The Effects of Matching a Persuasive Message to a Recipient's Self-Concept on Attitude Change[1]

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The paper addresses the question of whether matching a persuasive message to a recipient's self-concept can enhance message processing. A large body of experiments within the Elaboration likelihood model proved that framing a message so as to be perceived as self-relevant led to more careful argument scrutiny. In this research, we matched the messages with previously assessed need for cognition – tendency to engage in and enjoy effortful cognitive tasks. Two possible sources of motivation to process a persuasive message were hereby confronted: dispositional (cognitive style) and situational (matching). Results showed a significant attitude change, but the main hypothesis was not confirmed: matched messages did not produce more argument processing activity than the mismatched. Manipulations did not have any significant effects on message processing of the high need for cognition participants. Contrary to expectations, participants low in their need for cognition elaborated the message more carefully when it was <u>mismatched,</u> that is when the message addressed them as persons inclined to careful thinking. Results can be explained within the framework of self-affirmation theory, which argues that providing people with an opportunity to affirm their sense of self-worth makes them more open to persuasion attempts, as well as more objective. Results are discussed from a wider theoretical and empirical perspective of motivation.

Keywords: *matching effect, need for cognition, argument quality, Elaboration likelihood model, attitude change*

When we attempt to persuade somebody to vote for a certain candidate or to buy a certain product the first obstacle we have to overcome is to get the person's attention. How can we make people listen to and think about the arguments we have? People approach new information differently – while some are thoughtful, others try to avoid too much thinking. The question we can ask is how these individual differences may be used to enhance persuasion and,

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furthermore, if and under which circumstances these chronic tendencies can be reversed.

A large body of research has dealt with the issue of motivation in persuasion. One possible way of motivating recipients to process a persuasive message is through tying the messages to the self. People tend to be more sensitive to information that is relevant to themselves and appealing to their self-perceptions, following much the same principle as turning when someone calls your name (Petty, Cacioppo, & Goldman, 1981; Petty, Wheeler, & Bizer, 2000). If we formulate a persuasive message in such a manner as to appeal to the kind of person the recipient is, this may motivate the recipient to process the message more thoroughly.

Following this line of thought, in our study we attempted to frame the persuasive messages so as to appeal to individuals differing in their need for cognition – the tendency to engage in and enjoy effortful cognitive activities (Cacciopo & Petty, 1982). We wanted to investigate whether such a match to an important aspect of self-concept would elicit more cognitive engagement of the participants, a result likely to expect on basis of the considerable research done in the field of persuasion and attitude change.

Our study draws on research done within what is currently the most accepted theoretical framework for studying attitude change – the Elaboration Likelihood Model of persuasion (ELM, Petty & Cacioppo, 1986; Petty & Wegener, 1999). According to the ELM, people are motivated to hold accurate attitudes but, due to the limitations of their cognitive system, are unable to scrutinize every piece of information they confront. Sometimes people act as cognitive misers, while at other times it is more adaptive for them to engage all resources in careful information processing. This model postulates that there are two possible routes to processing persuasive information: central and peripheral. The key difference between the two routes is the extent of the cognitive effort put into argument scrutiny. With central processing, attitude change occurs as a result of investing cognitive effort into carefully thinking about the message and its contents. Persuasive argumentation is being thoroughly scrutinized: the relevant information is assessed on the basis of previous knowledge. Peripheral processing is based on a variety of processes, all of which require less cognitive effort. Some of these processes differ in a quantitative way from central-route processes (less careful argument scrutiny), while some are also qualitatively different – they include no argument scrutiny at all (e.g. heuristic reasoning or classical conditioning). Attitudes formed via the central route are more stable, accessible, resistant to counter argumentation, and more predictive of behaviour than those formed via the peripheral route (Petty & Wegener, 1999).

Which of the two routes is chosen depends on two key factors: the recipient's motivation and ability to process, both of which can be a result of individual differences (dispositional factors) or the context of persuasion (situational factors). For example, recipients differ in terms of their intellectual

abilities or previous knowledge about a topic, while situational factors such as repetition or distraction can influence a recipient's ability to process a message regardless of these individual differences. Similarly, people differ in their cognitive style – while some are thoughtful, others are not, but some situational incentives (e.g. talking about a subject in some way important for the recipient) can influence the motivation of a recipient.

While ELM deals mainly with motivation to accept or defy attitude change attempts, another important theory raises the question of why people actually have attitudes (Katz, 1960; Watt, Maio, Haddock, & Johnson, 2008). This functional approach identifies the needs and motives that people satisfy by holding, expressing, or changing their attitudes. A valuable implication of this approach for the study and practice of persuasion is that when we want to change somebody's attitude, we should discover and appeal to the motivational basis of the attitude. The positive effect of matching a persuasive message to the functional basis of attitudes is known as the ***functional matching effect*** (Julka & Marsh, 2000; Lavine & Snyder, 1996; Petty & Wegener, 1998; Petty, Wheeler, & Bizer, 2000), and has been supported by robust empirical evidence. When tailoring the message to respond to the motivational basis of an attitude, a researcher can choose one of three widely used strategies.

