Is There One Persuasion Process or More?
Lumping Versus Splitting in Attitude Change Theories

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In their thought-provoking target article, Kruglanski and Thompson have raised a number of interesting and important questions about the need for dual or multiprocess conceptualizations of persuasion over a single process model. As we outline in this response, we actually concur with much of what Kruglanski and Thompson have to say. We think that much of their disenchantment with the Elaboration Likelihood Model of persuasion (ELM; Petty & Cacioppo, 1981, 1986) can be traced to some fundamental misunderstandings of the theory. With the plethora of dual-process models of judgment that now exist in psychology, this is understandable. Nevertheless, an important disagreement remains as

to whether persuasion theorists should focus on just one process of persuasion or incorporate multiple processes into their theories. Although our extent of agreement with Kruglanski and Thompson is substantial, due to space limitations we note these points only briefly. More attention is paid to explaining points of departure and addressing some of their misperceptions of the ELM.

Overview of the ELM

The ELM is a dual-route but multiprocess theory. The dual routes—central and peripheral—refer to attitude changes that are based on different degrees of elaborative information processing activity. Central route attitude changes refer to those that occur when people are both motivated and able to engage in relatively extensive and effortful information processing activity aimed at scrutinizing and uncovering the central merits of the issue or advocacy. Peripheral route attitude changes are characterized by low degrees of issue-relevant elaboration. Some peripheral route attitude changes are based on processes that differ primarily in *quantitative* ways from central route processes (e.g., elaborating few rather than many bits of issue-relevant information), but other peripheral route changes result from processes that are both less effortful and *qualitatively* different (i.e., doing something other than elaborating issue-relevant information; Petty, 1997). These low-effort attitude changes are lumped together under the peripheral route label because of the similarity in the antecedent conditions and in the consequences they are postulated to induce. For example, in general, attitudes changed with minimal cognitive elaboration of issue-relevant information tend to be weaker than attitudes changed with high degrees of elaboration.

Fundamental Points of Agreement

As should be apparent from our brief explication of the ELM, Kruglanski and Thompson's proposed unimodel and the ELM share many essential features. First, the unimodel agrees with the ELM that there is quantitative variation in the extent to which persuasion variables (both message and nonmessage) are processed (Petty, 1997; Petty & Wegener, 1998). Second, the unimodel agrees with the ELM that the extent of processing has implications for the strength of the attitude formed or changed (i.e., the extent to which the attitude is persistent, resistant, and influences thoughts and behavior; Petty, Haugtvedt, & Smith, 1995).

Next, the unimodel agrees with the ELM that both motivation and ability factors have an impact on the extent of processing and persuasion. The unimodel further agrees with the ELM that motivational factors can produce variation in both the extent and direction of information processing. Thus, motivation can influence how much an individual thinks about a persuasive message, but can also influence the direction of the elaboration that takes place. In the unimodel, like the ELM, nonaccuracy motives can increase the desire to reach a preferred conclusion in a "top-down" manner (Petty & Cacioppo, 1986) similar to the need for specific closure (Kruglanski, 1989, 1990). Finally, ability variables can also influence the overall amount of elaboration that takes place (Petty, Wells, & Brock, 1976) and can bias elaboration via a biased information store or by making a biased subset of information in a balanced information store more accessible (see Petty, Priester, & Wegener, 1994).

Some Misunderstandings

There is even more in common between the unimodel and the ELM that is not recognized by Kruglanski and Thompson because of some misunderstandings of the ELM. Perhaps the most important misconception that Kruglanski and Thompson have is that they believe the ELM retains "as a basic premise, the Laswellian partition between persuasion based on *source* factors (that function … as 'peripheral cues' …) and persuasion based on the *message*." The ELM does not make any content partition between source and message variables. In fact, early ELM studies explicitly argued and showed that source factors could impact persuasion by both the central route (e.g., when evaluated as a message argument) and the peripheral route (e.g., by invoking a simple decision rule; Petty & Cacioppo, 1984b), and that message factors could serve in both roles as well (Petty & Cacioppo, 1984a; see Petty & Wegener, 1999, for further discussion). In general, Kruglanski and Thompson appear to assume that the ELM conceptual distinction between cues and arguments is a content distinction. This is not the case. In the ELM, content (e.g., source variables, message variables) and process (e.g., issue-relevant elaboration, classical conditioning, use of heuristics) are orthogonal. That is, one can engage in effortful scrutiny for merit of source factors, message factors, and other factors (e.g., one's mood, a recipient factor; see Petty, Gleicher, & Baker, 1991), and these features of the persuasion context can also be the source of heuristics and other peripheral processes. Although some ELM research has manipulated source versus message variables to operationalize central versus peripheral routes to persuasion (e.g., Petty, Cacioppo, & Goldman, 1981), other ELM research explicitly manipulated only message factors to show their role as peripheral cues in low elaboration attitude change (e.g., Petty & Cacioppo, 1984a), and some research has manipulated

