$, $p = .035$ (see Figure 2). As predicted, following incidental experiences of regulatory fit, participants' attitudes toward the exam policy did not differ when the arguments were relatively strong ($M = 4.73$, $SD = 1.56$) or weak ($M = 4.44$, $SD = 1.50$), $F(1, 57) = 0.31$, $p = .58$, $d = 0.18$. In contrast, following incidental experiences of regulatory non-fit, participants reported more positive attitudes after reading relatively strong arguments ($M = 5.35$, $SD = 1.30$) as compared to relatively weak arguments ($M = 3.44$, $SD = 1.49$), $F(1, 57) = 12.28$, $p < .001$, $d = 1.33$.

Although perceived persuasiveness of the message arguments and overall attitudes were again correlated for both participants experiencing fit, $r(30) = .61$, $p < .001$, and non-fit, $r(27) = .71$, $p < .001$, a parallel ANOVA on judgments of the persuasiveness of the arguments in the

article revealed only a significant argument strength main effect, $F(1, 57) = 11.82, p = .001, d = 0.88$, such that the relatively strong arguments ($M = 5.13, SD = 1.50$) were rated as significantly more persuasive than the relatively weak arguments ($M = 3.65, SD = 1.85$).

Discussion

Study 2 provided additional support for our primary hypotheses by demonstrating that incidental experiences of regulatory non-fit increase the use of difficult-to-process elements of persuasive appeals. When regulatory non-fit was induced before the presentation of an article arguing for comprehensive exams, the more difficult-to-process strength of the arguments affected participants' attitudes toward the proposal. In contrast, when regulatory fit was induced before the presentation of the article, argument strength did not affect participants' attitudes. These findings extend Study 1 and provide direct evidence for the effects of experiences of regulatory non-fit on more thorough processing of the persuasive messages (cf. Vaughn, O'Rourke, et al., 2006). As in Study 1, regulatory fit did not influence perceived persuasiveness. This result further suggests that incidental experiences of regulatory fit or non-fit did not differentially affect interpretation of the persuasive arguments themselves.

STUDY 3: RESISTANCE TO COUNTERPERSUASION

Study 3 measured the differential effects of regulatory fit and non-fit on resistance to counterpersuasion. Past research has shown that attitudes formed through superficial processing differ in their stability relative to attitudes formed through more thorough processing (for reviews see Chaiken et al., 1989; Petty & Cacioppo, 1986). Even when superficial or thorough processing of a persuasive appeal initially leads to equally positive attitudes overall, attitudes formed through thorough processing are more persistent across time and resistant to counterpersuasion than attitudes formed through superficial processing (see Chaiken, 1980; Haugtvedt & Petty, 1992; Sengupta, Goodstein, & Boninger, 1997). We therefore examined whether resistance to counterpersuasion varies as a function of incidental fit versus non-fit.

Haugtvedt and Petty (1992) note that a critical methodological requirement when studying resistance to counterpersuasion is that attitudes following the initial persuasive appeal are equal, which produces a common baseline from which any attitude change can be measured. We thus created an appeal that allowed people to form equivalent attitudes whether they were engaged in superficial or thorough processing of the persuasive

message, such that unlike the prior two studies, no initial differences in attitudes between people experiencing fit and non-fit would be observed. A topic was selected toward which participants were already likely to have a favorable opinion (improving education for children in public schools), and a moderately strong message was developed to support it. Both those who superficially process the message, relying primarily on their broad feelings and impressions, and those who thoroughly process the message and elaborate on the specific arguments should thus develop moderately positive attitudes (see Eagly & Chaiken, 1993; Petty & Cacioppo, 1986, for discussions of how different levels of processing can still produce equivalent attitudes).

After reporting their initial attitudes, everyone received a second persuasive appeal, also of moderate strength, that opposed the initial message. We predicted that participants' attitudes would be less resistant to counterpersuasion following incidental experiences of regulatory fit, in which the initial message would be processed superficially, than following incidental experiences of regulatory non-fit, in which the initial message would be processed thoroughly.