Some researchers postulate that diverse objects serve the same function for different individuals – e.g. for most people coffee has an instrumental value (i.e. taste), while perfume is rather a means of expressing social identity. Sharon Shavitt (1990) presented her participants with two different kinds of advertisements for coffee and perfume: ones that appealed to the instrumental value of the products and ones that invoked a picture of social identity of people who use them. The results showed a clear matching effect: coffee ads with an instrumental appeal were more effective, as well as perfume ads with a social identity appeal.

Another line of research is an individual difference paradigm, based on the assumption that for an individual most of the attitudes he/she holds serve the same function (DeBono, 1987; Lavine & Snyder, 1996). For example, while attitudes of self-monitors typically serve a social adaptive function, attitudes of low self-monitoring individuals serve a value expressive function. DeBono (1987) presented high and low self-monitors with messages that contained the same arguments, but were framed to appeal either to social adaptation (it is claimed that the message expresses the attitude of the majority of students) or value expression (it is claimed that the issue in question bears on important values). Messages that matched the presumed functional basis of participants' attitudes produced more attitude change.

The third line of research does not attempt to match the message to the recipient but rather to match the recipient to the message. Julka and Marsh (2000) used situational manipulations to induce a need to express values or to understand coming information in their participants. Commercial ads that were

created to appeal to these induced needs (i.e. matched messages) created more attitude change than those that did not (mismatched messages).

How does the matching effect actually work? There are two possible explanations:

a) matching enhances persuasion by means of biased processing (top-down hypothesis)
b) matching enhances argument scrutiny, thus resulting in more attitude change only when the arguments are strong (bottom-up hypothesis)

The first-generation research showed that matching generally results in more persuasion, which can be explained by biased information processing under the influence of existing cognitive structures (Lavine & Snyder, 1996). Research done within the framework of ELM showed, however, that matching messages to functional bases of attitudes can prompt people to give more careful thought to the message, or, using ELM terminology, to process it centrally. This can occur when the initial elaboration likelihood is not constricted to be either very high or very low (Petty & Wegener, 1998).

The ELM authors also proposed that the functional matching paradigm can be extended to include other types of matching, e.g. matching messages to cognitive/affective bases of an attitude, to an aspect of participant's self-schema or social identity. All these types of matching share a common ground in that they attempt to make a bond between the message and the self, or to put it differently, to speak to just the kind of person the recipient considers him/herself to be. In this way, the message appears self-relevant, captures the attention and engages cognitive effort on the part of the recipient.

Several studies which investigated the effects of self-schema matching have been conducted within the ELM framework. In an early study by Cacioppo, Petty and Sidera (1982) participants were divided into groups based on whether they considered themselves to be religious or legalistic persons. They were then presented with arguments in favour of capital punishment and abortion which were either religious (e.g. taking somebody's life is against the Ten Commandments), legalistic (e.g. the constitution guarantees everybody the right to live), or neutral. Results showed a clear matching effect – religious participants rated the message containing religious arguments as more persuasive, while the opposite was true of legalistic participants.

While these results are consistent with the top-down hypothesis, experiments with argument quality manipulation seem to support the bottom-up hypothesis. In one study, Evans and Petty (2003) identified among their participants those guided by their ideals and wishes and those guided by their responsibilities. The two groups were then presented with ads for a fictitious breakfast product that appealed either to ideals (Fast-Break: Your ideal breakfast solution!) or to duties (Fast-Break: The responsible breakfast!). Matched messages induced central-route elaboration, i.e. a greater effect of argument quality on attitude change

and thought positivity. The authors conclude that matching increased elaboration either by increasing motivation to elaborate (making messages appear self-relevant), ability to elaborate (making it easier to attend to and remember the message), or both.

Drawing on the research done within ELM (as in Wheeler, Petty, & Bizer, 2005), we wanted to further examine the effects of matching a persuasive message to an aspect of the recipient's self-concept on attitude change. As already mentioned, we used ***need for cognition*** as the matching variable, a motivational construct that refers to the tendency of an individual to engage in and enjoy effortful cognitive tasks (Cacciopo & Petty, 1982; Cacciopo, Petty, Feinstein, & Jervis, 1996; Cacciopo, Petty, Kao, & Rodriguez, 1986; Petty, Brinol, Loersch, & McCaslin, 2009; Trogrlić &Vasić, 2009). We constructed two different versions of the persuasive message to appeal either to people who like thinking thoroughly or people not inclined to think thoroughly. Using need for cognition in a matching paradigm could be especially informative because it allows confronting two basic sources of motivation: dispositional (cognitive style) and situational (matching). If need for cognition (i.e. cognitive style) is the strongest source of motivation, it can be expected that recipients who are thoughtful processors consistently engage in more processing activity, as opposed to those who are typically not thoughtful processors. If situational manipulation (i.e. matching) overrides dispositional differences, it can be expected that all recipients process the message more carefully when it matches their self-concept, regardless of whether they typically are careful processors.

