Persuasion through facts and feelings: Integrating affect and cognition into behavioral decision models and health messages
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Chapter six

The effects of integrating instrumental and affective arguments into objective and narrative health messages

Abstract

Recent research highlights the superior influence of affect over cognition in health decision making, but little is known about how to integrate affect in persuasive messages. The present study examined the independent and combined effects of two message characteristics that are thought to tap into the cognition-affect distinction: message format (objective versus narrative) and argument type (instrumental versus affective). In this two-by-two experiment, 81 college students were randomly assigned to one of four health messages discouraging binge drinking. The results indicated that messages containing affective arguments were judged more positively and perceived as more effective than messages containing instrumental arguments. The results further revealed an interaction effect between message format and argument type. Narratives were more persuasive when they contained affective compared to instrumental arguments. The authors hypothesize and find that instrumental arguments reduce the efficacy of narratives, because they prevent individuals from being transported into the story, and increase psychological reactance.

Health communication has traditionally focused on conveying reason-based messages. Such messages typically list a number of benefits of the advocated behavior, or point out the detrimental effects of not engaging in it. The underlying assumption of such messages is that increasing knowledge about the positive consequences of health behaviors leads to increased performance of those behaviors. This approach is likely a reflection of dominant behavioral theories that stress decision making is based on a rational process of weighing the pros and cons of a
behavior, such as the theory of planned behavior (TPB; Ajzen, 1985; Ajzen, 1991) and the health belief model (HBM; Rosenstock, 1974). In the past decade, this view has been challenged by a number of studies showing affective associations have a large impact on decision making, influencing intention and behavior over and above the determinants specified in the TPB and HBM (e.g., Keer, Van den Putte, & Neijens, 2012; Kiviniemi, Voss-Humke, & Seifert, 2007). Consequently, addressing people’s feelings in health communications is a highly promising persuasive strategy. However, much is unclear about exactly how this may be achieved.

Several aspects of a message determine the degree to which it addresses people’s thoughts versus their feelings. Two aspects often manipulated by health practitioners as well as communication researchers are combined in the present study: message format (i.e., objective versus narrative) and argument type (i.e., arguments pertaining to either the instrumental or affective consequences of performing the advocated behavior). Both objective message format and instrumental arguments are thought to address rational aspects of decision making, whereas narrative message format and affective arguments are assumed to have a larger impact on people’s feelings. The present study adds to the literature by examining the possible interaction between message format and argument type in messages discouraging binge drinking. In doing so, it expands our scope on techniques to influence affective associations with health behaviors.

**Message format and argument type**

Narratives are messages that present information in a personal as opposed to objective format. They are designed to engage the audience, and contain emotionally appealing information, such as a first-person account of someone who has experience with the advocated behavior. In contrast, objective health messages are designed to persuade people by
presenting arguments in the form of facts. Both objective and narrative health messages have been shown to produce persuasive effects (Allen & Preiss, 1997; Baesler & Burgoon, 1994); however, the mechanisms underlying narrative persuasion differ from those underlying objective message persuasion. Expectancy-value models predict that objective messages persuade people by providing new information, or by making already known information more salient. The information given in the message will then be incorporated in the person’s evaluation of the behavior, shifting the decision making process towards a more favorable outcome (Fishbein & Ajzen, 1975). According to the transportation-imagery model, narrative persuasion occurs because the recipient of the message is “transported” into the narrative world (Green & Brock, 2002). The resulting mental state has been described as “an integrative melding of attention, imagery, and feelings, focused on story events” (Green, 2004, p. 247). Several mechanisms have been described through which transportation facilitates belief change, among which its potential to reduce cognitive activities that underlie resistance to persuasion, such as counter-arguing (De Wit, Das, & Vet, 2008; Green, 2004; Niederdeppe, Shapiro, & Porticella, 2011). Narratives also have the potential to emotionally engage the reader. Supporting this view, narratives have been shown to generate greater emotional responses from readers than objective messages (Kopfman, Smith, Yun, & Hodges, 1998; McQueen & Kreuter, 2010), making them a promising candidate for addressing people’s affect.

