

## Self-Generated Persuasion: Effects of the Target and Direction of Arguments

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Previous research has revealed that self-persuasion can occur either through role-playing (i.e., when arguments are generated to convince another person) or, more directly, through trying to convince oneself (i.e., when arguments are generated with oneself as the target). Combining these 2 traditions in the domain of attitude change, the present research investigated the impact on self-persuasion of the specific target of one's own persuasive attempt (i.e., others vs. oneself). We found that the efficacy of self-persuasion depended on whether people believed that they would have to put more or less effort in convincing the self or others. Specifically, we found opposite effects for self-generated arguments depending on whether the topic of persuasion was proattitudinal or counterattitudinal. Across 4 studies, it was shown that when the topic of the message was counterattitudinal, people were more effective in convincing themselves when the intended target of the arguments was themselves versus another person. However, the opposite was the case when the topic was proattitudinal. These effects were shown to stem from the differential effort perceived as necessary and actually exerted in trying to produce persuasion under these conditions.

*Keywords:* self-persuasion, role-playing, attitude change, self-knowledge, target

Although most work on persuasion focuses on messages that come from other people (e.g., advertisers), messages that people generate themselves can also be quite effective in producing attitude change. The persuasive effect of completely self-generated messages was shown clearly in the now classic research on *role playing* (Janis & King, 1954; King & Janis, 1956). For example, in one study, individuals who were assigned to play the role of a person trying to convince a friend to stop smoking were more turned off to cigarettes than were those who received the same information passively (Elms, 1966; Huesmann, Eron, Klein, Brice, & Fischer, 1983; Watts, 1967). Similar findings have been found when people generate thoughts in anticipation of the actual role-playing performance (e.g., Cialdini & Petty, 1981). Although a variety of explanations have been given for the persuasive effect of role playing, the most common is that when people generate arguments, they tend to come up with reasons that they find the most compelling (Greenwald & Albert, 1968; Slamecka & Graf, 1978). That is, people are effective in tailoring the message for themselves, even if the goal is to persuade another person. Notably, it does not seem to matter whether people generate the

thoughts because they are explicitly told to come up with arguments on a topic (e.g., Killea & Johnson, 1998) or whether they come up with thoughts by merely thinking about some issue (e.g., Tesser, 1978; see Tesser, Martin, & Mendolia, 1995, for a review). In general, whenever people engage in active construction and/or delivery of a persuasive message, it can lead to attitude change in the transmitter (Higgins, McCann, & Fondacaro, 1982).

In addition to traditional work on persuasion, research on impression management also provides evidence suggesting that the self-generation of thoughts to convince other people can be an effective path to self-persuasion. Specifically, studies on *self-presentation* have shown that the self-concept of individuals changes according to the direction in which people are asked to present themselves (e.g., Baumeister, 1982; Fazio, Effrein, & Falender, 1981; Wicklund & Gollwitzer, 1982). For example, if people are asked to present themselves favorably to others, their self-evaluation increases, but if they are asked to present themselves in a negative light, their self-evaluation decreases (e.g., McGuire & McGuire, 1996; Tice, 1992). The effect of self-presentation on subsequent self-ratings is enhanced when people actively generate their thoughts, improvising and drawing on episodes from their own past rather than relying on a previously provided script (Tice, 1992).

In sum, the available research clearly suggests that the act of generating arguments can lead to attitude change and that generating arguments oneself can lead to more change in one's own attitudes than passively receiving arguments from another person. The effectiveness of self-generated persuasion does not appear to be affected by whether people are explicitly asked to self-generate the arguments or whether the arguments are elicited more naturally in the course of thinking. Furthermore, attitude change appears to occur regardless of the object of thoughts (e.g., cigarette smoking, the self, etc.). The current research tackles a different and novel

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question in the domain of self-generated persuasion. Instead of focusing on the *source* of the arguments (self or other), the *impetus* for argument generation (mandated or natural), or variations in the *object* or content of persuasion (e.g., social issue or oneself), we focus on the previously unexplored topic of *who* the intended target or recipient of persuasion is when the self-generation of arguments occurs.

As just noted, prior research on role playing has generally focused on situations in which people aim to convince another person (e.g., a friend to stop smoking) but end up persuading themselves in the process. Yet, in everyday life, individuals sometimes have the explicit goal of convincing themselves to believe something. Maio and Thomas (2007) recently reviewed how people sometimes work hard to talk themselves into a diverse range of conclusions. For example, a person might genuinely like high fat food but want to change to have a negative attitude so less will be consumed. As suggested by Maio and Thomas (2007), people might try to convince themselves for many reasons (e.g., to feel better, to be coherent) and through multiple tactics (e.g., including the generation of biased thoughts, as in the classic role-playing research). At other times, an external agent (e.g., a therapist, a parent) might want the person to change and ask the person to generate arguments opposite to their initial opinion.

Interestingly, no prior research has examined whether it matters whether people are asked to generate arguments in an effort to try to convince themselves or another person. This is the central focus of the current research. For example, if a parent wanted a child to shift from a positive attitude to a negative attitude toward smoking, would it be better to ask the child to try and generate arguments to convince a friend to stop smoking or should the goal in argument generation be to convince the child him or herself?

In accord with much of the literature, we use the term *self-persuasion* to refer to situations in which people end up persuading themselves as a function of generating their own arguments for some issue. Previous research on self-persuasion via role playing examined self-generation of arguments exclusively in cases in which the target was another person or was unspecified. However, as noted, self-generated arguments can be also constructed with the goal of convincing oneself rather than another person. Although Maio and Thomas (2007) acknowledged that people sometimes might self-generate arguments in an effort to convince themselves, they did not address whether it matters whether people generate arguments to try to convince themselves or another person. That is, their discussion focused on the possibility that the self-generation of arguments exclusively targeting the self could be effective and on the mechanisms that could bring it about. The present research explicitly compares two different targets (i.e., self vs. others) of self-generated arguments and examines the conditions under which each target is particularly likely to be effective in producing self-persuasion.

### What Target of Self-Generated Arguments Leads to More Persuasion?

Why might attitude change be different as a function of the intended target of persuasion, and which target would produce greater influence? On the one hand, it might be that focusing on another person as the target of persuasion would generally be more effective than thinking of oneself as the target. One reason for this

is that when trying to convince another, the explicit persuasive intent for the self is relatively low and the resultant self-change is incidental to the attempt to persuade someone else. Prior research on forewarning shows that when persuasive intent is salient, people often raise their defenses and ultimately show more resistance to change than when persuasive intent is low (e.g., Petty & Cacioppo, 1979a). For instance, in one study (Walster & Festinger, 1962), people were more persuaded when they incidentally “overheard” the persuasive message than when it was targeted to try and change them. If people are more resistant when they are the explicit target of persuasion (even when they are also the source), then self-persuasion would be greater when people generate messages for others than for the self.

In addition to the forewarning literature, work on perceived *accountability* (Tetlock, Skitka, & Boettger, 1989) points to another reason for why generating messages for others versus the self could result in more persuasion. This is because people might anticipate that such arguments would be scrutinized more carefully by others, leading to more effort in generating high-quality messages.<sup>1</sup> If it is generally better to direct messages at others than at oneself, then one practical implication of this view is that therapists should ask clients to dispute their own dysfunctional beliefs by trying to convince others with similar beliefs to change them (as in the classic research on role playing). They should not focus their clients on trying to persuade themselves. That is, trying to convince others would generally produce more change in the clients than if the clients were explicitly trying to convince themselves.