Our main hypothesis was that matching messages to this aspect of self-concept would result in capturing the attention of the recipients and more careful argument scrutiny. We hypothesised that this effect would be observed with participants both high and low in their need for cognition. Besides testing the functional matching effect (registered mostly in ELM framework and with an English speaking audience) within a different cultural context, this study included several procedural novelties to test if the effect can be further generalized.

Within the ELM paradigm, it is common to study "non attitudes" (newly formed attitudes to uninvolving, often fictive commercial products) or what Zanna (1993) referred to as "parochial college issues" (attitudes towards different students' policies). We opted for a more controversial and emotionally involving issue – attitudes towards people with serious psychiatric diagnosis. We also attempted to solve a more difficult task of changing already existent and relatively unfavourable attitudes to more favourable positions using counter-attitudinal messages in contrast to the commonly used pro-attitudinal messages. With this choice we adhere to a stricter definition of persuasion, which defines it as an attempt to change somebody's already formed attitudes on an important subject (Žeželj, 2005; 2006), and make an effort to encompass a wider range of subjects.

Prior to the manipulation, we asked the participants to rate the importance of the subject, which enabled us to determine initial elaboration likelihood. According to the ELM, initial elaboration likelihood determines what outcomes are to be predicted, but is commonly deduced from results, which we felt was methodologically unacceptable. Finally, and perhaps most importantly, we introduced a somewhat different operationalisation of the key factors – argument quality and matching, which shall be discussed in greater detail in the methods section.

Method

The study had a *2* (need for cognition: high vs. low) x *2* (argument quality: high vs. low) x *2* (message type: matched vs. mismatched) between-subject design.

Participants and procedure: One hundred seventy-two high school students (average age 17.5) from Belgrade, Serbia participated in the study. Out of the initial sample of 218, only 178 of the high school students returned to take part in the fourth phase of the study. Six participants were excluded from the final analysis during randomization of experimental groups.

The study was conducted through four successive stages:

In the first phase students' need for cognition and their initial attitudes towards the rights of persons with serious psychiatric diagnoses were assessed. The students also indicated how important the subject was, for them personally and for society as a whole.

In the second phase, potential arguments were created and their quality was assessed by a group of psychology students. A strong and a weak version of the message were created.

In the third phase, participants were identified as either high or low in need for cognition in the pre-test and then randomly assigned to experimental conditions.

In the fourth phase, the main experiment was conducted, including the following steps:

1. The participants were given cards with the message frame and were told that they would first get feedback regarding the previous session.
2. Then, the participants were presented with written persuasive messages.
3. Both matching cards and messages were removed and the participants were given questionnaires that first assessed their attitudes and then took a number of other dependent measures.

Both the pre-test and the main experiment were conducted during lectures at school and took between 20 and 30 minutes to complete. Participants were thanked and debriefed in cooperation with school psychologists.

Stimuli: The persuasive messages consisted of between 250 and 300 words and presented the arguments in form of a transcript of a fictive TV interview with a representative of the Serbian National mental health committee (Appendix 1). We assumed a transcript would be perceived as more persuasive than retelling somebody's statements. We chose a TV programme offering mostly service information about the Serbian capital, and, among other things, comments on important social issues, such as mental health. Since this programme is not popular among teenagers, we minimized likelihood that participants might realize that the interview was fictive.

The pre-tested arguments were presented through the questions of the programme host and answers of the fictive expert. The participants (all except one) did not express doubt about

the authenticity of the interview, either by spontaneous comments or in their answers to the questionnaire.

Independent variables: **Need for cognition** (NFC) was measured using an adapted version of the Short Need for Cognition Scale (Cacioppo, Petty, & Kao, 1984). The scale consists of 18 items and participants are instructed to indicate on a 5-point Likert-type scale the degree to which each item characterizes them. Reponses are summed (inverse items being recoded) with scores ranging from 18 to 90, higher scores indicating a higher need for cognition.

The Serbian version of the scale in our translation showed good psychometric properties (Cronbach's α = .82). Principal component analysis and a scree test yielded one dominant factor, accounting for 28% of total variance. The participants were identified as either high or low in need for cognition based on a median-split. The two groups differed significantly in their need for cognition – the low NFC group had M_n = 52.8, SD = 7.2, while the high NFC group had M_v = 69.1, SD = 5.9 (F (1, 170) = 262.2, p = .00).