source factors and pointed to their role as arguments in high elaboration attitude change (Petty & Cacioppo, 1984b). That is, in the ELM, nonmessage variables (like source expertise or one's mood) can have impact under either the central or peripheral routes (see also Petty, Schumann, Richman, & Strathman, 1993).

To readers unfamiliar with the ELM, it might seem confusing that a source or a recipient variable can be an argument until one realizes that the ELM does not use a lay person's definition of arguments. Petty and Cacioppo (1986) noted that "in the ELM, arguments are viewed broadly as bits of information contained in a persuasive communication that are relevant to a person's subjective determination of the true merits of the advocated position." That is, the ELM definition of arguments is quite similar to the unimodel definition of evidence, where "evidence refers to information relevant to a conclusion." Thus, arguments, like evidence, can include source factors. Furthermore, Petty and Cacioppo (1986) noted that "the kind of information that is relevant to evaluating the central merits of a product or issue may vary from situation to situation and from person to person" (p. 17). Thus, in some situations (or for some people), a consideration of one's own internal feelings can be part of evaluating the "arguments" for an issue (see Petty et al., 1991).

A second and related misconception is that Kruglanski and Thompson assume that processing under the central route involves thinking about the message content only, and not thoughts about the issue, whatever their origin. For example, they state that in the unimodel, "source information can instigate considerable thinking about the *issue* that, in turn, may impact the individuals' pertinent attitudes. However, such thinking is not tantamount to 'central' or 'systematic' processing" (italics added). This is not correct, as a number of ELM writings document. For example, in one of the earliest treatments of the ELM, Petty and Cacioppo (1981) explicitly incorporated issue-relevant thinking into the central route to persuasion. They gave the following example:

> If the issue is very important to the person, but the person doesn't understand the arguments being presented in the message, or if no arguments are actually presented, then elaboration of arguments cannot occur. … Nevertheless the person may still be able to think about the *issue*. (p. 265)

Such issue-relevant thinking could be guided by a number of variables. Petty and Cacioppo (1981) noted that thoughts could be guided by one's own prior attitude rather than the message. If such were the case, attitude polarization would be the likely result following message exposure (Tesser, 1978). More pertinent to Kruglanski and Thompson's article and experiments

that vary source expertise, Petty and Cacioppo (1986) noted that issue-relevant thinking could also be guided by source factors. In explaining Burnstein and Vinokur's (1977) "persuasive arguments theory" account of the group polarization effect, they noted that "the more people who advocate a position, the greater the motivation to consider possible reasons behind the proposal. This curiosity can result in people self-generating arguments in favor of the position advocated" (p. 96). Importantly, this mechanism—self-generating arguments in favor of a position—was clearly identified as falling under the central route. Petty and Cacioppo stated, "the persuasive arguments explanation postulates attitude change via the central route (change is a result of effortful *issue*-relevant argument generation)" (p. 96, italics added). Thus, contrary to Kruglanski and Thompson's assumption, issue-relevant thinking is not excluded from the central route to persuasion; it is explicitly included.