On the other hand, some prior research suggests that it might generally be more effective to generate messages for the self than to generate messages for another person. For example, people might put more effort into generating the message when it is intended for themselves than when it is meant for another person. This could be because the self is viewed as a more important, valuable, and worthy target than any other person. Indeed, the literature on persuasion has revealed that people pay more attention and dedicate more effort to process arguments that are *self-relevant* (Briñol & Petty, 2006; Petty & Cacioppo, 1979b; Petty, Wheeler, & Bizer, 2000). Research on the *ownness bias* (Perloff & Brock, 1980), the *mere ownership effect* (Nuttin, 1985), and the *endowment effect* (Kahneman, Knetsch, & Thaler, 1991) are also consistent with this view. Another reason people might exert more effort and do a better job when attempting to persuade themselves is that people know their own opinions better than the opinions of others (e.g., Dunning, Heath, & Suls, 2004). By knowing precisely how and why they feel the way that they do, they can generate arguments for themselves that are appropriately tailored. By not knowing the attitudes of others as well, when trying to convince

<sup>1</sup> There are other lines of research that have looked at various differences in self versus others when attempting to persuade others. For example, messages addressed for one's own use have been found to communicate less well to others than messages formulated for other people (Fussell & Krauss, 1989). Similarly, other work has shown that linguistic choices are also affected by the communicative intentions and the intended audience (for a review, see H. H. Clark, 1985). Another paradigm suggests that people generate more abstract messages when thinking about others than when thinking about the self (McGuire & McGuire, 1996). It is important to note that these frameworks deal with persuasion in other people rather than the self, which is the focus of the present research.

these others, people might generate rather generic arguments that are not as effective in persuading themselves. According to this view, therapists would be more effective by asking their clients to talk themselves into something rather than trying to convince other people of the same thing.

Finally, a third possibility and the one we highlight in our studies is that the *target* of persuasion (i.e., self vs. other) can interact with the *direction* of the persuasion topic—whether it is pro or counterattitudinal.<sup>2</sup> Our logic begins with the assumption that people generally know and can be more sure of their own likes and dislikes than of the likes and dislikes of others. When people are confident that they oppose something (counterattitudinal issue), they know that they have to work very hard to generate arguments that are convincing in order to be effective in persuading themselves. They cannot be as certain that another person dislikes the topic, and thus they work harder to generate arguments when the self is the focus of persuasion rather than someone else. In contrast, when people are sure that they already favor something (proattitudinal issue), they know that they do not have to work very hard at all to convince themselves since they already approve. Because they cannot be as certain that another person favors the issue, they work harder to generate arguments when another is the focus of persuasion rather than the self.

In brief, our logic is that people are likely to be more confident in knowing what their own attitudes are than what the opinions of other people are and, thus, how much effort needs to be exerted to be successful. Indeed, a person's own attitude is often the starting point in making inferences about others (e.g., Epley, Keysar, Van Boven, & Gilovich, 2004), and people often overestimate how well they know their own opinions (e.g., Dunning et al., 2004). As a function of believing that they know their own views better than the views of others, people would invest more or less effort in the persuasion task, depending on how difficult the task is expected to be. When the topic is clearly counterattitudinal for oneself and self-persuasion would be difficult, people will exert more effort when generating arguments for themselves than another person because they cannot be as sure that the other person is opposed. In contrast, when the topic is clearly proattitudinal for oneself and self-persuasion would be easy, people will exert less effort when generating arguments for themselves than another person because they cannot be as sure that the other person agrees with the proposal.<sup>3</sup>

If people are more confident in what their own opinions are versus those of other people, there are important implications for different domains in terms of selecting self-persuasion strategies. For example, if a person wanted to change the attitude of a friend who was opposed to being a vegetarian to become more favorable, the present framework suggests that asking the friend to generate possible arguments to convince himself or herself would be more effective than asking the friend to generate arguments to convince another person because the message position is counterattitudinal. However, if the friend already supported vegetarianism and the person wanted him or her to become even more favorable, then asking the friend to generate arguments to convince another person would be more effective than requesting that arguments be generated for himself or herself. Similarly, according to this approach, a therapist would be more effective in convincing clients by using a "convince-other" technique only for aspects with which the person already agrees, but it would be more effective to ask clients

to try to directly persuade themselves for issues with which they disagree.

## Overview of the Present Research

The goals of the current research were to examine whether the intended target of persuasion matters when persuasive messages are self-generated and whether the effectiveness of different targets is moderated by the direction of the advocacy (i.e., pro or counterattitudinal). In all of our studies, participants were asked to generate arguments about an issue, and these arguments were said to be for the self or for another person. In Experiment 1, the position of the advocacy (counter vs. pro) was manipulated by having participants generate arguments about a proposal to increase (counterattitudinal) or decrease tuition (proattitudinal). The target of persuasion was manipulated by having participants generate these arguments in order to convince either themselves or another student about the value of the tuition proposal. As noted, examining the intended target of persuasion using different proposals (proattitudinal vs. counterattitudinal topic) allows us to distinguish between the plausible explanations based on main effects (i.e., persuasion will always be greater when the self or the other is the target, regardless of the direction of topic) and our proposed mechanism (i.e., persuasion will be an interactive function of the persuasion target and the direction of the topic).

Experiment 2 addressed our assumption regarding the perceived effort involved in producing each kind of persuasion by assessing how hard participants felt they tried when aiming to convincing the self versus another person regarding a pro issue versus a counterattitudinal issue. This study also examined the mediating role of those perceptions of effort in predicting self-generated persuasion. The next two studies further addressed the issue of mechanism, with Experiment 3 relying on an experimental (moderation) approach and the final experiment providing evidence regarding mediation of the effect as a function of the actual number of self-generated arguments.

### Experiment 1: Which Target Is More Persuasive, and When?

Experiment 1 was conducted to provide an initial test of whether the target and direction of persuasion matter when arguments are

<sup>2</sup> This hypothesis was suggested by two additional studies we conducted in which opposite results for target of the message were obtained depending on whether the message was pro or counterattitudinal. These results (mentioned in the final discussion) led to the development of a rationale for why message position would matter.

<sup>3</sup> In order to check our assumption that people are more confident in knowing their own opinions than those of others, we asked 75 undergraduates to provide their own attitudes and to estimate the opinions of an average fellow student on the issues of a tuition increase (counterattitudinal) and decrease (proattitudinal). Although participants estimated that average other student held similar opinions, when asked how confident they were of their reports of their own opinion and how confident they were in their estimates of the opinion of an average fellow student, confidence in the opinions of others was significantly less than for oneself for both the proattitudinal,  $F(1, 34) = 67.62, p < .001$ , and the counterattitudinal,  $F(1, 39) = 106.27, p < .001$ , topics.

self-generated. In order to examine the three possible plausible outcomes described, our first study manipulated both the target of persuasion and the direction of the proposal. Thus, this study used a manipulation of the position taken (pro or counter) on a given topic (university tuition) to examine whether an opposite pattern of persuasion findings for different targets of persuasion would emerge under different advocacies or whether one target of persuasion would be more effective regardless of the direction of the advocacy.

Participants were asked to generate arguments in favor of reducing tuition (pro attitudinal advocacy) or increasing tuition (counter attitudinal topic) at their own university. Furthermore, half of the participants were asked to generate arguments to convince themselves that changes in tuition were a good idea, whereas the other half were asked to generate the arguments to convince another person. In this study, we used another student as the target of persuasion in the "other" conditions. After writing their arguments in favor of increasing or decreasing tuition to convince themselves or another student, all participants reported their own attitudes on the issue of changing tuition. Because there were a number of possible outcomes for this study, as noted earlier, our primary goal was to determine whether there was just a main effect of the intended target of persuasion (and if so, in what direction it occurred) or whether there was an interaction between the target and direction of persuasion such that when the topic was counterattitudinal, there would be more message consistent attitudes in the self than the other condition but when the topic was proattitudinal, the opposite would hold.