Argument quality was determined using a procedure somewhat different from the standard procedure used in ELM research. ELM researchers define argument quality empirically (Petty & Cacioppo, 1986): potential arguments should be pre-tested and those eliciting predominantly favourable thoughts should be considered strong, while those with a predominantly unfavourable response profile should be considered weak. In practice, strong arguments are usually constructed so as to provide persuasive evidence in form of relevant statistical data or results of empirical studies (Petty, Cacioppo, & Goldman, 1981). Weak arguments, however, rely on quotations, examples, or personal opinions, without mention of statistical data. Thus, these arguments differ both in their form and in their actual relevance for the standpoint argued.

Different authors have criticised this empirical definition, demanding a stricter logical analysis and evaluation of argument quality (Van Enschot-van Dijk, Hustinx, & Hoeken, 2003). In one of the first such attempts, Areni and Lutz showed that argument quality is not a one-dimensional concept, but that it is possible to distinguish between argument strength and argument valence (Areni & Lutz, 1988). Whereas differences in argument valence (desirability of the consequences) are relatively easy to detect, detecting differences in argument strength (probability of consequences) demands considerable cognitive effort on the part of the recipients. When arguments are constructed so as to differ in argument strength only, argument quality effect can be less pronounced compared with arguments differing both in their form and relevance (Van Enschot-van Dijk, Hustinx, & Hoeken, 2003).

Following this criticism, we made an effort to make both strong and weak arguments appear equally compelling at first sight, while their logical consistency only becomes apparent upon thoughtful scrutiny (as suggested in Žeželj, 2006). Thus, both potentially strong and weak arguments provided statistical data, results of empirical studies and referred to eminent experts and institutions in the field of mental health. However, all these references were relevant only in the case of strong arguments. For example, a strong argument would state that only 4% of persons with serious psychiatric diagnosis had ever committed a crime (which is not different from the normal population), while a weak argument would state that only 4% of these persons possessed firearms. Both arguments rely on statistical data, but in the case of the weak argument this data can be easily refuted (a. one can commit a crime without possessing firearms and b. being diagnosed with psychiatric illness can be a serious obstacle for obtaining a firearm licence).

We chose not to use completely fictive arguments, but drew on actual data from publications and articles on mental health. We feared that, despite the debriefing, knowledge that we used fictive arguments favouring rights of people with psychiatric diagnoses could further polarize respondents' negative attitudes.

Forty four psychology students rated preliminary arguments on a 7-point rating scale. The students were asked to carefully read each statement and rate the degree to which it can serve as a strong argument favouring rights of people with serious psychiatric diagnosis, regardless of what attitudes they personally held. In the instruction, a strong argument was defined as a logically sound argument that is difficult to refute. Arguments for the final version of the message were chosen based on their average rating and on their content – in cases where several arguments had similar ratings those that added new information were chosen. Strong and weak argument groups differed significantly in average ratings in pre-test: Mw = 3.42, Ms = 5.29 (F (1, 8) = 83.29, p = .00).

Matching manipulation was conducted through message frames – an introduction and a summary that were added to each message – while the body of the messages contained strong or weak arguments, in order to keep these factors orthogonal. The frames were introduced to the participants as feedback regarding their need for cognition, measured in the first phase. Two versions of feedback were constructed (Appendix 2). One version addressed participants as persons who like thinking and who wish to look at all sides of a problem when making a judgment. The other one addressed them as persons who do not like thinking about and analyzing all the details, but prefer to rely on their intuition. In addition to this "introduction" to the message, a summary line was also presented following the arguments, once again addressing participants as people who like or do not like thinking. This served to reinforce the manipulation.

After dividing participants into two groups based on whether they were high or low in need for cognition, each participant from the two groups was randomly assigned to one of four experimental conditions, formed by crossing argument quality (strong vs. weak) and message frame (matched vs. mismatched). Thus, in half of the cases the message frames matched actual need of cognition of the participants (addressing the thoughtful ones as individuals fond of thinking and the non-thoughtful ones as those who do not like thinking) and, conversely, mismatched the actual level of need for cognition in the other half (telling the thoughtful ones they do not like thinking and the non-thoughtful ones that they do).

This feedback was presented on separate cards given to each participant before the persuasive message in order to assure that they would attend to it and recognize if it truly matches their self-perceptions regarding cognitive style. A number of students recognized that the feedback regarding the need for cognition did not apply to them and commented on that, which showed that our matching manipulation was successful.