Another technique used to address individuals’ affect towards health behaviors, is the use of affective (as opposed to instrumental) arguments. Affective arguments tap into people’s beliefs about the affective consequences of performing a particular behavior. For example, in the context of binge drinking, an affective argument is that refraining from binge drinking makes people feel energetic. An example
of an instrumental argument is that refraining from binge drinking helps people to stay in control of their behavior. There is evidence showing that affective arguments address individuals' affect whereas instrumental arguments address individuals' cognition. For example, Millar and Millar (1993a) found that affective attitudes changed more in response to affective arguments, whereas cognitive attitudes changed more in response to instrumental arguments. Thus, both message format and argument type may be manipulated to create messages tapping into people's thoughts versus their feelings.

The interaction between message format and argument type

The present study examines whether message format and argument type may be effectively combined to produce an additional effect on top of their independent effects. We predict that a match between message format and argument type (i.e., objective messages containing instrumental arguments or narrative messages containing affective arguments) results in greater persuasion effects than a mismatch. Three processes are at the heart of this hypothesis. We predict that, relative to a mismatch, a match increases transportation, increases processing fluency, and decreases psychological reactance against the message, thereby producing greater persuasion effects. These three processes are discussed in more detail below.

The degree of transportation that a person experiences depends on a number of factors, among which context factors (Appel & Richter, 2010; Green, Garst, & Brock, 2004; Green & Brock, 2000). Distractions in the readers' surroundings, such as a crying baby, may prevent them from being able to fully engage in the story. Distractions may also come from within the narrative, in the form of aspects of the text that do not fit well with the story (Green, Brock, & Kaufman, 2004). Here, we propose that arguments discrepant with the message format (i.e., instrumental arguments in a narrative format or affective arguments in an objective
format) stand out from the text and serve as such distractions. This may alert the reader and serve as a cue to engage in more critical thinking about the message. Such an alert and critical state surely obstructs readers from experiencing transportation, and thus prevents the beneficial effects associated with it.

Second, we propose that congruence between message format and argument type stimulates processing fluency. Studies have shown that higher degrees of processing fluency enhance persuasion (e.g., Lee & Labroo, 2004; Lee & Aaker, 2004; Mayer & Tormala, 2010). Moreover, Lee and Labroo (2004) demonstrated that a target becomes more conceptually fluent when it is presented in a predictive context, for example a bottle of beer in an advertisement showing someone entering a bar. Similarly, message format may be predictive of the types or arguments one expects to encounter. For example, individuals reading a narrative may expect to read how the narrator felt about performing a behavior, not the instrumental consequences of performing it. Thus, we propose that affective arguments will be more easily processed when embedded in a narrative context, and that instrumental arguments will be more easily processed when embedded in an objective context. Compared to incongruence between message characteristics, congruence is thus expected to increase processing fluency, thereby positively affecting persuasion outcomes.

We identified a third process variable through which a mismatch between message format and argument type may have a negative effect on persuasion: psychological reactance. Psychological reactance is “the motivational state that is hypothesized to occur when a freedom is eliminated or threatened with elimination” (Brehm & Brehm, 1981, p. 37). Psychological reactance theory further holds that the individual will be motivated to restore that freedom, for example by derogating the source of the threat (Kohn & Barnes, 1977; Schwarz, Frey, & Kumpf,
1980; Worchel, 1974). As health messages often convey information perceived as threatening to one’s freedom, they may be especially prone to inciting psychological reactance. This is detrimental to the effects of those messages, as individuals experiencing psychological reactance are likely to evaluate the message negatively and develop negative attitudes towards the advocated behavior (Burgoon et al., 2002; Grandpre, Alvaro, Burgoon, Miller, & Hall, 2003; Quick, Scott, & Ledbetter, 2011). Arguments embedded in an incongruent message format are likely to stand out more than those embedded in a congruent message format, increasing the perceived persuasive intent of the message, and consequently the perceived threat to freedom. Therefore, we argue that encountering arguments incongruent with the message format will increase reactance against the message.

The present study

Here, we compare the efficacy of different persuasive messages in the context of binge drinking. Epidemiological evidence shows that binge drinking is associated with considerable health risks resulting from – among others – car accidents, unsafe sex, and aggressive behavior (Wechsler & Isaac, 1992; Wechsler, Davenport, Dowdall, & Moeykens, 1994). Binge drinking is especially prevalent among college students. In their age group, which has the highest rates of binge drinking, they exceed their peers who do not attend college (Johnston, 1994). Despite continuous efforts to reduce binge drinking among college students, it remains one of the major causes of serious health problems in this population. Improving the effectiveness of communications discouraging binge drinking is essential in reducing these health problems.