Third, Kruglanski and Thompson focus on the qualitative distinction drawn by the ELM and appear to ignore the fact that, as noted earlier, the ELM also incorporates a quantitative dimension (the elaboration continuum; Petty & Cacioppo, 1986). That is, the peripheral route encompasses low-elaboration persuasion that is quantitatively different from the high elaboration central route (e.g., processing just the first or most salient issue-relevant information rather than all of it), as well as low-elaboration persuasion processes that are qualitatively different. At times, Kruglanski and Thompson write as if the ELM would be incorrect if some research result can be explained by a quantitative variation in elaboration across high- and low-elaboration conditions rather than a qualitative one. However, as noted earlier, a fundamental ELM postulate is that elaboration can range from high to low. We concur that many persuasion findings can be explained by a quantitative variation along the elaboration continuum without drawing on the qualitative variation also proposed by the ELM (see Petty, 1997; Petty & Wegener, 1999). This does not mean that the ELM is incorrect. The ELM explicitly accommodates the quantitative variations that are the hallmark of the unimodel. A more pertinent issue, to which we return at the end of this article, is whether qualitative variation in persuasion processes is ever necessary to account for persuasion findings.

Because of these misconceptions, Kruglanski and Thompson believe that the unimodel offers new insights into persuasion processes that are not allowed by the ELM. For example, they say that the unimodel "affords the possibility of effective persuasion via message arguments when the recipient's processing motivation is low, providing that such messages are appropriately terse and easily understood." However, this is easily accommodated within the quantitative variation postulate of the ELM.

Kruglanski and Thompson's Experiments

If the unimodel predicts new effects that cannot be anticipated or explained by the ELM, then the unimodel would have an advantage. Kruglanski and Thompson clearly believe the unimodel predicts new findings and they present four experiments to demonstrate this. We presume that they believe these findings cannot be expected from the ELM (or other dual-route models such as the HSM; Chaiken, Liberman, & Eagly, 1989) because if they thought their results could be predicted by prior dual-process models, there would be little benefit in actually conducting the studies. So, are the results of the four experiments reported by Kruglanski and Thompson consistent or inconsistent with the ELM? As we explain briefly in the following, we see each study's outcomes as very compatible with the ELM.

Experiment 1

This study found that the influence of source expertise was greater when the likelihood of elaboration was high (i.e., high personal relevance conditions; Petty & Cacioppo, 1979) than when the likelihood of elaboration was low (i.e., low personal relevance conditions). Kruglanski and Thompson believe this result to be in conflict with the ELM because of their assumption that expertise information only functions as a "peripheral cue" in the ELM, and thus should have greater impact when the elaboration likelihood is low rather than high. However, the "multiple roles" postulate of the ELM can accommodate Kruglanski and Thompson's finding in a number of ways. First and most simply, it could be that when the expertise information is "processed as an argument" (as the ELM explicitly predicts that it will when motivation and ability to process are high), the information about the source could provide information increasing confidence in the validity of the position leading to more persuasion (Petty, 1994). If expertise is treated as an argument, then the same factors that govern processing message arguments would govern processing source (or types of) arguments (e.g., the more complex the argument, the higher the motivation and capacity needed to ascertain the merit of the argument).[1]

Another possible explanation, consistent with the ELM, is that the expert source could have induced thinking about the issue in the absence of argument processing. Thus, people might have self-generated arguments in favor of the advocacy to try to understand why an expert would have endorsed it. As noted earlier, this "persuasive arguments theory" explanation (Burnstein & Vinokur, 1977) is compatible with the ELM central route to persuasion (see Petty & Cacioppo, 1986, p. 96). Normally, people would not completely make up new arguments if some issue-relevant information were contained in the communication, but it could happen, for example, if the arguments were too complex to be processed, or provided insufficient justification as to why an expert would endorse the position.

In addition to processing the source information as an argument or provoking self-generation of arguments, the ELM also holds that when elaboration is high, variables can bias processing. Thus, another possible explanation for the results of Study 1 (and recognized by Kruglanski and Thompson) is that expertise biased message processing under high- but not low-elaboration conditions. For example, when considering the argument that "students' job prospects might be improved," the word *might* could be interpreted as a 20% chance of improving job prospects when the source was low in expertise, but an 80% chance when the source was high in expertise. If source expertise biased processing of the arguments, and this biasing effect was stronger under high than low-elaboration conditions (as predicted and demonstrated in prior ELM research; Petty et al., 1993; see also Chaiken & Maheswaran, 1994), the pattern obtained in Experiment 1 can be explained.[2] Kruglanski and Thompson reject the biased processing explanation for the effects of expertise because in Studies 1, 2, and 3 an index of valenced topic and issue-relevant thoughts was shown to mediate the effect of the independent variables on attitudes, but the index of thoughts about the specific message arguments presented did not. We do not advocate using a narrow measure of reactions that can be tied explicitly to the message arguments when assessing the extent of central processing (whether objective or biased). This is because, as noted earlier, the central route encompasses issue—as well as message-relevant thinking. Furthermore, even if one were interested in assessing only the extent of message-relevant thinking (rather than the central route to persuasion), measuring only