Dependent measures: **Attitude measures**: The pre– and post-test attitudes were assessed by ten-item agreement scales, including items as "*Persons with serious psychiatric diagnoses often pose a threat to their environment.*" or "*It would be perfectly all right if a sibling of mine wanted to marry a person with a serious psychiatric diagnosis.*". The score on the scale did not correlate significantly with the score on the Short Need for Cognition scale (r = .15, p = .05).

In the pre-test the ten items assessing attitude towards people with psychiatric diagnoses were embedded among filler items ostensibly assessing attitudes towards homosexuals and the role of church in society. In the retest the participants responded only to a ten item scale (α = .76). Retest measures were taken immediately after the persuasive message.

Item analysis showed that one of the items was negatively correlated with the scale, so it was excluded from the final analysis. Responses were summed into a score ranging from 9 to 45 (inverse items being recoded), the higher score indicating a more favourable attitude. An attitude change measure was constructed simply by subtracting the pre-test from the post-test attitude measure.

RESULTS

Randomization of experimental groups

The respondents were randomized into one of eight experimental conditions. After eliminating outliers[2], the conditions did not differ significantly in the initial attitudes, as shown by ANOVA (F (7, 164) = 1.73, p = .10), or in the assessment of the importance of the subject (F (7, 164) = 1.63, p = .13). The mean rating of importance was 3.04 (SD = .79) on a 5-point scale, which indicates that the subject was rated as moderately important. We can therefore conclude that initial elaboration likelihood was not constricted to be either very high or low (this is a prerequisite for hypothesised effects to be observed, according to the ELM).

To test the experimental hypothesis, the data was subjected to a three-way between-subject analysis of variance.

The effect of argument quality on attitude change

The results show that experimental manipulation led to significant attitude change to a more favourable position (F (1, 164) = 155.72, p = .00) – with an average pre-test attitude of 20.56 and a post-test attitude of 24.48 (on a scale ranging from 9 to 45).

We hypothesized that messages containing strong arguments would induce more attitude change than those containing weak arguments. Repeated measures analysis of variance, however, did not reveal a significant effect of argument quality (F (1, 164) = .06, p = .80).

Table 1: Mean attitude change (with SD) in the eight experimental conditions

Group	matched message		mismatched message	
	strong arguments	weak arguments	strong arguments	weak arguments
low NFC	1.62 (3.64)	4.62 (4.98)	5.47 (3.59)	4.04 (3.83)
high NFC	5.69 (5.83)	3.50 (5.01)	4.75 (3.76)	4.68 (4.86)

The effects of self-concept matching on attitude change

ANOVA showed no significant interaction between argument quality and message type (matched vs. mismatched) (F (1, 164) = 0.69, p = .41). Thus, the

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2   Groups in the final sample differed both in size and their initial attitudes, so that an additional balancing was needed. From the four groups with extreme scores, 4 participants with the highest (above 95 percentile)/lowest (under 5 percentile) scores were excluded. In the largest group, we excluded additional two participants with scores between 90 and 95 percentile, to even out group sizes.

matching hypothesis was not confirmed when looking at the sample as a whole. However, there was a significant three-way interaction between argument quality, matching, and need for cognition (F (1, 164) = 5.65, p = .02).

To further investigate the interaction, we conducted separate two-way analysis in the high and low NFC groups (Figure 1). Within the high NFC group there was no significant interaction between argument quality and matching, with insignificant differences in the expected direction. The participants were somewhat (but not significantly) more responsive to argument quality when shown a matched rather than mismatched message.
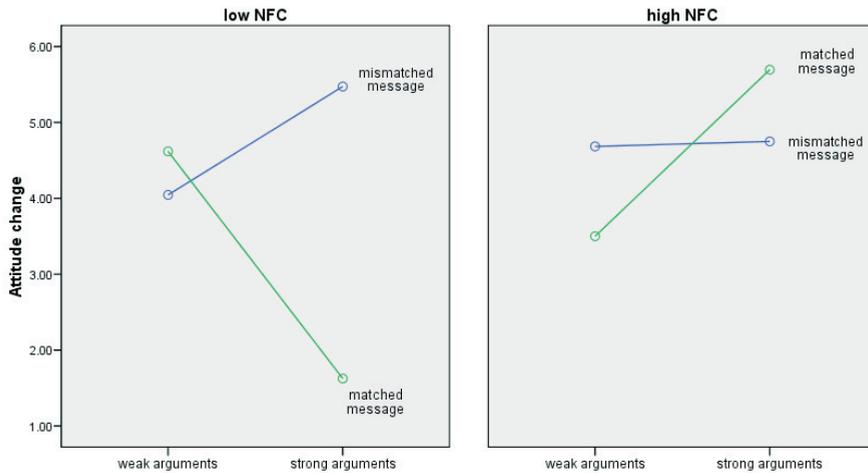

Figure 1: Matching effects in groups high and low in need for cognition

Within the low NFC group there was a marginally significant main effect of message type (matched vs. mismatched) (F (1, 82) = 3.49, p = .065) and a significant interaction of message type and argument quality (F (1, 82) = 6.36, p = .014). The low NFC group behaved in a way opposite to expectations: the matched message led to less attitude change (M = 3.02) than the mismatched (M = 4.70). When the message was matched to participants' self-concept they became less responsive to argument quality – strong arguments led to an average attitude change of 1.62 units when the message was matched, and to an average of 5.47 points of attitude change when the message was mismatched.