Method

Participants. Participants were 15 men and 19 women (mean age = 20.40, $SD = 2.35$) who were approached in public areas on Northwestern University's campus. Participant sex did not have any simple or interactive effects in the analyses reported below.

Procedure and design. Participants were randomly approached and asked to complete a short survey that included two separate studies. The first study involved the manipulation of incidental experiences of regulatory fit. The second study presented two essays concerning a fictitious after-school program. All participants first read one essay supporting the program and then read a second essay opposing the program. After each essay, participants rated their overall support for the program and the persuasiveness of the essay. Thus, the study featured a 2 (regulatory fit: fit vs. non-fit) \times 2 (message: supportive vs. opposing) mixed design with repeated measures on the message factor.

Manipulating regulatory fit. Experiences of regulatory fit were manipulated in the same way as in Studies 1 and 2 except that in order to reduce the length of the survey, each person completed the goals and strategies questionnaire for only one goal.

Constructing the persuasive messages. Two persuasive messages were developed concerning an after-school program said to be under consideration for the Chicago

public school system (cf. Cesario et al., 2004). Participants were first given a brief factual description of what services the program would provide (e.g., “[Students] would meet after school with mentors for special assistance in any areas designated by them or by their teachers as ones in which they need help.”). This description was intended to convey the positive value of the program even for those engaged in more superficial processing. The supportive message then specifically argued how the program would benefit students (“Special training could be provided in nearly any relevant academic domain, allowing the program to be both specific and broad. . . . [N]on-academic areas can be targeted as well . . . [to] allow for the development of the whole person.”). Following this, the opposing message specifically argued how the program would not have the intended benefits for students (“A program that is designed to address so many aspects of students’ lives . . . cannot help but lack the depth necessary to produce real improvement. . . . [F]unds would be more wisely invested in specific classrooms or the school system as a whole.”).

A pilot test conducted on an independent sample of 30 participants from the same population confirmed that both messages influenced people’s attitudes and were equally persuasive. Participants who saw only the supportive message reported significantly more positive attitudes toward the program ($M = 5.33$, $SD = 0.90$, on a 1-7 scale) than participants who saw only the opposing message ($M = 3.80$, $SD = 1.08$), $t(28) = 4.22$, $p < .001$, $d = 1.50$, and the messages did not differ in how persuasive they were judged to be (supportive message, $M = 4.33$, $SD = 1.05$; opposing message, $M = 4.00$, $SD = 1.36$), $t(28) = 0.75$, $p = .46$, $d = 0.26$.

Measuring attitudes. Participants’ attitudes toward the after-school program were assessed using an index of four items ($\alpha = .89$ for the supportive message; $\alpha = .92$ for the opposing message), including how supportive participants are of the program, how necessary and how right the program is, and their overall opinion of the program, on 1 (*low*) to 7 (*high*) scales.

Measuring perceived persuasiveness. Participants’ judgments of the persuasiveness of the supportive and opposing messages were assessed using an index of three items ($\alpha = .97$ for the supportive message; $\alpha = .96$ for the opposing message), including how persuasive, effective, and convincing the messages were, on 1 (*low*) to 7 (*high*) scales.

Results

As intended, participants’ initial attitudes toward the after-school program after reading the supportive message

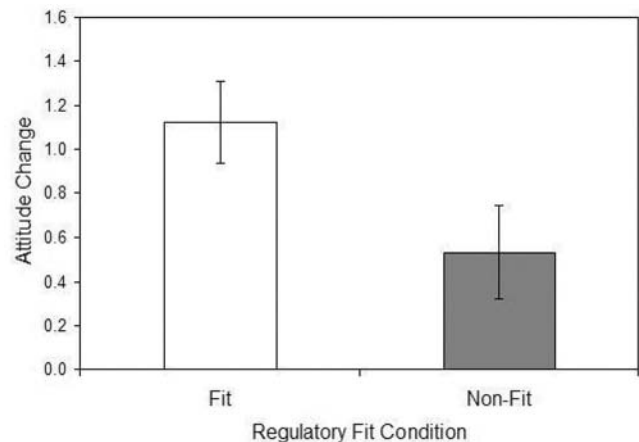


Figure 3 Change in attitudes between an initial persuasive appeal supporting an after-school program for public schools and a second persuasive appeal opposing the after-school program as a function of the regulatory fit, Study 3. Error bars represent the standard error.