## Method

**Participants and procedure.** One-hundred eight undergraduates from Ohio State University participated in partial fulfillment of a course requirement. All sessions were conducted on computers using MediaLab 2006 software (Jarvis, 2006). Participants were first informed either that the university administration was considering a plan to increase tuition or that the university administration was considering a plan to decrease tuition. Then, participants were told to generate four arguments to convince either themselves or another student that this proposal was a good idea. Afterwards, attitudes and behavioral intentions toward the tuition change proposal were measured. Finally, participants were probed for suspicion and debriefed.

### Independent variables.

**Proposal direction.** The tuition proposal was manipulated to be pro or counterattitudinal by informing half the participants that the university was considering a tuition increase and half that the university was thinking about implementing a tuition decrease. These different directions of advocacy were pilot tested to be counter versus proattitudinal for the vast majority of the student population participating in the research. Specifically, 63 students were randomly assigned to consider the possibility of either increasing or decreasing tuition and to rate their position on that proposal on two 9-point semantic differential scales (*negative-positive* and *harmful-beneficial*;  $r = .85$ ). As expected, participants' responses were significantly more favorable toward decreasing tuition ( $M = 7.37$ ,  $SD = 2.15$ ) than toward increasing tuition ( $M = 2.09$ ,  $SD = 1.40$ ),  $F(1, 61) = 134.95$ ,  $p < .001$ . Furthermore, the increase proposal was on the positive side of the

scale, and the decrease proposal was on the negative side of the scale.

**Target of persuasion.** The target of persuasion was manipulated by instructing participants to generate four arguments to convince either themselves or another student that increasing or decreasing tuition was a good idea.

**Dependent variables.** To assess their favorability toward the tuition change (increase/decrease) proposal, participants completed two 9-point semantic differential scales (*negative-positive* and *harmful-beneficial*). Responses to these items were significantly correlated ( $r = .79$ ) and were thus standardized and averaged to form an overall evaluation index, in which higher numbers indicated more favorable attitudes. Participants also completed two 9-point behavioral intention items that asked them how willing they were to have their name added to the list of students in favor of the change in tuition (*not at all-completely*) and how willing they were to let the researchers send them more information about the tuition proposal (*not at all-completely*). Responses to these items were significantly correlated ( $r = .74$ ) and were thus standardized and averaged to form an overall behavioral intention index, in which higher numbers indicated a greater willingness to show support for the tuition proposal. Given the evaluative component shared by attitudes and behavioral intentions, the strong correlation between the measures in this study ( $r = .82$ ), and the same predictions for each as well as the same results, we collapsed the standardized items from each measure into a single evaluative index for simplicity ( $\alpha = .92$ ; see, e.g., Labroo & Rucker, 2010; Litt & Tormala, 2010, for recent examples combining both measures).

## Results

Participants' evaluations of the advocacy were submitted to a 2 (target: self vs. other)  $\times$  2 (proposal direction: pro vs. counterattitudinal) analysis of variance (ANOVA). Not surprisingly, participants showed more favorable evaluations of the proposal when they advocated a reduction in tuition (proattitudinal topic) rather than an increase in tuition (counterattitudinal topic),  $F(1, 104) = 156.88$ ,  $p < .001$  (see Table 1 for all means). More importantly, an interaction emerged between proposal type (pro vs. counterattitudinal) and the target of persuasion (self vs. other),  $F(1, 104) = 7.92$ ,  $p = .006$ .<sup>4</sup> An analysis of the simple effects indicated that when the topic was proattitudinal (tuition decrease), participants evaluated the proposal more favorably when the target of persuasion was another student than when the target was the self,  $F(1, 57) = 4.09$ ,  $p = .048$ . However, when the topic was counterattitudinal (tuition increase), participants evaluated the proposal more favorably when the target was the self, compared to when it was another student,  $F(1, 47) = 4.03$ ,  $p = .051$ .

<sup>4</sup> The main effect of proposal type was significant for both the attitude index,  $F(1, 104) = 131.87$ ,  $p < .001$ , and the behavioral intentions measure,  $F(1, 104) = 118.06$ ,  $p < .001$ , when those items were analyzed separately. Similarly, the interaction was also significant for both attitudes,  $F(1, 104) = 5.17$ ,  $p = .03$ , and behavioral intentions,  $F(1, 104) = 7.53$ ,  $p = .007$ .

Table 1  
*Attitudes Toward the Tuition Change Policy as a Function of the Target of Persuasion and Direction of Topic (Experiment 1)*

Target	Proposal direction					
	Proattitudinal			Counterattitudinal		
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
Self	.45	.66	28	-.61	.56	28
Other	.77	.53	31	-.92	.48	21

## Discussion

The results of Experiment 1 support the interaction hypothesis regarding the different effects of self-persuasion depending on whether the direction of the topic was pro or counterattitudinal. That is, an opposite pattern of effects emerged that depended on whether the topic was something the participants initially favored or opposed. When the topic was counterattitudinal, more agreement with the proposal was observed when people generated the arguments to convince themselves than another person. This finding is consistent with an explanation based on the idea that self is considered to be a more important and valuable target as well as an account that holds that people process arguments that are self-relevant more. According to these views, however, people should be more effective in convincing themselves than others all the time, regardless of the topic. In contrast, our results showed the opposite effect for the proattitudinal conditions. That is, when the topic was proattitudinal, more agreement with the proposal was observed when participants generated arguments to convince another person than when participants generated arguments to convince themselves. This finding is consistent with explanations based on persuasive intent and accountability. However, these explanations, though accounting for the proattitudinal message, are not in accord with the findings for the counterattitudinal message.

Overall, then, none of the main effect accounts fared well. The present study clearly demonstrated that the persuasive impact of generating arguments for the self or another person depended on whether the advocacy was pro or counterattitudinal. This interaction finding is consistent with our proposal that people reason that they must put forth considerable effort to persuade themselves on an issue that is clearly counter for them but that they are less confident is equally disagreeable for another person. In contrast, they reason that they do not need to exert as much effort to persuade themselves on an issue that is clearly pro for them but that they are not sure is as agreeable for another person. These findings suggest that people might have different perceptions of the persuasive effort needed, depending on the situation. The main goal of the next study is to examine whether people have differential perceptions of the effort in each case and whether these perceptions of effort mediate the effects observed on message effectiveness.

## Experiment 2: Evidence for Effort Assumptions

The first study showed that evaluations can vary as a function of the direction of the topic in a pattern predicted by the idea that people put in more persuasive effort where they think they have to

work harder. In Experiment 2, we examined whether people actually believe that they have to work harder, depending on the circumstances, and whether those perceptions mediate the persuasion results. The procedure was similar to the previous study. Participants were asked to try to persuade either themselves or another person about something they liked (tuition reduction) or disliked (tuition increase). However, in addition to asking people to report their attitudes toward the proposal, in this study we also asked participants' about how hard they tried while generating the arguments and how persuasive they believed the arguments they generated to be. The goal of working hard is presumably to generate better arguments, so we expected perceived effort to be related to perceived argument quality. In line with our perspective on the role of effort in this research, we predicted that participants would recognize that they put in more effort and developed better arguments to persuade themselves versus another person when the issue was counterattitudinal but put in more effort and developed better arguments to persuade others versus themselves when the issue was proattitudinal. Furthermore, we predicted that these assessments of effort and quality would mediate the impact of target and direction on self-generated persuasion. In short, Study 2 aimed to provide evidence for the effort mechanism that we suggest accounts for the observed persuasion differences.