DISCUSSION

We hypothesised that matching a persuasive message to an aspect of a recipients' self-concept would result in more careful argument scrutiny and heightened sensitivity to argument quality. This hypothesis was not confirmed.

The participants were on average not prompted to central route elaboration by messages that were formed to match their cognitive style. However, we observed a three-way interaction with need for cognition.

High need for cognition individuals were in general not influenced by our matching manipulation – they were somewhat (but not significantly) more responsive to argument quality when shown a matched rather than a mismatched message. This finding is consistent with studies demonstrating that the functional matching effect can be limited with persons high in need for cognition. Namely, since these persons tend to spontaneously engage in effortful cognitive scrutiny, little space is left for them to be prompted to expend more effort because of a *ceiling effect* (Evans & Petty, 2003; Petty & Wegener, 1998).

On the other hand, the low NFC individuals behaved in a way quite opposite to the one expected: they engaged in central route processing when the message was <u>mismatched</u> – when the persuasive message addressed them as persons fond of thorough thinking. Additionally, they tended to show more attitude change when presented with the mismatched message, regardless of whether the arguments were strong or weak. These results could obviously not be explained within the matching framework, so they called for a switch in mindset – instead of minute functional analysis, we turned to general issues of motivation. In our opinion, the effect of the "thoughtful person" framing can be understood in at least two ways: as an effect of attributing the named characteristic to the self (participants are said that they are thoughtful, so they act accordingly) or as an effect of positive feedback or praise (positive information elicits more cognitive activity).

There are several lines of research investigating conditions under which persons behave (and perceive themselves) in accordance with explicitly or implicitly stated expectations of others. One of these phenomena is known as the effect of attributional labelling, where attributing a trait or characteristic to participants elicits behaviours consistent with the label (Henderlong & Lepper, 2002; Jensen & Moore, 1977; Toner, Moore, & Emmons, 1980). Equivalent effects were also observed in the field of persuasion – in one study, participants primed with the trait of extraversion or stereotypes towards Afro-Americans scrutinized the persuasive messages that matched the primes more thoroughly than the mismatched (Wheeler, DeMarree, & Petty, 2008). The authors suggested an explanation in terms of an active self concept (inspired by the concept of dynamic self, see Markus & Wurf, 1987): the primed contents can be temporarily included in the person's active, flexible part of the self-concept and thus affect behaviour. Consequently, while the framing matched to the "non-thoughtful" identity of the participants' perhaps even additionally discouraged message processing, informing participants that they are inclined to thoughtful thinking could have led to behaviour consistent with this information (engaging in more careful scrutiny).

There is, however, a problem with this explanation – the low NFC participants adopted the mismatched message to a greater extent, regardless of the quality of the arguments presented. So, even if attribution could partly account for the observed effects, it seems that it cannot provide a complete explanation. Another hypothesis is that the participants perceived the "thoughtful person" feedback as a kind of positive information or praise. The most important argument in support of this is the experimental setting – the fact that the research was conducted at school, where thoughtfulness is considered a highly desirable trait. This feedback could have been perceived by the participants as something resembling a teacher's praise (one participant tried to photograph the card with the feedback, as if to document it).

If our participants perceived the mismatched feedback as positive, it could have enhanced their intrinsic motivation, an effect demonstrated by a great deal of empirical research (see Deci, Koestner, & Ryan, 1999 for a review). One of the proposed mediating mechanisms of this effect is enhancing perceptions of self-competence, as explained in the framework of Steele's theory of self-affirmation (Steele, 1988). Receiving positive feedback on a task reinforces the recipient's sense of self-worth and acts as a sort of "inoculation" to defensive responses to persuasion. Research has shown that, when participants are given a chance to affirm themselves in a certain way, they become more open to objective assessment of counter attitudinal messages and more inclined to change their attitudes when shown valid arguments (Cohen, Aronson, & Steele, 2000).

However, affirmation can also make the recipient more inclined to accept any attempt at persuasion, regardless of whether the arguments are strong or weak (Correll, Spencer, & Zanna, 2004). It should be pointed out that both mechanisms could be at work at the same time, because our low NFC participants not only grew more responsive to argument quality, but also tended to change their attitudes more in response to both strong and weak mismatched messages (the main effect of matching). Since our study was not designed to test this hypothesis, further research is needed to investigate these effects more directly, in particular the issue of what makes a feedback positive. For instance, if we examined members of a sports club, would a "thoughtful person" feedback elicit more careful scrutiny of messages or perhaps a feedback addressing them as successful athletes?