did not differ following experiences of regulatory fit ($M = 5.38$, $SD = 1.03$) or regulatory non-fit ($M = 5.35$, $SD = 0.98$), $t(32) = 0.09$, $p = .93$, $d = 0.03$. Thus, the methodological criteria set by Haugtvedt and Petty (1992) were met, allowing us to test our primary counterpersuasion hypotheses.

Counterpersuasion was assessed by subtracting participants’ attitude ratings after the second, opposing message from their ratings after the initial, supportive message, with more positive scores thus reflecting greater counterpersuasion. Results revealed that as predicted, participants showed significantly greater counterpersuasion when forming their initial attitudes following experiences of regulatory fit ($M = 1.12$, $SD = 0.94$) as compared to experiences of non-fit ($M = 0.53$, $SD = 0.61$), $t(32) = 2.09$, $p = .045$, $d = 0.71$ (see Figure 3). Results for participants’ judgments of the persuasiveness of the arguments in both the supportive and opposing messages revealed no significant effects (all $ps > .33$).

Discussion

Study 3 further supported our hypotheses that incidental experiences of regulatory fit increase the use of easily processed cues in persuasive appeals, whereas incidental experiences of regulatory non-fit increase more thorough processing of such appeals. As predicted, although people who had experienced regulatory fit or non-fit formed equally positive attitudes following a message supporting a proposed after-school program, these attitudes became significantly less positive following a second message opposing the after-school program for those who had experienced fit as compared to non-fit.

These results suggest a difference in how thoroughly the initial, supportive message was processed (cf. Haugtvedt & Petty, 1992). As in the other studies reported here, regulatory fit effects were not mirrored in participants' judgments of the persuasiveness of the arguments presented in either the supportive or opposing message.

The experiences of regulatory fit or non-fit appear to have affected how thoroughly participants processed the first persuasive appeal but not the second appeal that challenged it, which created differences in counter-persuasion, despite both appeals being rated as being equally persuasive. We believe that this is because subjective experiences influence only the processing of information to which these experiences are attributed (see Schwarz & Clore, 2007), and in this case these experiences were likely attributed to the attitude formed with the initial, supportive message that immediately followed the experiences. Once this attribution had been made, any lingering feelings of rightness or wrongness would not be expected to have additional effects on the processing of the second, opposing message.

GENERAL DISCUSSION

The research presented in this article provides additional evidence for the importance of subjective experiences in persuasion (Schwarz & Clore, 2007) and demonstrates how the motivational states associated with regulatory fit and non-fit influence people's processing of persuasive messages. Incidental experiences of regulatory fit (i.e., subjective experiences of rightness that were activated in the context of an initial, unrelated task) increased the influence of easily processed information concerning source expertise in subsequent persuasive appeals (Study 1), reflecting a more superficial analysis of such appeals during attitude formation. In contrast, incidental experiences of regulatory non-fit (i.e., subjective experiences of wrongness that were activated in the context of an initial, unrelated task) increased the influence of more difficult-to-process information concerning the strength of the arguments in subsequent persuasive appeals (Study 2), reflecting a more thorough processing of such appeals. Finally, and importantly, attitudes formed following incidental fit experiences were less stable and more vulnerable to counterpersuasion than attitudes formed following non-fit experiences (Study 3).

One important aspect of the present findings is that in all cases, participants' incidental experiences of regulatory fit or non-fit directly influenced their overall attitudes toward a particular policy or program without influencing their perceptions of the persuasive arguments themselves. That is, in these studies, experiences

of regulatory fit or non-fit did not influence how good or how bad the participants judged the arguments they read to be (cf. Cacioppo et al., 1982) but instead appeared to alter whether the basic good versus bad qualities of the arguments about the attitude object were taken into account when forming their opinions. This suggests that the non-fit experience of feeling wrong led participants to move beyond superficial factors such as expertise to check whether the message arguments themselves were basically good or bad.