Recent research in the social and health psychology literature has demonstrated that affect exerts a larger and more direct influence on behavior than cognition across a wide range of health behaviors,
including alcohol-related behaviors (e.g., Keer, Van den Putte, & Neijens, 2010; Lawton, Conner, & Parker, 2007; Lawton, Conner, & McEachan, 2009). In light of the growing evidence for the importance of affect in health decision making, untangling the effects of message characteristics that seem to tap into affect is a necessary step to effective health communication. The present study employs a two-by-two experimental design to compare the effects of messages differing in message format (objective versus narrative) and argument type (instrumental versus affective). Based on the large influence of affect on behavior, we predict that messages addressing people’s affect are more persuasive than those addressing more rational evaluations. Thus, we expect narrative messages to be more persuasive than objective messages, and messages containing affective arguments to be more persuasive than messages containing instrumental arguments. Furthermore, we expect that message format and argument type interact, such that messages in which these characteristics are congruent with each other (narratives containing affective arguments, or objective messages containing instrumental arguments) are more persuasive than messages in which they are incongruent with each other. In addition, the underlying mechanisms of this hypothesized interaction effect will be explored by examining three possible mediators: transportation, processing fluency, and psychological reactance.

Method

Participants and procedure

This study used a questionnaire-based pre-test-post-test experimental design. The pre-test was completed by 222 students at the University of Amsterdam, 188 (84.7%) of which also completed the post-test. Participation was encouraged by giving respondents a chance to win a cash prize. For the present study, we chose to analyze only the
data of participants for whom the health message was relevant; that is, those whose intention to refrain from binge drinking was below the midpoint of the pre-test intention scale. The final sample ($N = 81$) consisted of 74.1% women, and had an average age of 23.0 ($SD = 2.5$).

In the pre-test, respondents completed questionnaire measures of demographic information and intention to refrain from binge drinking. About four days after completing the first questionnaire, respondents were sent an invitation to complete the second one. Before completing this questionnaire, respondents were randomly assigned to one of four messages discouraging binge drinking. The messages varied in two aspects: format (objective versus narrative), and argument type (instrumental versus affective). Directly after exposure to the message, respondents rated it on two scales: message judgment and perceived efficacy. In addition, respondents completed measures of transportation, processing fluency, and psychological reactance. Finally, they completed a post-test intention scale.

**Intervention**

Four messages were developed, each discouraging binge drinking. The messages differed in format (objective versus narrative) and type of arguments (instrumental versus affective). All messages were written by the researchers for the purpose of the present study, but respondents were told a cover story. Those assigned to a narrative message were presented with a fictional column. The columnist described the results of a personal “experiment” in which he or she (the columnist’s sex was always the same as the respondent’s) compared a regular month with one in which he or she had refrained from binge drinking. The messages contained three arguments against binge drinking, presented as consequences experienced by the columnist. Respondents assigned to an objective message were presented with a fictional press release describing the results of a large scale scientific study on the effects of binge
drinking. The arguments, which were presented as results of the scientific study, were identical to those described in the narrative messages.

The three arguments concerned either affective or instrumental consequences of binge drinking. For example, the messages with affective arguments implied that individuals who refrain from binge drinking feel more energetic and more relaxed than those who do not. In contrast, the messages with instrumental arguments implied that individuals who refrain from binge drinking have more control over their behavior, and that they can concentrate better than those who do not.

The arguments were derived from an elicitation study among 22 members of the target population. These students listed affective and instrumental consequences associated with refraining from binge drinking. The three most frequently mentioned consequences were used in the messages. The messages were tailored to gender, in the sense that binge drinking was defined as drinking more than three glasses of alcohol a day for women, versus more than five for men. Furthermore, in the narrative messages the columnist’s sex was the same as the respondents’, and in the objective messages the scientific study was said to be based on data from individuals of the same sex as the respondent’s.