Another perspective from which to observe the results is whether manipulating situational factors (i.e. matching message to self-concept) would override dispositional differences (cognitive style). Can we make participants behave in a way that is atypical of them – can we prompt those who are not fond of thinking to be thoughtful and vice versa? We are led to conclude that, although we attempted to neutralize the differences in cognitive style, they still appeared. Within participant groups differing in need for cognition, different patterns of interaction were observed. There appears to be no significant possibility (or

danger) to prevent persons who like thinking thoroughly from doing so. On the other hand, there appears to be a possibility of motivating typically non-thoughtful people to engage in extensive information processing activity.

Possibly the most surprising result of the study is the absence of the argument quality effect – the fact that strong arguments did not produce more attitude change than weak ones. This finding contradicts one of the most empirically documented effects in persuasion. Our findings suggest that the respondents did not expend enough cognitive effort to recognize the subtle differences in argument quality – mere mentioning of authorities and statistical data seems to have had effect, no matter how relevant the information really was. On the other hand, there is a possibility that any argument *favouring* rights of persons with serious psychiatric diagnosis would be new, perhaps even surprising to the participants, considering the sensationalistic and negative portrayal of mental health issues in the media. Some studies show that presenting new arguments on a topic can have an initial positive effect, even if the arguments are weak (Cacioppo & Petty, 1980). Another issue of importance is that it was psychology students who assessed the arguments used. Perhaps our participants thought that weak arguments were strong enough, since they did not have the opportunity to consider the more relevant ones. An interesting question for future researchers would be to compare "expert" ratings of argument quality with the ratings given by the participants in the experiments.

The crucial methodological novelty introduced in our study is the operationalisation of argument quality, which we previously discussed in the method section. Since our results show that different procedures give different effects, the argument quality paradigm in assessing the extent of message processing is hereby once again called into question. Criticism of this kind has apparently been recognized even by the ELM authors (See, Petty & Evans, 2009). They have accepted the fact that the crucial limitation of the classical paradigm is the fact that strong and weak arguments differ in their form – for example, strong arguments present more empirical data so that some forms of peripheral processing can suffice to make a distinction between them. The authors are now developing purer indicators of elaboration depth.

Another important reason for obtaining these results might be our choice of subject in the study. As already mentioned, we chose a topic of high social and moderate personal relevance, which is presumably both more personally involving and emotionally charged than the topics usually chosen in ELM research (e.g. campus life, tuition increase, or fictive commercial products). Participants were at least minimally familiar with the subject, mostly or overwhelmingly in a negative sense (e.g. they have presumably heard of cases of mass murders committed by psychiatric patients). Research focusing on personally relevant attitudes indicates that attitude change and resistance to change include both cognitive and affective elaboration. For instance, Zuvernik

and Devine found that the argument quality effect was dominantly mediated by affective and not cognitive responses (e.g. weak arguments provoked more irritation and annoyance, but these negative affective reactions were attenuated when arguments were strong) (Zuvernik & Devine, 1996). In the authors' opinion, these results call for a revision of the concept of argument quality and its broadening beyond the definition in terms of the type of thoughts elicited. The precise mechanism mediating the effect of affective responses as well as the interactions between cognitive and affective factors needs further clarification. In this particular case, a good starting point would be investigating the role of ego-defensive motivation incited by an unpleasant and frightening topic. The effects could also be mediated by the amount of personal experiences with people having psychiatric diagnoses.

An important implication for future campaigns aimed at reducing the mental illness stigma in society is that caution should be taken with regard to the characteristics of the individuals whose attitudes we attempt to change. Different cognitive styles entail different approaches to information and in some cases it is particularly important to anticipate and try to overcome the possible sources of resistance. What encourages us is that it seems that this is not an impossible task.

To briefly summarize our findings, our results indicate that matching a persuasive message to an aspect of a recipient's self-concept elicits neither more argument scrutiny nor biased assimilation. It appears that matching effects are not as universal as thought and can depend on the topic chosen. There are, however, two important limitations to our conclusions. Firstly, there are different types of matching (functional matching, matching to attitude base, social identity etc.) which can be guided by different sets of principles. Self-concept matching should be further investigated, since it is not as empirically founded as functional matching, and we can presume that in this case more complex effects and interactions are yet to be found. Secondly, in studying self-concept matching, care should be taken regarding the aspect of self-concept that is used. The cognitive style variable used in this study is highly specific since it is a trait engaged in the persuasion process itself, so that the message appeal and task requirements interfere. Different results could be obtained with other variables where there is no such interference. We would also suggest that future researchers use a more varied range of attitude objects, especially those that are more involving and personally important, as a means of reaching more valid conclusions on the process of attitude change.