These perceived persuasiveness findings are consistent with past studies on incidental experiences of regulatory fit (see Cesario et al., 2004) and mood (Bless et al., 1990). Research has repeatedly shown that subjective experiences influence only the processing of information to which these experiences are attributed (see Schwarz & Clore, 2007). For example, whereas in some circumstances people may view processing a persuasive appeal as being about learning how an after-school program will benefit children, in others people may view such processing as being about critically evaluating the quality of the arguments presented in the appeal itself. As demonstrated by Cesario et al. (2004), if people primarily attribute their subjective experiences to their processing of persuasive arguments, incidental experiences of regulatory fit and non-fit may then primarily affect attitudes through the perceived quality of these arguments. In this case, it becomes necessary to evaluate how strong or weak the arguments are.

If, however, people primarily attribute their subjective experiences of fit or non-fit to their thoughts about the attitude object itself, as further demonstrated by Cesario et al. (2004), then the effects of these experiences on attitudes should be somewhat independent of the judged quality of the arguments. The present results imply that this latter attribution was likely the default for participants in the current studies, perhaps because the attitude issue was relatively low in personal relevance. We discuss the implications of attributing experiences of fit or non-fit to different aspects of a persuasive appeal in more depth below.

Another aspect of the present studies that should be noted is that participants were generally exposed to persuasive messages in circumstances where more superficial processing would typically be expected (e.g., situations of low to moderate personal involvement or relevance; see Eagly & Chaiken, 1993; Petty & Wegener, 1998). Thus, although our findings suggest that incidental regulatory fit experiences support superficial processing of persuasive appeals, these findings more conclusively demonstrate that incidental regulatory non-fit experiences motivate people to go beyond a simple, superficial analysis and more thoroughly process persuasive appeals even under low-involvement conditions in which more

thorough processing is uncommon. Complementing our findings, studies by Vaughn and colleagues involving other types of judgments following experiences of regulatory fit show that fit can cause decreased effort and processing in situations where people would normally be motivated to perform a more thorough analysis (Vaughn, Malik, et al., 2006; Vaughn, O'Rourke, et al., 2006). Whether experiences of fit can increase reliance on easily processed persuasive cues such as expertise even under circumstances in which more thorough processing of message argument quality would normally be expected, such as conditions of high personal relevance or involvement, is thus an important topic for future research.

Explaining Effects of Incidental Regulatory Fit

The influence of incidental sources of regulatory fit and non-fit on attitudes demonstrated here is best explained by a mechanism in which the feelings of rightness or wrongness are interpreted as implicit signals about whether one is generally doing what is "right" or "wrong" and thinking correctly or incorrectly (cf. Schwarz & Clore, 2007). Feelings of rightness signal the correctness of one's current thoughts and the absence of obstacles or problems, allowing for a more superficial analysis of incoming information. In contrast, feelings of wrongness signal the incorrectness of one's current thoughts and the presence of obstacles or problems for which a more thorough analysis is needed. Although we do not provide direct support for such interpretations of these experiences in the present studies, multiple studies have already demonstrated the crucial role of such processes in effects on judgment produced by manipulations of incidental regulatory fit (Higgins et al., 2003; Vaughn, Malik, et al., 2006; Vaughn, O'Rourke, et al., 2006). Previous studies have also specifically demonstrated the crucial role of such processes on judgments involving the evaluation of persuasive messages (Cesario et al., 2004).