## Method

**Participants and procedure.** Seventy-three undergraduates from Ohio State University participated in partial fulfillment of a course requirement. All sessions were conducted on computers using MediaLab 2006 software (Jarvis, 2006), and all sessions followed the basic procedure of Study 1. Participants were informed that the university administration was considering a plan to either increase or decrease tuition. Participants were then instructed to generate four arguments to convince either themselves or another student that increasing or decreasing tuition was a good idea. Participants were randomly assigned to one of these four experimental conditions. Afterwards, participants reported their attitudes toward the proposal change. Next, the perceived amount of effort exerted to generate the arguments and the perceived quality of those arguments were measured. Finally, participants were probed for suspicion and debriefed.

### Independent variables.

**Proposal direction.** As in Experiment 1, the tuition proposal was manipulated to be pro or counterattitudinal by leading half of the participants to believe that the university was considering a tuition increase and half to believe that the university was considering a tuition decrease.

**Target of persuasion.** The target of persuasion was manipulated by instructing participants to fashion four arguments intended to persuade either themselves or another student that increasing or decreasing tuition was a good idea. This manipulation was also identical to the one used in the previous study.

### Dependent variables.

**Perceptions of effort and argument quality.** After generating their arguments in favor of the tuition change (increase/decrease) proposal, participants completed several questions related to the effort they had exerted. Effort was assessed with several kinds of items. First, participants were directly asked about their perceived effort. They were required to answer three 9-point items that asked

how much energy they put into generating their arguments, how deeply they thought about the issue, and how much attention they paid to the task of generating arguments (all anchored as *not at all–very much*). In addition, participants were asked to respond to three 9-point items assessing the perceived quality of the arguments. Specifically, they were asked how strong they believed their arguments to be (*very weak–very strong*), how valid those arguments were (*not at all valid–extremely valid*), and how satisfied they were with those arguments (*not at all–extremely*). These six effort items displayed high reliability ( $\alpha = .85$ ) and were therefore averaged to form an overall index of perceived effort, in which larger numbers indicated greater effort.

**Evaluation of the proposal.** To assess their favorability toward the tuition change (increase/decrease) proposal, participants completed a measure of attitudes consisting of a 10-point thermometer (10–100) anchored at *extremely unfavorable* and *extremely favorable*. This measure is widely used and is efficient because participants provide a general evaluation of the proposal with a single item.

## Results

**Perceived effort.** Participants' overall perceptions of the effort they put into the arguments they generated were submitted to a 2 (target: self vs. other)  $\times$  2 (proposal direction: pro vs. counterattitudinal) ANOVA. A significant effect of Proposal Direction was found, indicating that greater persuasive effort was exerted when the topic was proattitudinal than when it was counterattitudinal,  $F(1, 69) = 8.81, p = .004$ , presumably because participants really liked this novel topic and hoped it would come about (see Table 2 for all means). More importantly, however, this effect was qualified by a significant Target  $\times$  Proposal Direction interaction,  $F(1, 69) = 15.86, p < .001$ .<sup>5</sup> Participants believed they put forth more persuasive effort when they were told to convince themselves than when instructed to convince another student—but only when the topic was counterattitudinal,  $F(1, 33) = 6.46, p = .02$ . When the task involved generating arguments in favor of a proattitudinal topic, participants felt they exerted more persuasive effort to convince another student than themselves,  $F(1, 36) = 9.98, p = .003$ .

**Evaluation of the proposal.** Participants' evaluations of the advocacy were submitted to a 2 (target: self vs. other)  $\times$  2 (proposal direction: pro vs. counterattitudinal) ANOVA. As in the previous study, participants showed more favorable evaluations of the proposal when they advocated a reduction in tuition rather than an increase in tuition,  $F(1, 69) = 68.28, p < .001$  (see Table 3 for

Table 3

*Attitudes Toward the Tuition Change Policy as a Function of the Target of Persuasion and Proposal Direction (Experiment 2)*

Target	Proposal direction					
	Proattitudinal			Counterattitudinal		
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
Self	6.53	2.63	19	3.28	2.52	18
Other	7.63	2.19	19	2.24	1.25	17

all means). More importantly, the expected interaction emerged between proposal type (pro vs. counterattitudinal) and the target of persuasion (self vs. other),  $F(1, 69) = 4.22, p = .044$ . This interaction indicated that when the topic was proattitudinal (tuition decrease), participants tended to evaluate the proposal more favorably when the target of persuasion was another student than when the target was the self,  $F(1, 69) = 1.91, p = .17$ . However, when the topic was counterattitudinal (tuition increase), participants tended to evaluate the proposal more favorably when the target was the self than when it was another student,  $F(1, 69) = 2.33, p = .13$ .<sup>6</sup>

**Mediation of the target of persuasion effect.** Of most importance in this study was the determination of whether perceived effort mediated the interaction of target and proposal direction on attitudes. To examine this, we conducted a mediated moderation test (Muller, Judd, Yzerbyt, 2005). Prior to analysis, the Target and Proposal Direction variables were contrast coded (i.e.,  $-1, 1$ ), and perceived effort was mean centered. In a first analysis, Target, Proposal Direction, and the Target  $\times$  Proposal Direction interaction were entered into a regression equation predicting attitudes. This analysis revealed a significant main effect of Proposal direction ( $\beta = .70$ ),  $t(69) = 8.26, p < .001$ , and a significant Target  $\times$  Proposal Direction interaction ( $\beta = -.173$ ),  $t(69) = -2.05, p = .044$ . In a second analysis, perceived effort was regressed on Target, Proposal Direction, and the Target  $\times$  Proposal interaction.

<sup>5</sup> This interaction was significant when the first three effort items were analyzed separately,  $F(1, 69) = 18.66, p < .001$ , and also for the other three items related to perceived quality,  $F(1, 69) = 7.44, p = .008$ .

<sup>6</sup> Although the critical interaction effect was significant in this study, as it was in Study 1, the paired comparisons were weaker than in Study 1. This is likely because this study had fewer participants and also had a one item rating scale rather than a multi-item scale. However, we note that if the significant main effect of position (pro/counter) is subtracted from the cell means in this study, the means would display and support the predicted full crossover interaction (see Rosenthal & Rosnow, 1991, for explication). Nevertheless, to ensure the replicability of the effects across studies, we conducted an analysis in which the evaluation items in Studies 1 and 2 were standardized and subjected to a 2 (target: self vs. other)  $\times$  2 (proposal direction: pro vs. counterattitudinal)  $\times$  2 (Study: 1 vs. 2) ANOVA. This analysis produced a significant Target  $\times$  Proposal Direction interaction,  $F(1, 173) = 11.63, p = .001$ , that was not further moderated by Study,  $F(1, 173) = .05, p = .82$ . Furthermore, when separate 2 (target)  $\times$  2 (study) analyses were conducted on the pro and counter messages, the main effects of target were significant for both the pro,  $F(1, 93) = 5.72, p = .02$  and the counter,  $F(1, 80) = 6.20, p = .02$ , advocacies, and this was not further qualified by study.