All messages were similar in length, varying from 402 to 416 words. All messages also had the same structure. The title was followed by two paragraphs introducing the personal experiment (in the narratives) or the scientific study (in the objective messages). The following three paragraphs each presented one argument in favor of refraining from binge drinking, presented as a result experienced by the columnist (in the narratives), or as a result found in the scientific study (in the objective messages). In the final paragraph, the results were summarized.
Pilot study

A pilot study was conducted to assess whether the objective-narrative distinction and the instrumental arguments-affective arguments distinction were so perceived by respondents. Data were collected among 94 members of the target population. As in the main study, respondents were randomly assigned to one of four messages varying in format and argument type. Two seven-point agreement items were used to measure the objective-narrative distinction: “The message was factual” and “The message was about someone’s personal experiences” (reverse coded). Scores on the two items were averaged to create an objective-narrative scale (higher scores indicating more perceived objectivity). A t-test indicated that respondents who had read an objective message scored significantly higher on this scale ($M = 5.19, SD = 1.13$) than those who had read a narrative message ($M = 2.64, SD = 1.13$), $t(92) = 10.94, p = .00, \eta^2 = .57$. To measure the instrumental arguments-affective arguments distinction, the following two seven-point agreement items were used: “The arguments in the message concerned instrumental consequences” and “The arguments in the message concerned feelings” (reverse coded). Again, scores on the two items were averaged to form a single scale with higher scores indicating the arguments were perceived as more instrumental. A t-test revealed the expected pattern: respondents who had read a message containing instrumental arguments scored higher on the scale ($M = 4.86, SD = 1.19$) than those who had read a message containing affective arguments ($M = 4.20, SD = .96$), $t(92) = 2.95, p = .00, \eta^2 = .09$. As the messages were perceived as we intended them to be, we used the exact same messages in the main study.
Measures

The messages were compared with regard to three dependent variables: message judgment, perceived effectiveness, and intention to refrain from binge drinking. Besides being interesting variables in themselves, message judgment and perceived effectiveness are considered indicators of actual message effectiveness. Previous studies have found substantial associations between perceived and actual effectiveness, and there is evidence indicating perceived effectiveness is a causal antecedent of actual effectiveness (Dillard, Weber, & Vail, 2007; Dillard, Shen, & Vail, 2007).

Message judgment. This was measured using the evaluation judgment scale by Burke and Edell (1989). This scale measures the extent to which a text is meaningful to the reader. Respondents judged on seven-point agreement scales how well each of 11 adjectives characterized the message (e.g., interesting, valuable, and worth remembering; Cronbach’s α = .90).

Perceived effectiveness. Dillard and Ye (2008) demonstrated that perceived effectiveness involves both global evaluations of message impact (e.g., effective, compelling), and specific evaluations of message attributes (e.g., true to life, reasonable). To measure perceived effectiveness, we used the scale developed by Dillard and Ye (2008). The scale consists of eight seven-point semantic differential items, four concerning global evaluation and four concerning attribute items (Cronbach’s α = .88).

Intention. Intention was measured in the pre- and post-tests. Four seven-point items were used to measure intention, each ranging from 1 (absolutely will not) to 7 (absolutely will): “I will try to...,” “I intend to...,” “I will...,” and “I want to refrain from drinking more than 3 for...”
women, 5 for men] glasses of alcohol in one day during the next 30 days." Reliability was excellent at $\alpha = .80$ and $\alpha = .95$ for the pre- and post-tests respectively.

**Transportation.** Respondents completed three seven-point items measuring the degree they felt transported by the message: “I was mentally involved in the message,” “I could easily picture the information in the message,” and “I could relate to the message” ($\alpha = .76$; adapted from M. C. Green & Brock, 2000).

**Processing fluency.** As in previous research, respondents rated the message in terms of its ease of processing (1 = very difficult to process; 7 = very easy to process) and comprehensibility (1 = very difficult to understand; 7 = very easy to understand) (Lee & Aaker, 2004). The scores on these items were averaged to form a processing fluency index ($r = .76$, $p = .00$).

**Psychological reactance.** This was measured using two seven-point items designed to assess the degree to which respondents derogated the message (adapted from Witte, 1994). Respondents indicated to what degree they thought the message was “exaggerated” and “misleading” ($r = .38$, $p = .00$).