Furthermore, we believe that alternative mechanisms for the effects of incidental experiences of regulatory fit are unlikely candidates for explaining the present findings. Although our regulatory fit effects parallel effects from incidental positive and negative moods found in other research (e.g., Bless et al., 1990; Bless et al., 1992), numerous studies, as noted earlier, have repeatedly shown that experiences of fit and non-fit cannot be reduced to hedonic mood states and that regulatory fit effects are independent from such mood states (Camacho et al., 2003; Cesario et al., 2004; Cesario & Higgins, 2008; Freitas & Higgins, 2002; Higgins et al., 2003; Vaughn, Malik, et al., 2006; Vaughn, O'Rourke, et al., 2006; see also Avnet & Higgins, 2006b; Higgins, 2000). In addition, although it is plausible to suggest that feelings

of rightness might lead people to engage in superficial processing in an effort to maintain this generally positive feeling (cf. Wegener et al., 1995), this would have led in the present studies to differential effects for persuasive messages advocating positive outcomes that would maintain positive feelings, such as an after-school program for underprivileged children (Study 3), versus messages advocating negative outcomes that would undermine positive feelings, such as comprehensive exams (Studies 1 and 2). These differential effects were not observed.

Predicting How Incidental Experiences of Regulatory Fit or Non-Fit Will Affect Attitudes

There are multiple factors to consider when determining how people's interpretations of their subjective regulatory fit experiences might alter the implications of such experiences (cf. Schwarz & Clore, 2007). The present studies show that feeling right from incidental sources of regulatory fit can lead to less systematic processing, and feeling wrong from regulatory non-fit can lead to more systematic processing. But consistent with the logic that there are no inherent processing implications of various mood states (Martin, Ward, Achee, & Wyer, 1993), there must be circumstances in which feeling right would lead to more systematic processing and feeling wrong would lead to less systematic processing. Therefore, the larger meaning that is assigned to regulatory fit experiences is crucial for predicting the effects of these experiences on persuasion.

Participants in the present studies presumably were focused on paying sufficient attention to form an opinion. Under these circumstances, incidental feelings of rightness should signal that enough processing has been done, whereas incidental feelings of wrongness should signal that additional processing is required, which is consistent with our findings. In other situations, however, participants may be focused on how much they are enjoying a particular task (e.g., Martin et al., 1993). Under these circumstances, incidental feelings of rightness should signal continued enjoyment and increase engagement in the task, whereas incidental feelings of wrongness should signal diminishing enjoyment and lead to more rapid disengagement from the task (Vaughn, Malik, et al., 2006), which could reverse the regulatory fit effects obtained in our studies. In addition, although people may generally tend to interpret feelings of rightness as signals that things are proceeding smoothly and interpret feelings of wrongness as signals that things are not proceeding smoothly, there are also situations in which people could interpret feelings of rightness as an indication that they are not sufficiently engaged in a particular judgment (i.e., not exerting enough effort) and

could interpret feelings of wrongness as an indication that they are currently putting sufficient effort into the task (cf. Briñol, Petty, & Tormala, 2006). Manipulations or assessments of such alternate interpretations could also reverse the regulatory fit effects presented here.

Finally, as noted earlier, there is the important issue of to what exactly one attributes a subjective experience. When forming one's attitudes, the different targets to which people could attribute their incidental feelings of rightness or wrongness, such as the topic issue or the message arguments themselves, can profoundly influence how these feelings are interpreted. For example, Cesario and colleagues (2004, Study 4) demonstrated that when participants were specifically directed to evaluate the merits of the message topic itself (a proposed after-school program), incidental experiences of regulatory fit influenced people's attitudes independently of their specific critical thoughts concerning the message arguments presented, much as in the present studies. That is, fit effects did not depend on whether participants' cognitions regarding the message arguments were predominantly positive or negative. However, when participants were specifically directed to critically evaluate the persuasiveness of the message arguments themselves, the effects on attitude formation of participants' incidental fit experiences did depend on their specific thoughts toward the message. When the thoughts produced by the message were generally positive, participants with incidental fit experiences of rightness had a more positive attitude toward the program (i.e., they felt right about their positive response to the message), but when the thoughts produced by the message were generally negative, participants with incidental fit experiences of rightness had a less positive attitude toward the program (i.e., they felt right about their negative response to the message). Therefore, the way in which people are likely, or can be encouraged, to attribute incidental regulatory fit experiences to their message processing activity is a crucial determinant of how these experiences will influence their attitudes.