Table 2

*Perceived Effort in Generating Arguments as a Function of the Target of Persuasion and Proposal Direction (Experiment 2)*

Target	Proposal direction					
	Proattitudinal			Counterattitudinal		
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>
Self	6.08	1.30	19	6.38	1.29	18
Other	7.25	0.95	19	5.19	1.49	17

A significant main effect of Proposal Direction ( $\beta = .31$ ),  $t(69) = 2.97$ ,  $p = .004$ , and a significant Target  $\times$  Proposal Direction interaction ( $\beta = \div .41$ ),  $t(69) = -3.98$ ,  $p < .001$ , were obtained. These analyses showed that the interaction affected both the dependent variable—attitudes—and the proposed mediator—perceived effort. We then aimed to determine whether the Target  $\times$  Proposal Direction interaction would remain a significant predictor of attitudes when perceived effort was controlled. To examine this, in a third analysis, we entered Target, Proposal Direction, the Target  $\times$  Proposal Direction interaction, and perceived effort into a regression equation predicting attitudes. The only significant effects to emerge were Proposal Direction ( $\beta = .61$ ),  $t(68) = 7.21$ ,  $p < .001$ , and perceived effort ( $\beta = .27$ ),  $t(68) = 2.91$ ,  $p = .005$ . The Target  $\times$  Proposal Direction interaction was no longer significant ( $\beta = -.06$ ),  $t(68) = -0.69$ ,  $p = .49$ .<sup>7</sup> The size of this interaction on attitudes significantly decreased from the first regression analysis to the third ( $Z = 2.31$ ,  $p = .02$ ; Sobel, 1982). These results suggest (Baron & Kenny, 1986) that perceptions of effort associated with the generation of arguments mediated the relationship between the target/direction of persuasion and evaluations of the tuition change proposal.

To provide a more formal test of mediation, we applied bootstrapping procedures (Shrout & Bolger, 2002) recommended by Preacher and Hayes (2008) to compute 95% confidence intervals around the indirect effect of the target/direction of persuasion on evaluations through perceived effort. If zero falls outside the interval, mediation is said to be present. Results of this procedure yielded a 95% confidence interval ranging from  $-.173$  to  $-.102$  for the indirect effect of the target of persuasion on evaluations. Zero fell outside this interval, indicating that the direct effect of the intended target/direction of persuasion on evaluations was mediated by effort.

## Discussion

This study replicated and extended the findings from Experiment 1 by showing that participants had different perceptions of the persuasive effort invested and needed, depending on the situation. When the topic was something they disliked, participants reported having exerted more effort to generate the arguments for themselves than for another person. In contrast, when the topic was something they already liked, they reported more effort invested in generating the arguments for another person than for themselves. Importantly, these perceptions of effort mediated the impact of the experimental conditions on attitudes toward the proposal. The results of this second study revealed that people perceived putting different amounts of effort into convincing themselves versus others as targets depending on whether the advocacy was proattitudinal or counterattitudinal. In showing this, these findings provide further evidence that self-persuasion depends on both the target of persuasion and the direction of the appeal. Having shown that people's perceptions of effort are responsible for the persuasion results obtained, the main goal of the next study is to examine why people put more effort in each case. In particular, we argue that different perceptions of effort are related to presumed knowledge about one's own opinion versus the other's opinion.

## Experiment 3: Why Does It Happen? I Know Myself Better Than I Know Others

In this study we directly explored the relationship between persuasion and knowledge of another person's opinion. As in the previous experiments, participants were asked to try to persuade either themselves or another person, but the direction of the attitude topic was held constant. In this case, all participants were told to generate arguments in favor of a proposal to reduce tuition—a proattitudinal topic. In order to test our hypothesis that different knowledge about one's own versus others' attitudes can influence the amount of effort exerted to persuade a target, thereby affecting the extent of influence, we varied how much participants knew about the other person's attitude. Specifically, some participants were asked to persuade another student but were given no information about this person's initial attitude (as was done in our two previous studies). In this case, as in Studies 1 and 2, participants could guess what another person's attitude was but they could not be sure. However, other participants were given information indicating that the other student held the *same* attitude the participants did. In this case, participants could be just as sure of the other person's attitude as they were of their own. If uncertainty in knowing whether the other person has the same favorable attitude toward the issue as oneself is responsible for the enhanced effort and persuasion in the "other" condition with a proattitudinal advocacy, providing knowledge that the other person has the same attitude as the self should eliminate the persuasion difference. In addition, another group of participants was asked to convince a target person who held the same attitude on a topic unrelated to tuition change. This was done to ensure that it was not opinion similarity per se that was critical to the effect but rather being sure of the other's opinion on the relevant issue.

In line with our perspective on the role that knowledge of one's own versus another's opinion plays in self-persuasion effects, we predicted the following. First, we expected that if participants were informed that the other's attitude on the relevant topic was as favorable as one's own, there would no longer be any need to exert extra effort to generate arguments for the other versus the self. Second, we expected evaluations of the issue to be the same when participants were trying to convince a person whose opinion was unknown as when they were trying to convince a person whose attitude was known on an irrelevant issue but unknown on the focal issue. Finally, we expected people to be less persuaded when trying to convince themselves or someone else with the same opinion on the proattitudinal topic than when trying to convince others whose opinions were unknown on the relevant issue. The latter finding would replicate the pattern for the proattitudinal issue in Experiments 1 and 2. Together, these results would suggest that uncertainty about the other's opinion versus one's own plays a critical role in producing the obtained effects.

## Method

**Participants and procedure.** One hundred twenty undergraduates from Ohio State University participated in partial ful-

<sup>7</sup> When all the possible terms were entered in this third regression equation, the Target  $\times$  Proposal Direction interaction was no longer significant ( $\beta = -.07$ ),  $t(65) = -0.73$ ,  $p = .47$ .

fillment of a course requirement. All sessions were conducted on computers using MediaLab 2006 software (Jarvis, 2006). In the first three conditions, participants were informed that the university administration was considering a policy that would reduce the cost of tuition (relevant proattitudinal issue). In a fourth condition, participants first learned that the Columbus (OH) city council was considering a proposal to increase handicap accessibility in metro area businesses (irrelevant proattitudinal issue). Participants in this condition also read about and provided their opinion of the tuition change proposal in the same manner as those in the first three conditions.

Following this, participants in all conditions were instructed to generate four arguments to convince either themselves or another student that decreasing tuition was a good idea. To examine the role that knowledge of others' attitudes plays in the effectiveness of self-generated arguments designed to persuade another (vs. oneself), we manipulated participants' perceptions of the other student's attitude on the relevant or irrelevant issue as described below. After generating arguments for the appropriate target, participants reported their attitudes and behavioral intentions toward the tuition decrease proposal. Finally, participants were probed for suspicion and debriefed.

#### Independent variable.

**Target of persuasion.** Participants responded to a 7-point scale item assessing their attitudes toward the tuition decrease and the handicap accessibility issues so we could match them up with a similar other in the appropriate conditions. After reporting their own opinions on these issues, participants were asked to think of four arguments to convince one of four different targets that reducing tuition was a good idea. In one condition, participants were told to generate arguments to convince themselves, just as in Experiments 1 and 2. In the remaining conditions, they were told to persuade "another student." In one case, participants were told to craft arguments to persuade another student who held the same attitude toward the proposal as they did. The perception of opinion similarity was induced by showing participants a computer screen indicating that the other student had provided the same response to the attitude item the participants completed earlier. In another condition, participants were given no information about the target's position toward the proposal (as had been done in our previous studies). Finally, to distinguish any effects of specific opinion similarity (regarding the tuition decrease) from general similarity, a separate group of participants learned that the target held the same attitude on an issue that was unrelated to tuition change. In this condition, participants were shown a screen indicating that the other student had given the same response when asked about the city council proposal to increase handicap accessibility in local businesses.