**Results**

Binge drinking was prevalent among the sample with all but two (97.5%) participants having engaged in binge drinking in the month prior to the pre-test. Table 1 depicts the descriptive statistics for and intercorrelations between all study variables. As we selected only respondents who scored below the midpoint (4) of the intention scale in the pre-test, intention scores at T1 were relatively low. The mean intention scores in the post-test were higher, suggesting a positive overall impact of the persuasive messages. Mean scores on all other
variables, except processing fluency, were around the midpoint of the scales, with standard deviations of 1.00 and larger. The scores on the processing fluency scale were very high suggesting results regarding this variable should be interpreted with caution due to possible ceiling effects.

Table 1. Descriptive data and correlations for study variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Intention T1</td>
<td>2.25</td>
<td>.86</td>
<td>-</td>
<td>.58***</td>
<td>.27*</td>
<td>.21</td>
<td>-.05</td>
<td>.10</td>
<td>.34**</td>
</tr>
<tr>
<td>2. Intention T2</td>
<td>2.86</td>
<td>1.53</td>
<td>-</td>
<td>.35**</td>
<td>.20</td>
<td>.16</td>
<td>.12</td>
<td>.25*</td>
<td></td>
</tr>
<tr>
<td>3. Message judgment</td>
<td>4.15</td>
<td>1.02</td>
<td>-</td>
<td>.70***</td>
<td>.45***</td>
<td>.10</td>
<td>.67***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Perceived effectiveness</td>
<td>4.19</td>
<td>1.00</td>
<td>-</td>
<td>.59***</td>
<td>.23*</td>
<td>.68***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Reactance</td>
<td>3.69</td>
<td>1.23</td>
<td>-</td>
<td>-.10</td>
<td>-.34**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Processing fluency</td>
<td>4.44</td>
<td>.71</td>
<td>-</td>
<td>.26*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Transportation</td>
<td>4.44</td>
<td>1.20</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05; **p < .01; ***p < .001

**Testing the interaction between message format and argument type**

Because the hypotheses regarding the main and interaction effects of message format and argument type were directional, we tested these using one-tailed significance tests. To assess whether message format (objective versus narrative) and argument type (instrumental versus affective) interacted to influence message judgment, perceived effectiveness, and intention, we performed three regression analyses, one for each dependent variable (see Table 2). In each of the three regression analyses, we regressed the dependent variable on intention at T1, message format (objective versus narrative, contrast coded), argument type (instrumental versus affective, contrast coded), and the message format × argument type interaction term. The results for message judgment and perceived effectiveness were similar. Not surprisingly,
intention at T1 positively influenced both message judgment and perceived effectiveness. We also found a main effect for argument type, such that messages containing affective arguments resulted in more positive message judgment, and in higher perceived effectiveness. In addition, we found that message format and argument type significantly interacted to predict both message judgment and perceived effectiveness (see Figure 1a and 1b). As expected, messages were judged more positively and perceived as more effective, when type of arguments was congruent with message format. A simple effects test revealed that type of arguments influenced message judgment for narrative messages ($b = .62$, $t(80) = 4.69$, $p = .00$, but not objective ones ($b = .19$, $t(80) = 1.31$, $p = .90$). Perceived effectiveness too was only influenced by argument type for narrative messages ($b = .58$, $t(80) = 4.19$, $p = .00$, not objective ones ($b = .12$, $t(80) = .78$, $p = .78$. Thus, the main effect of argument type was fully attributable to its influence on narrative messages. Specifically, narrative messages were judged more positively and perceived as more effective when they contained affective arguments, compared to instrumental ones (see Figure 1a and 1b).

Table 2. Regression analyses with message judgment, perceived effectiveness, and intention at T2 as dependent variables.

<table>
<thead>
<tr>
<th></th>
<th>Message judgment</th>
<th>Perceived effectiveness</th>
<th>Intention at T2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$b$</td>
<td>$t$</td>
<td>$b$</td>
</tr>
<tr>
<td>Intention at T1</td>
<td>.39</td>
<td>3.48**</td>
<td>.30 2.54**</td>
</tr>
<tr>
<td>Message format (A)</td>
<td>-.30</td>
<td>-3.09</td>
<td>-.07 -.72</td>
</tr>
<tr>
<td>Argument type (B)</td>
<td>.40</td>
<td>4.11***</td>
<td>.35 3.39***</td>
</tr>
<tr>
<td>$A \times B$</td>
<td>.21 2.23*</td>
<td>.23 2.28*</td>
<td>.12 .85</td>
</tr>
</tbody>
</table>