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[1]The expertise information provided to participants in Kruglanski and Thompson's Study 1 may have been too complex to serve as a peripheral cue when the elaboration likelihood was low.

[2]Interestingly, this pattern might have been obtained even if the expertise information was much shorter than that used. That is, from the unimodel perspective, the "lengthy and complex" source information is described as necessary for the effect. In the ELM, this is not the case (see also Chaiken & Maheswaran, 1994), although a lengthy justification of the source's expertise might increase the biasing impact of the source by either making the source information more salient, or increasing the recipient's confidence in the source status. That is, a short and long description might induce the same extremity of evaluation, but might induce differing levels of strength of these evaluations, which could have implications for whether or not biased processing is induced.

message-relevant thoughts might not be desirable. As Petty and Cacioppo (1986) noted:

> It might appear ideally that one would want to analyze only message-relevant thoughts to assess the extent of message processing, but this category likely underrepresents the extent of message processing. This is because many of the thoughts falling in the more global issue-relevant category may have been sparked by the message, although this cannot be definitely determined by examining thought content. For this reason … it may sometimes be desirable to use the more global measure of issue-relevant thoughts. (p. 39)

Experiment 2

This study found that the influence of source expertise was greater when ability to process (as manipulated with distraction) was high than when it was low. Kruglanski and Thompson again believe this result to be in conflict with the ELM because of their assumption that expertise information can only function as a "peripheral cue" in the ELM and thus should have a greater impact when ability to process is low than when it is high. However, our analysis for this study is similar to our analysis of Study 1. First, if distraction disrupts the process of treating the expertise information as an argument, and its impact when treated as an argument would have been favorable when the source was expert and unfavorable when the source was not an expert, then distraction should disrupt this evaluation process with the outcome found in Experiment 2.

Just as for Experiment 1, the second ELM explanation assumes that the expertise information biased processing of the message arguments because involvement was high. As explained for Experiment 1, this bias means that the arguments would be interpreted more favorably when presented by an expert. Because this biased interpretation process requires cognitive effort, it would be disrupted by distraction (or cognitive load) leading to the effect found by Kruglanski and Thompson. That is, distraction would wipe out the biasing effect of expertise on processing producing the pattern reported in their Table 3.

Experiment 3

Kruglanski and Thompson's unimodel predicts that when source expertise information is complex, it should have a greater impact when distraction is low than when it is high (as demonstrated in Experiment 2), but when the expertise information is simple, only a main effect of expertise is expected. These results are obtained in Experiment 3. We have already provided

an account for the complex expertise information result of Experiment 2. If the simple expertise information was simple enough to be processed as an argument even under high distraction, and it was found compelling as an argument, then according to the ELM it could have the same effect as it does under low distraction when processed as an argument. Or, the effects could have been the same because the impact of expertise as a cue under low-elaboration conditions (high-distraction) was the same as the impact of expertise as an argument (or the impact of expertise as a biasing agent) under high-elaboration (low-distraction) conditions.

Apparently, the unimodel never predicts that expertise can have a greater impact under high- than under low-distraction conditions. This is because the information value of expertise is presumed to be a constant. Whatever information value of expertise that is extracted under low-distraction conditions cannot be exceeded under high-distraction conditions. However, according to the ELM, the impact of expertise (or other variables that can have an impact due to a peripheral mechanism) can be greater under high- than under low-distraction conditions because the impact resulting from a peripheral process (e.g., use in a heuristic) could exceed the impact from a central process (e.g., impact as an argument or a biasing agent). Consistent with this possibility and inconsistent with the predictions for expertise that Kruglanski and Thompson derive from their unimodel, Kiesler and Mathog (1968) found that source expertise had a greater impact on attitudes when distraction was high than when it was low.