#### Dependent variables.

**Evaluation of the proposal.** To assess their favorability toward the tuition decrease proposal following argument generation, participants completed six 9-point semantic differential scales (*negative-positive*, *against-in favor*, *harmful-beneficial*, *foolish-wise*, *bad-good*, *do not agree with-agree with completely*) as well as a 10-point thermometer (10-100). In addition, participants responded to three 9-point behavioral intention items that asked them how willing they were to have their name added to the list of students in favor of the change (*not at all-completely*), how willing they were to let the researchers send them more informa-

tion about the tuition proposal (*not at all-completely*), and what their position on the proposal would be if given the chance to vote (*definitely for-definitely against*). Responses to all these items were highly consistent ( $\alpha = .87$ ) and were thus standardized and averaged to form an overall evaluation index, in which higher numbers indicated a greater willingness to show support for the tuition decrease proposal. That is, as in the first study, we collapsed the standardized items into one evaluative index.

## Results

In general we expected that participants would have the most argument-consistent attitudes when generating arguments to convince a target when they could not be sure whether the target was as much in favor of the tuition decrease as they were. To test this idea, we first compared participants' evaluations based on whether the target was the self or another student who was said to hold the same favorable attitude toward the tuition decrease. In both cases, participants had knowledge of the target's position toward reducing tuition, and we expected that both groups would have the same evaluations after generating their arguments. As predicted, no difference in evaluations was found ( $t < 1$ ) between the conditions in which the target was the self or another student whose tuition policy attitude was made apparent (see Table 4 for list of means).

Next, we compared participants' evaluations based on whether the target was another student whose attitude was not provided or another student who was said to hold the same attitude on an issue that was unrelated to the tuition decrease. In either case, participants could not be sure of the target's position toward the proposal, and we hypothesized that both groups would show the same evaluations after generating their arguments. As expected, there was not a significant difference in evaluations ( $t < 1$ ) between those asked to convince another student whose tuition policy attitude was unreported and those told to persuade another student whose attitude toward an irrelevant topic was made known.

Given these results, we collapsed the different targets of persuasion into a condition in which participants' were aware of the target's position toward decreasing tuition (i.e., self and other with the same opinion) and a condition in which they were not (i.e., other whose attitude was not provided and other with the same attitude on an unrelated issue). We then examined the difference in evaluations of the tuition change proposal between these two groups. As we predicted, those who generated arguments for targets whose attitudes toward reducing tuition were unknown had more favorable evaluations of the proposal ( $M = .16$ ,  $SD = .78$ ) than those who generated arguments for targets whose opinions on this issue were known ( $M = -.17$ ,  $SD = .90$ ),  $t(118) = 2.09$ ,  $p = .039$ .<sup>8</sup>

## Discussion

This study replicated our earlier finding in showing more influence on a proattitudinal issue when a person generated arguments for another person than when a person generated arguments for the self (when the other's opinion was unspecified). Furthermore, this study extended this finding by showing that explicit knowledge of

<sup>8</sup> This effect was significant using only the attitudinal items,  $t(118) = 1.96$ ,  $p = .052$ , and when using only the behavioral intention items,  $t(118) = 2.14$ ,  $p = .035$ .

Table 4  
*Attitudes Toward the Tuition Reduction Policy as a Function of the Target of Persuasion (Experiment 3)*

Target	<i>M</i>	<i>SD</i>	<i>n</i>
Self	-.14	.87	30
Other	.15	.73	30
Other (same tuition policy attitude)	-.19	.94	31
Other (same unrelated attitude)	.17	.85	29

the other's opinion moderates the effect. As predicted, participants were less persuaded when they learned that the other held the same opinion that they did on the topic than when they were unaware of the target's position. Specifically, less favorable evaluations were observed when the target of persuasion was the self or when participants were given clear information that the target held the same position on reducing tuition as the self, compared with when the target's opinion on the issue was unknown (i.e., when either irrelevant or no information about the target's initial attitude was provided). These results provide further evidence that people's knowledge about their own versus another's opinion is a key contributor to the results obtained. It is important to clarify that although in Studies 1 and 2 participants might have inferred the attitudes of other students and even thought that those attitudes were similar to theirs, they are likely to be more sure of their own views. As noted, everything else being equal, people are likely to be more sure of what their opinions are than what the opinions of others are (see also, footnote 3).

#### Experiment 4: How Does It Happen? Uncovering the Persuasion Process

Experiments 1 and 3 have revealed the circumstances under which people are more effective in changing attitudes as a result of the self-generation of arguments, and Experiment 2 provided some mediational evidence about why these differences are likely to take place. Specifically, Experiment 2 showed that people report exerting differential effort in the persuasion task as a function of the target and direction of the advocacy and that those perceptions of effort contribute to greater persuasion. The main focus of the final study is to provide further evidence of the mediational role of effort in a different paradigm of self-generated persuasion. As noted, our key assumption is that if people put forth more effort into the persuasion task in some conditions than others, then they will generate more or better arguments as effort increases. In Experiment 3, we showed that people perceived themselves to put more effort into generating their messages in the appropriate conditions, but we have not yet examined whether there were any differences in actual effort. In our final study we left the number of arguments participants could list as unspecified so that it would be free to vary, and more arguments listed would be evidence of greater effort. Although we asked all participants in our prior studies to think of just four arguments, it is possible that in some conditions they actually came up with more arguments than we requested (e.g., see Tormala, Falces, Briñol, & Petty, 2007, for an example). In order to empirically test the idea that greater effort will be manifested in a greater number of arguments generated, in our final study people could list as many arguments as they wanted.

In this study, we used a new topic: senior comprehensive exams. Participants were asked to generate arguments in favor of instituting a policy of requiring comprehensive exams in one's major as a requirement for graduation (Petty & Cacioppo, 1979b). This topic is a counterattitudinal one for students, as shown repeatedly in previous research (e.g., Petty, Briñol, & Tormala, 2002; Petty & Cacioppo, 1986; Wheeler, Briñol, & Hermann, 2007) and verified in pilot testing.<sup>9</sup> As in the other studies, we also manipulated whether a participant's goal was to persuade the self or another person. In this study, however, there were three "other" targets. That is, we varied who the other person was (e.g., professors, another student, or family members). In addition to varying who the other person was, this final study included a more pure control group. That is, Experiment 4 included a condition in which participants had to generate arguments in favor of the topic but without any particular target being specified. Thus, participants were asked to craft arguments to convince themselves, another student, their professors, or a family member, or we did not specify any particular target person. Participants were randomly assigned to one of these five experimental conditions. After writing their thoughts in favor of the exams, all participants reported their attitudes about comprehensive exams.

According to our logic, because students are more sure that they do not like this proposal than an unknown other person, they should put more effort into trying to convince themselves than another person. As a consequence, more agreement with the proposal is expected when the self (vs. another) is the target of persuasion. Furthermore, we did not expect this pattern of results to vary as a function of the specific other target of persuasion because the key distinction is between self and other in terms of knowledge of one's attitude. On the other hand, the control condition could either be more like the self or the other condition, depending on who the default target of persuasion is when people are simply asked to generate arguments. Finally, we expected the difference in persuasion to result from greater effort in the persuasion task, in this case, as evidenced by changes in the actual number of the arguments listed.

#### Method

**Participants and procedure.** One hundred twenty-seven undergraduates from Ohio State University participated in partial fulfillment of a course requirement. All sessions were conducted on computers using MediaLab 2006 software (Jarvis, 2006). Participants were led to believe a special committee at their university had submitted a proposal to implement senior comprehensive exams as a graduation requirement, a counterattitudinal proposal. The students were told that the new proposal would require all students to pass an exam in their major before being allowed to graduate. Before instituting this policy, however, the Board of Trustees wanted to collect further information by allowing students to generate possible arguments on the topic. We made the issue personally relevant to all participants by telling them that the

<sup>9</sup> An independent sample of 20 participants rated the desirability of senior comprehensive exams on three 9-point semantic differential items (*against-in favor*, *bad-good*, *negative-positive*;  $\alpha = .97$ ). As expected, participants reported this topic to be relatively undesirable ( $M = 3.75$ ;  $SD = 2.21$ ).

comprehensive exams were being considered at their university (e.g., Petty & Cacioppo, 1979b). Participants were instructed to craft and record arguments in favor of the new proposal to convince either themselves or one of four “other” targets that the proposal was a good idea. Unlike our prior studies, no particular number of arguments was specified. Participants were randomly assigned to one of five experimental conditions, with relatively equal numbers of participants in each condition. Afterward, the number of arguments generated was counted, and attitudes and behavioral intentions toward the proposal were assessed. Finally, participants were probed for suspicion and debriefed.