*p < .05; **p < .01; ***p < .001.
The results were less strong when we entered intention to refrain from binge drinking at T2 as dependent variable (see Table 2). As becomes clear from Table 2, only intention at T1 predicted intention at T2; we found no main effects of message format or argument type, and also no interaction effect between message format and argument type. However, simple effects analysis revealed that argument type influen-

**Figure 1.** Interaction effects of message format and argument type on message judgment, perceived effectiveness, and intention at T2.
ced intention change in the narrative condition ($b = .65$), $t(81) = 1.69$, $p = .05$, such that affective arguments led to more positive intention change than instrumental arguments (see Figure 1c). No effect of type of arguments was found for objective messages ($b = .09$, $t(81) = .41$, $p = .66$). This is in line with the results found for message judgment and perceived effectiveness.

**Mediation analyses**

The results indicated that type of arguments influenced the effects of narrative but not objective messages. To gain more insight into why narrative messages are more effective when they include affective (versus instrumental) arguments, we investigated three possible mediators of this effect: transportation, processing fluency and psychological reactance. Only respondents who had read a narrative message were included in these analyses. As we had three possible mediators and three dependent variables (message judgment, perceived efficacy, and intention at T2), we performed nine mediation analyses (see Table 3). The indirect effects were formally tested using a bootstrapping procedure. Based on 10,000 bootstrap samples, a 90% bias corrected and accelerated confidence interval (BCa 90% CI) was computed for the point estimate of the indirect effect (the point estimate is the product of the two effects that constitute the indirect effect; see Preacher & Hayes, 2008). Intention at T1 was controlled for in each of the mediation analyses. As can be seen in Table 3, both transportation and psychological reactance significantly mediated the influence of type of arguments on both message judgment and perceived effectiveness. In contrast, neither transportation nor psychological reactance mediated the influence of type of arguments on intention at T2. Processing fluency did not act as a mediator in any of the analyses.
Table 3. Indirect effects of argument type on message judgment, perceived efficacy, and intention.

<table>
<thead>
<tr>
<th>Indirect effect</th>
<th>Point estimate</th>
<th>SE</th>
<th>90% BCa CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARGU → TRANS → MJ</td>
<td>.28</td>
<td>.11</td>
<td>.13; .49</td>
</tr>
<tr>
<td>ARGU → TRANS → PE</td>
<td>.33</td>
<td>.12</td>
<td>.17; .57</td>
</tr>
<tr>
<td>ARGU → TRANS → I</td>
<td>.05</td>
<td>.12</td>
<td>-.13; .26</td>
</tr>
<tr>
<td>ARGU → REACT → MJ</td>
<td>.14</td>
<td>.08</td>
<td>.04; .39</td>
</tr>
<tr>
<td>ARGU → REACT → PE</td>
<td>.10</td>
<td>.10</td>
<td>.07; .39</td>
</tr>
<tr>
<td>ARGU → REACT → I</td>
<td>.10</td>
<td>.10</td>
<td>-.03; .32</td>
</tr>
<tr>
<td>ARGU → PROFLU → MJ</td>
<td>-.00</td>
<td>.03</td>
<td>-.22; .02</td>
</tr>
<tr>
<td>ARGU → PROFLU → PE</td>
<td>-.01</td>
<td>.03</td>
<td>-.07; .02</td>
</tr>
<tr>
<td>ARGU → PROFLU → I</td>
<td>-.01</td>
<td>.05</td>
<td>-.11; .04</td>
</tr>
</tbody>
</table>

Note. ARGU = argument type; TRANS = transportation; REACT = reactance; PROFLU = processing fluency; MJ = message judgment; PE = perceived effectiveness; I = intention at T2.

Discussion

The present study was set up to assess the efficacy of objective and narrative health messages containing either instrumental or affective arguments. The results indicated that the persuasiveness of objective messages was independent of argument type. In contrast, the persuasiveness of narrative messages was greater when they contained affective arguments, compared to instrumental ones.