Experiment 4

In this study, Kruglanski and Thompson show that the quality of early brief arguments has a greater impact on attitudes when processing motivation is low rather than high, but the quality of later lengthy arguments has a greater impact on attitudes when processing motivation is high rather than low. These results are quite interesting in their own right and are perfectly compatible with the quantitative differences along the elaboration continuum postulated by the ELM. That is, the ELM explicitly proposes that under low-elaboration conditions, people will engage in some low-effort strategy that could include processing early rather than later arguments. This would result in a relative primacy effect for low-elaboration processors. As Petty (1997) noted in explaining this quantitative feature of the ELM, "if (a) message had four weak arguments followed by four strong ones, then the low-elaboration processor would have a less favorable opinion than the high elaboration processor who considered all of the arguments objectively" (p. 281).

Evidence for Qualitatively Different Persuasion Processes in ELM Research

As we just articulated, we believe that the results of all four studies presented by Kruglanski and Thompson can be explained by the ELM and thus do not challenge it. Nevertheless, we believe that all four studies are valuable contributions to the persuasion literature. Consideration of a one-process possibility has inspired these talented theorists and researchers to generate some novel predictions and findings that might not have been generated from a preoccupation with qualitatively different persuasion processes. With their data, Kruglanski and Thompson have provided a convincing case that many interesting persuasion findings can be explained in terms of the quantitative variation that is the centerpiece of their unimodel. Even though the ELM can also accommodate these findings with its postulated quantitative variation (and other postulates), the key question remaining is whether all persuasion findings can be accounted for by this quantitative variation. If so, then the qualitative variation postulated by the ELM (and some other dual-route models) would not be necessary. What evidence is there for more than a single process of persuasion? Although there are many approaches to this topic (e.g., see Haugtvedt, 1997; Petty & Wegener, 1999; Priester & Fleming, 1997; Smith & DeCostner, 1999), we give just one example from ELM research.

Consider a study by Petty and Cacioppo (1984a) where in some conditions students were exposed to a message containing either nine or three weak arguments under either high or low personal relevance conditions. The authors argued that under high-relevance conditions, the students would engage in the process of elaborating the issue-relevant arguments, and because more weak arguments would lead to more unfavorable thoughts, the students would conclude that the advocacy was worse when the message contained nine rather than three arguments. However, Petty and Cacioppo argued that under low-relevance conditions, the students would engage in the process of counting the issue-relevant arguments (rather than elaborating them) and because of this, they would conclude that the advocacy was better when there were nine rather than three arguments. That is, operation of the two different processes would produce opposite results. Is "counting" separable from "elaborating" issue-relevant information as a process? First, these two processes predict different results in this context. As just noted, a message containing nine versus three weak arguments leads to more persuasion if counting is the evaluation process, but it leads to less persuasion if issue-relevant elaboration is the evaluation process.

Of course, both processes also have some things in common. Both are aimed at evaluating the advocacy and both could reasonably end with some type of if–then reasoning. With counting, the reasoning in the nine arguments case could be, "if there are so many arguments, it must be good," and with elaborating, it might be that "if those are the best arguments that can be presented, it must be bad." However, the fact that both evaluated the same information but reached different conclusions suggests that there is plausibly something different about the process leading to the conclusion. Of course, just because the outcome is different does not mean that the process is qualitatively different; it could be quantitatively different. For example, one could put both of these processes on an underlying elaboration continuum (as the ELM does) with counting at the low end of the continuum and effortful information processing along the high end. Stopping here, however, does not allow one to predict that the nine weak arguments will be more persuasive than the three weak ones unless one goes beyond saying there is little issue-relevant elaboration and adds that there is some *other* means of evaluation (i.e., counting).[3]