Perhaps the most general question raised by our study is the nature of the effect of positive feedback on motivation, and more specifically, motivation to process persuasive messages. Future research should be aimed at understanding the processes that underpin these effects – for instance, how they depend on the context of persuasion, message or source characteristics or type of feedback

given. On the other hand, only further research of matching effects can show the possibilities and limitations of using this approach in attempts to enhance persuasion. In particular, self-concept matching opens a variety of research possibilities (matching persuasive messages to different characteristics or traits, different aspects of self-concept etc.). Investigations of bonds between attitudes and self appear to be a promising area of research that can offer important insights into the structure and dynamic of both the self and attitudes.

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Appendix 1

The Strong and Weak Versions of the Persuasive Message

Strong arguments

In the last few years, a steady increase in the number of people suffering from mental disorders has been recorded in Serbia, which was the reason to adopt the National strategy for mental health. An important issue taken up by this strategy are the public attitudes towards people with psychiatric diagnoses.

The National mental health committee official, Doctor Jelena Milićević participated in the programme *Belgrade chronicle* (shown on the 8th of May, 2008) on national television (RTS). We would now like to ask you to carefully read some excerpts from the transcript of this conversation.

Programme host: Mrs. Milicevic, what is your personal opinion about the public attitudes towards individuals with psychiatric diagnoses?

Dr. Milićević: I have to say that the wide-spread social stigmatisation is a far more serious obstacle for these people to lead a normal life than the actual difficulties they experience. At a recently held conference at The Institute for Mental Health in Belgrade, we concluded that it is essential for the rehabilitation of the individuals with serious psychiatric diagnoses that they are included in the community and not isolated.

Programme host: The greatest obstacle to inclusion of these individuals into the community is the fear of their violent behaviour.

Dr. Milićević: This fear is not well-founded. Research done by forensic psychologists shows that only 4% of persons with serious psychiatric diagnoses had ever committed a crime. What is more, studies conducted in several countries showed that a reduced number of hospitalizations and inclusion of persons with serious psychiatric diagnoses did not result in an increased number of homicides committed by these people.

Programme host: But, do these individuals truly pose less threat to others than it is believed?

Dr. Milićević: We have recently heard a presentation on this topic at a scientific conference, which concluded that, after an adequate drug treatment, the probability that a person with serious psychiatric diagnoses would act violently is less than for a member of the 'normal' population.

Weak arguments

In the last few years, a steady increase in the number of people suffering from mental disorders has been recorded in Serbia, which was the reason to adopt the National strategy for mental health. An important issue taken up by this strategy are the public attitudes towards people with psychiatric diagnoses.

The National mental health committee official, Doctor Jelena Milićević participated in the programme *Belgrade chronicle* (shown on the 8th of May,

2008) on national television (RTS). We would now like to ask you to carefully read some excerpts from the transcript of this conversation.

Programme host: Mrs. Milicevic, what is your personal opinion about the public attitudes towards individuals with psychiatric diagnoses?

Dr. Milićević: My colleagues from the National committee of mental health and I must constantly remind the public of the fact that through respecting the rights of people with serious psychiatric diagnosis we show our humanity. I remind you once again of something you should always bear in mind, and that is when a person gets a serious psychiatric diagnosis once, it is left with them for the rest of their life.

Programme host: The greatest obstacle to inclusion of these individuals into the community is the fear of their violent behaviour.

Dr. Milićević: This fear is not well-founded. Statistical data gathered by the American Association of Psychiatrists show that only 4% of people with serious psychiatric diagnoses possess firearms. Another interesting piece of information are the findings of researchers from Great Britain, which show that 60% of people in this country believe that persons with serious psychiatric diagnosis should have more rights.

Programme host: What message do you have for our viewers about this topic?

Dr. Milićević: We can conclude that our country should become a leader in South-eastern Europe in every respect, above all when it comes to the rights of people with serious psychiatric diagnoses.

Appendix 2
Message Frames Used For The Matching Manipulation

The "thoughtful" frame

Introduction: "Your results show that you are the kind of person who likes hearing different opinions on a certain issue, before you make your own judgement. You wish to be informed in detail, to look at all sides of a problem and only then will you be ready to form your own opinion."

Summary: "As you can see, this is a topic of such complexity that making any judgement requires careful consideration of all arguments."

The "non-thoughtful" frame

Introduction: "Your results show that you are the kind of person not too fond of elaborating each and every issue that you are expected to make a judgement about. You do not like analyzing every little detail, and prefer simply saying what you have in mind and keeping things as simple as possible."

Summary: "As you can see, this is a topic of such complexity that it is best to base your judgement on intuition."