Based on recent findings that affect plays a large role in health decision making (e.g., Keer et al., 2010; Lawton et al., 2009), we hypothesized that narrative messages are more persuasive than objective messages, and that affective arguments are more persuasive than instrumental arguments. We found no support for our hypothesis that narrative messages are more persuasive than objective messages. An explanation for this lack of effect is that a narrative message format alone does not sufficiently address individuals’ affect. Although narratives have been shown to generate greater emotional responses from...
readers than objective messages (Kopfman et al., 1998; McQueen & Kreuter, 2010), they do not necessarily influence people’s affect towards the advocated behavior. Moreover, the present lack of effect may be related to the specific population under investigation. Braverman (2008) found that informational messages discouraging excessive alcohol intake were more persuasive than narrative messages for highly involved individuals, whereas the reverse was true for individuals with low involvement. Although we did not measure involvement in the present study, it would be fair to assume it was generally high, as binge drinking was very prevalent in the current sample, which may have dampened the efficacy of the narrative messages.

In line with our prediction, affective arguments were more persuasive than instrumental arguments. This effect was fully attributable to the influence of argument type on narrative messages. Narratives containing affective arguments were judged more positively, perceived as more effective, and resulted in more positive intentions than narratives containing instrumental arguments. We found no difference between the effects of instrumental and affective arguments in objective messages.

Why would type of arguments influence the efficacy of narrative but not objective messages? We argued that arguments incongruent with the message format stand out more than congruent arguments, thereby distracting the reader resulting in reactance and reduced transportation. Apparently, this is not the case for messages with an objective format. Objective messages trigger persuasion by addressing individuals’ rational decision making processes. Presumably, both the instrumental and affective consequences of a behavior may be seen as valid considerations when one rationally evaluates a particular behavior. For example, expecting to think less clearly (instrumental), and to feel regret (affective) as a consequence of binge drinking, may
both be considerations in one’s rational evaluation of that behavior. Therefore, pointing out affective consequences of engaging in a particular behavior in an objective message format may not be perceived as unfitting. Even if affective arguments in an objective message format distract readers and reduce transportation, this would not necessarily have adverse effects on persuasion, because transportation is presumably of little importance in objective message persuasion.

Although people may expect to read about both instrumental and affective consequences in objective messages, the same is not the case for narrative messages. Our results suggest instrumental arguments do not fit well in a story about someone’s personal experience with a behavior. Compared to affective arguments, instrumental arguments embedded in a narrative context resulted in poorer message judgment, perceived effectiveness and intention. As expected, this effect was mediated by transportation and psychological reactance. Thus, in a narrative context, instrumental arguments reduce transportation and increase psychological reactance, resulting in poor persuasion outcomes.

No support was found for the alternative hypothesis that messages in which message format and argument type are congruent with each other are processed more fluently than messages in which they are incongruent. We based this hypothesis on previous research demonstrating that a target becomes more conceptually fluent when it is presented in a predictive context (Lee & Labroo, 2004). That research further showed that a target (a word or a product) was evaluated more favorably when presented in a predictive context. In the present study, not the target itself (the advocated behavior) but the arguments used to promote the behavior varied to match or mismatch the context. Contrary to a single object or behavior, an argument may be too complex to be experienced as conceptually fluent. For example, a bottle of beer may be easily processed in an ad showing a man walking into a bar, but
the argument that refraining from binge drinking makes people feel energetic still requires complex processing, even in a congruent (narrative) context. It should be kept in mind, however, that scores on processing fluency were very high in the present study, and that the lack of positive results may be due to a ceiling effect.

Several other limitations of the present study should also be taken into account. The present results are based on data from a sample of college students. This is a population for which messages discouraging binge drinking are especially relevant. Non-college students may respond differently to the messages used in the present study. Therefore, the present findings should not be generalized to other populations. Furthermore, although message judgment, perceived effectiveness and intention are important determinants of actual behavior (Dillard et al., 2007; Dillard et al., 2007), their empirical associations with behavior are far from perfect (see Sheeran, 2002). Future research may submit the effects of message format and argument type to a more rigorous test by including a measure of actual behavior.

Building on research highlighting the role of affect as a main determinant in health decision making, the present study investigated the combined effects of two message characteristics that are thought to address individuals’ thoughts or feelings: message format (objective versus narrative) and argument type (instrumental versus affective). The results indicate that narrative messages more effectively discourage binge drinking among college students when they contain affective, compared to instrumental, arguments. Thus, to optimize narrative persuasion, health practitioners should supplement narratives with affective, not instrumental, arguments.