Finally, it is important to note that the difference in the counting and elaboration mechanisms is not invariably confounded with cognitive effort. That is, counting the number of externally provided arguments can be made to be rather effortful. Imagine a person assigned the task of counting the number of distinct arguments in a message where the message is rather obtuse and it is difficult to tell where one argument begins and the other ends. A person engaged in this task might exert considerable cognitive effort, but this effort would not be aimed at elaborating the substantive merits of the issue-relevant information provided (and thus would not be an instance of the central route). According to the ELM, this cognitively effortful counting process would still result in a conclusion that nine weak arguments were better than three. In sum, although past ELM studies have sometimes confounded the extent of cognitive effort with persuasion by qualitatively different central and peripheral processes, this confound is not deemed necessary to produce the effects. That is, evaluating a

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[3]That is, if the process under low elaboration were merely quantitatively different from high elaboration, one might expect that under low elaboration, the participants would not evaluate all of the arguments in the nine argument conditions, or would elaborate them all, but not as extensively. In either case, the prediction would be that nine weak arguments would lead to less persuasion than three weak arguments when elaboration was high, but that this effect would be attenuated or eliminated when elaboration was low. A reversed finding is more consistent with the process being qualitatively rather than quantitatively different. To push the point further, one could argue that both high- and low-elaboration processes involve counting as the final stage. That is, the low-elaboration process involves counting externally provided information, but the high-elaboration process involves counting and assessing one's internally generated cognitive responses to the communication (e.g., I had so many negative thoughts it must be bad). Here, however, the two routes differ in what process or mechanism precedes the final counting and inference stage.

message by counting external arguments can still produce different results than evaluating a message by the process of elaborating issue-relevant information even if the former process is made to consume equal or more cognitive effort than the latter.[4]

Conclusion: Lumping Versus Splitting

When constructing persuasion theories, researchers need to decide what distinctions are important. Bill McGuire (personal communication, August 28, 1998), a self-proclaimed "lumper," argues that conceptual splitting should be done only when it really makes a difference, but that ideally each theorist should be both a lumper and a splitter. In general, how do you decide when to lump and when to split? For example, is "tying one's shoe" quantitatively or qualitatively different from "engaging in an ax murder"? These behaviors might be lumped if you see them as falling along a dimension going from effortless to effortful physical action. However, most state legislators have decided to see them as qualitatively different from the point of view of the law (different antecedent mind states bring these actions about, their consequences are different, etc.). Our point is that you can lump (or see as quantitatively rather than qualitatively different) almost any psychological or physical process depending on how you define the underlying continuum. What categorizations make sense depend on your purpose, the conceptual understanding the distinctions bring, their ability to allow unique predictions, and so forth. We concur with Kruglanski and Thompson that parsimony is good, and that such qualitative distinctions should be used only when necessary (see also Petty & Cacioppo, 1990). However, as explained earlier, we believe there are sufficient benefits to allowing for qualitative differences in persuasion processes.

In this regard, it is interesting to note that the unimodel and the ELM both lump and split, but in different ways. The unimodel lumps all persuasion processes into one, whereas the ELM splits persuasion processes into two categories (central and peripheral). However, in some regards the unimodel splits more than the ELM. For example, the unimodel is touted as superior to dual-process models because it "recognizes as relevant to persuasion a broader range of motivations" and "distinguishes between the 'software' and 'hardware' aspects of cognitive ability." That is, the unimodel splits persuasion-relevant motivations into many categories whereas the ELM lumps them into

just two—those that influence motivation in a relatively objective way and those that influence motivation in a biased way. Is the unimodel's splitting superior to the ELM's lumping? Is there an important persuasion-relevant difference that warrants splitting beyond the two ELM motivation categories? Similarly, the unimodel splits the ability concept into "software" and "hardware" categories. The ELM does not see this distinction as necessary because software and hardware deficits are postulated to have a similar impact on information processing. This discussion suggests that it is not correct to indicate that the unimodel is more parsimonious than the ELM overall. The unimodel lumps where the ELM splits, but it also splits where the ELM lumps. In sum, both the ELM and the unimodel lump and split concepts, but in different ways. Readers will have to determine which lumping and splitting allows a superior understanding of persuasion.

Note

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[4]Of course, people would not be likely to naturally engage in a counting process if it was so effortful. The "peripheral" counting mechanism is supposed to be an effort saver! Nevertheless, such a study would demonstrate that these qualitatively different processes need not be confounded with overall cognitive effort.

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