Effects of Incidental Versus Integral Sources of Regulatory Fit

At the beginning of this article, we made a distinction between incidental sources of regulatory fit that arise in the context of one judgment or activity and are transferred to another and integral sources of regulatory fit that arise directly from the judgment or activity that is currently under consideration (cf. Bodenhausen et al., 2001; Cohen et al., 2008). As we have noted, the present theoretical analyses and experiments exclusively concern the former, incidental experiences. Indeed, findings of research using integral regulatory fit (i.e., Cesario

et al., 2004, Studies 1 and 2) are not consistent with the more superficial processing during incidental experiences of fit versus non-fit observed in the present studies.

Although the mechanisms behind the different effects of incidental versus integral experiences of regulatory fit require further investigation, one possible reason for these differences is that integral experiences that arise from a persuasive message make it much more likely that any feelings of rightness or wrongness are attributed specifically to the message arguments themselves, as discussed above. If this were the case, feelings of rightness from regulatory fit would be expected to intensify both positive reactions to strong arguments and negative reactions to weak arguments, whereas feelings of wrongness from regulatory non-fit would be expected to weaken both of these reactions (cf. Aaker & Lee, 2001; Cesario et al., 2004).

Another possible explanation for differences between incidental and integral experiences of regulatory fit may concern a second component of such experiences proposed by Higgins (2006; see also Avnet & Higgins, 2006a, 2006b). In addition to producing feelings of rightness, Higgins has suggested that regulatory fit is also a direct source of motivational intensity or *engagement strength*, such that experiences of fit increase the strength of engagement whereas experiences of non-fit decrease the strength of engagement. Although there is currently no empirical work that has distinguished these two components of regulatory fit, it seems plausible that whereas strengthened engagement with the task at hand may be a more critical feature of integral experiences of regulatory fit, residual feelings of rightness with their contextually influenced misattribution processes may be more critical in incidental experiences of regulatory fit. That is, whereas engagement strength may be the primary mediator of integral regulatory fit effects (e.g., see Förster et al., 1998; Higgins et al., 2003, Studies 1-3; Lee & Aaker, 2004), residual feelings of rightness may be the primary mediator of incidental regulatory fit effects (e.g., see Cesario et al., 2004; Freitas & Higgins, 2002; Vaughn, Malik, et al., 2006; Vaughn, O'Rourke, et al., 2006). Although speculative, this proposition is consistent with previous research and may also be worthy of further research (for further discussion of this issue, see Cesario, Higgins, & Scholer, 2008; see also Lee & Higgins, 2009).

CONCLUSION

Subjective experiences play important roles in the complex processes by which persuasive appeals influence attitudes. In this article, we extend such research by demonstrating that the subjective experiences that arise from motivational states of regulatory fit and regulatory

non-fit can affect how superficially or thoroughly people process persuasive appeals, thereby influencing the effectiveness of these appeals in influencing attitude formation. As with all subjective experiences, however, the ultimate effects of regulatory fit or non-fit experiences depend on how such experiences are interpreted at the moment in which they are occurring. Future research that further assesses or manipulates the meaning people assign to fit or non-fit experiences—what exactly they are feeling right or wrong about—could therefore uncover additional ways that such experiences influence persuasion and attitude formation.

NOTES

1. In all studies, an expanded analyses of the two fit conditions into the full 2 (goal: ideal vs. ought) \times 2 (strategy: eager vs. vigilant) design supported the same conclusions; this interaction was always (near) significant ($F_s > 3.63$, $p_s < .06$), and the pattern of simple effects showed that the two fit conditions always differed from the two non-fit conditions in similar ways. No main effects of the goal or strategy conditions were consistently found across studies.

2. The full texts of the articles used in each study are available by request.

3. An additional independent manipulation of source attractiveness was included in the original design as another easily processed persuasive cue by including one of two different photographs of the author. However, a manipulation check revealed that these photographs were not successful in manipulating source attractiveness. Thus, this factor was dropped from all analyses.

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