#### Independent variable.

**Target of persuasion.** The intended target of persuasion was manipulated by instructing participants to craft as many arguments as they could that would convince themselves, another student, professors, or a family member that the exam policy was a good idea. These “other” targets were chosen in order to provide a sufficiently diverse range of possible others, including not only liked and probably similar others, but also totally different others. These other targets also varied in the level of specificity since the family member was likely to be a concrete person, whereas thinking about professors does not necessarily involve having a specific professor in mind. Using different others allows us to provide greater generalization of the effects observed, including variation across levels of expertise of the other. Finally, to provide a control group for comparison, a fifth group of participants was simply asked to list arguments in favor of the proposal. Participants were randomly assigned to these five target conditions.

#### Dependent variables.

**Evaluation of the proposal.** Participants’ favorability toward senior comprehensive exams was assessed with three 9-point semantic differential items (*against–in favor*, *bad–good*, *negative–positive*) and a 10-point thermometer (10–100). Responses to these items were highly consistent ( $\alpha = .95$ ) and were thus standardized and averaged to form an overall attitude index, in which higher numbers indicated more favorable attitudes. As in the previous study, participants also completed four 9-point behavioral intention items which asked how willing they would be to sign a petition in favor of senior comprehensive exams (*not at all–completely*) and what their position on the proposal would be if given the chance to vote (*definitely for–definitely against*), as well as how many letters they would be willing to write (*0 letters–36 to 40 letters*) and how much time they would be willing to volunteer to call other students to tell them about the benefits of the exam policy (*0 min–80 min*). Responses to these items had good consistency ( $\alpha = .82$ ) and were thus standardized and averaged to form an overall behavioral intention index, in which higher numbers indicated a greater likelihood to act in support of the exam policy. As in previous studies, attitudes and behavioral intentions’ indices were highly correlated ( $r = .71$ ), and therefore, we combined the standardized items from each measure into a single evaluative index ( $\alpha = .92$ ).

**Number of arguments.** Participants in all conditions were told to type one argument in favor of the policy per box on the computer screen and to not worry about grammar or spelling (Cacioppo & Petty, 1981). Unlike the previous experiments, participants were not constrained to four arguments; they were free to list as few or as many thoughts as they wished. The total number of arguments provided by each participant was determined by counting and recording the number of boxes in which an argument had been typed.

## Results

We examined our specific hypotheses in two steps. First, none of the measures showed any significant effect within the various non-self target conditions (i.e., another student, professors, family member, control; see Table 5 for a list of means). Therefore, these conditions were collapsed into a single “other” condition and compared with the self condition for all subsequent analyses.

**Evaluation of the proposal.** Evaluations toward implementing senior comprehensive exams were compared based on whether the target of persuasion was the self or another person. As predicted, participants were significantly more favorable toward the new exam policy when they were asked to generate arguments to persuade themselves ( $M = .31$ ,  $SD = .84$ ) than when told to generate arguments to persuade another person, ( $M = -.09$ ,  $SD = .76$ ),  $t(125) = 2.45$ ,  $p = .02$ .<sup>10</sup>

**Number of arguments.** When the number of arguments listed was compared according to whether the target of persuasion was the self or another person, it was shown that participants generated a significantly larger number of arguments to persuade themselves ( $M = 3.03$ ,  $SD = 1.19$ ) than they did to persuade another person ( $M = 2.26$ ,  $SD = 1.24$ ),  $t(122) = 3.03$ ,  $p = .003$ .

**Mediation of the target of persuasion effect.** Regression analyses showed that the target of persuasion significantly influenced evaluations of the exam policy ( $\beta = .21$ ),  $t(125) = 2.45$ ,  $p = .02$ , and the number of arguments generated ( $\beta = .27$ ),  $t(122) = 3.03$ ,  $p = .003$ . In turn, the number of arguments generated significantly impacted evaluations of the exam policy ( $\beta = .24$ ),  $t(122) = 2.76$ ,  $p = .007$ . When both the target of persuasion and the number of arguments were simultaneously entered into the regression equation, the number of arguments remained a significant predictor of evaluations ( $\beta = .20$ ),  $t(121) = 2.9$ ,  $p = .03$ , but the target did not ( $\beta = .17$ ),  $t(37) = 1.85$ ,  $p = .07$ . These results suggest (Baron & Kenny, 1986) that the number of arguments participants were able to generate mediated the relationship between the target of persuasion and evaluations of the exam proposal (see Figure 1).

To provide a more formal test of mediation, we applied bootstrapping procedures (Shrout & Bolger, 2002) recommended by Preacher and Hayes (2008) to compute 95% confidence intervals around the indirect effect of the target of persuasion on evaluations through number of arguments generated. If zero falls outside the interval, mediation is said to be present. Results of this procedure yielded a 95% confidence interval ranging from .016 to .264 for the indirect effect of the target of persuasion on evaluations. Zero fell outside this interval, indicating that the direct effect of the intended target of persuasion on evaluations was successfully mediated by number of arguments.

## Discussion

From the point of view of the precise mechanism underlying the obtained persuasion effects, the results of this study suggest that persuasion was a function of the number of arguments self-generated in the self versus other target conditions. That is, par-

<sup>10</sup> The main effect of target was significant for both attitudes items,  $t(125) = 2.03$ ,  $p = .05$ , and behavioral intentions items,  $t(125) = 2.54$ ,  $p = .01$ , when those items were analyzed separately.

Table 5  
Attitudes Toward the Senior Comprehensive Exam Proposal as a Function of the Target of Persuasion (Experiment 4)

Target	M	SD	n
Self	.31	.84	30
Student	-.06	.97	16
Professors	-.16	.72	21
Family member	-.20	.62	21
Control	-.02	.78	39

Participants worked harder to convince themselves (than others) by generating more arguments in favor of the proposal. This study builds on the previous ones by showing that objective indicators of effort can mediate the obtained results. In our prior studies, we held the number of arguments participants were asked to generate constant at four and found that perceptions of effort mediated the persuasion effects. In the prior studies, it seems likely that participants might also have generated arguments above and beyond the number requested in the appropriate conditions, as suggested by this study in which the number of arguments was free to vary.

**General Discussion**

It has long been known that attitude change is a function of the thoughts that a person generates relevant to the attitude object (e.g., Petty, Ostrom, & Brock, 1981). As illustrated by the classic paradigm on self-persuasion through role playing (e.g., Janis & King, 1954), people can convince themselves in the process of generating arguments to persuade another person. Other paradigms relevant to self-persuasion have speculated on the possibility that people can also convince themselves more directly by trying to talk themselves into something (e.g., Maio & Thomas, 2007). Thus, although previous work has suggested that self-persuasion can occur either indirectly (by self-generating arguments to convince another person) or directly (by self-generating arguments specifically to convince the self), there has not been any previous attempt to compare the relative efficacy of these two situations. That is, no prior research has examined whether the intended target of self-generated arguments matters.

Importantly, however, existing literature suggested that it might matter whether people generate the arguments with the goal of convincing themselves or another person. This literature could be used to support either direction of effect. On the one hand, focusing on another person (vs. the self) as the target of persuasion could have generally been more effective because self-change is more incidental and the persuasive intent is less salient, thereby reducing the motivation to resist. On the other hand, it might have generally been more effective to generate messages for the self than for another person because the self is viewed as a more important and valuable target than any other person. Instead, we found evidence for a more nuanced view in that the persuasive impact of generating arguments for the self or another person depended on whether the advocacy was pro or counterattitudinal. We argued that this matters because people typically can be more sure of their own attitudes than those of others and recognize that they must put forth considerable effort to persuade themselves of an issue that is clearly counter for them but that is less clearly

disagreeable for another person (i.e., they cannot be as sure of the other person’s opposition). In contrast, they do not need to exert as much effort to persuade themselves of an issue that is clearly pro for them but is less clearly agreeable for another person (i.e., they cannot be as sure of the other person’s support).

In Experiment 1, we manipulated the direction of the topic, framing a proposal (tuition change) as proattitudinal (tuition reduction) or counterattitudinal (tuition increase). The unique outcomes predicted as a function of this manipulation made this design essential to distinguish between different explanations for self versus others as targets of persuasion. The results provided key evidence in support of our hypothesis. When the topic was counterattitudinal (tuition increase), more argument-consistent attitudes were observed when arguments were generated by participants to convince themselves than when arguments were generated to convince others. In contrast, when the topic was proattitudinal (tuition reduction), more argument-consistent attitudes were observed when participants generated arguments to convince another person than when participants generated arguments to convince themselves.

Experiment 2 demonstrated that self-generating arguments to convince the self or other people had different effects on the perceived effort required to convince the target when the topic was something participants did not like, compared to when it was about something they already liked. The results of reported effort in this study matched the results of attitudes and provided mediational evidence of our effort account.

Next, Experiment 3 replicated the proattitudinal effects from the earlier studies in that there was more agreement when arguments were generated for another person rather than the self. In addition, this study added direct support for the postulated link between self-persuasion and the knowledge that people have of their own attitudes relative to others’ attitudes. This was accomplished by varying how much participants were told about the other’s attitude. As predicted from our perspective, in this study participants were more persuaded for the proattitudinal topic when they were asked to convince a target whose attitudes were unknown than when asked to convince themselves or a target whose position on the relevant issue was the same as their own.

Finally, Experiment 4 replicated the counterattitudinal effects from the earlier studies and extended them in a number of ways, such as using a new counterattitudinal topic. Most importantly, instead of using a paradigm that kept the number of arguments fixed across conditions, our final study allowed participants to list

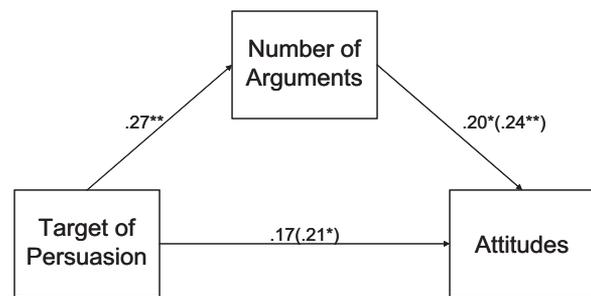


Figure 1. Mediation of attitude change as a function of number arguments generated (Experiment 4). \*  $p < .05$ . \*\*  $p < .01$ .

as many arguments as they wanted to convince the self or another person. Conceptually replicating previous results, this study showed that participants worked harder to convince themselves to support a counterattitudinal position (vs. others) as evidenced by the fact that they generated more arguments in favor of the proposal when the self versus another was the target of influence.

In sum, the present work provided convergent evidence demonstrating that the effectiveness of self-generated messages varies depending on the specific target of the persuasive attempt, ranging from a variety of others to oneself. Additional evidence for this hypothesis comes from two additional studies we conducted, with one having a proattitudinal topic and the other having a counterattitudinal topic (see footnote 2). In both of these studies, participants were asked to generate arguments to convince themselves or someone else about the issue. Participants in the first study generated arguments to convince themselves or another person about a counterattitudinal proposal (that senior comprehensive exams were a good idea, the same topic used in Experiment 4). For participants persuading another person, we also varied who the other person was by using two very different targets (i.e., a liked other or a 10-year-old child). In a second study, undergraduate students generated arguments to persuade themselves or another person about a proattitudinal proposal (i.e., that the participant was a good job candidate). This topic was pretested and was found to be proattitudinal for the vast majority of the students. Instead of using the most liked other or a child as potential targets of persuasion as in the first sample, in this study we used "a friend" in the other condition. In both experiments, participants reported their attitudes about the topic after generating their arguments.

Providing additional evidence consistent with Studies 1–4, we found an opposite pattern of results depending on whether the message was pro or counterattitudinal. That is, for the first group, when people had to generate thoughts about something they did not like (exams), they were more effective in persuading themselves when the target was the self versus the other,  $t(37) = 4.03$ ,  $p = .05$ . However, when people had to generate thoughts to convince themselves about something they already liked (self as a good job candidate), they were less effective in persuading themselves when the self rather than a friend was the target of influence,  $t(55) = 4.07$ ,  $p = .05$ . In short, when considering whether self-generated arguments should be aimed at the self or another person, it appears to matter greatly whether the issue is a pro or counterattitudinal one.

### Effort in Persuasion: Processing Versus Generating Information

Our studies have revealed that people appear to recognize that they have to work harder to convince themselves (than another person) when they dislike (vs. like) something. Furthermore, those perceptions of effort were responsible for the persuasion findings. In Experiment 4, exerting greater effort resulted in people generating more arguments that ultimately resulted in more persuasion. As revealed by Experiment 3, these findings are the consequence of knowing one's own attitudes better than the attitudes of others and, by extension, assuming when one should put forth more versus less effort into the persuasion task.

Although our results are unique in the domain of self-persuasion, it is notable that our findings fit well with recent

research in the domain of externally originated persuasion showing that the relationship between knowing one's own attitude (as measured by attitude accessibility) and effort (as assessed by amount of elaboration) is moderated by the extent to which the external persuasive message is proattitudinal versus counterattitudinal. Specifically, J. K. Clark, Wegener, and Fabrigar (2008) showed that when *externally originated* messages were counterattitudinal, increased premessage attitude accessibility (indicative of a strong opinion) was associated with greater message elaboration (as revealed by greater argument quality effects on attitude change). This result replicates previous research on attitude accessibility and persuasive information processing of counterattitudinal messages (e.g., Fabrigar, Priester, Petty, & Wegener, 1998) and fits with the present findings for the counterattitudinal message condition. That is, in the present research, when the topic of the message was counterattitudinal and people presumably knew their opinions, they put more effort into generating the message than when attitudes were less certain (i.e., when the message was generated for another person). This parallels the J. K. Clark et al. (2008) finding that when the topic of the message received was counterattitudinal, people put more effort into processing the message when attitudes were strong (i.e., highly accessible) versus weak. Thus, there are similarities in how people behave regarding counterattitudinal messages when dealing with an external and a self-generated message.

Importantly, J. K. Clark et al. (2008) also found that when externally originated messages were proattitudinal, increased premessage attitude accessibility was associated with *decreased* effort as indexed by message scrutiny. Again, if one assumes that attitude accessibility is a proxy for assessing the extent to which people are certain of what their attitudes are, this finding also replicates the link found in the present studies for the proattitudinal condition (i.e., less effort in convincing the self vs. others when knowing that you like something). Thus, our research on self-generated persuasion is compatible with previous research on externally originated persuasion, showing that people use knowledge about their own attitudes to decide how much effort they should put into elaborating an external message and how much effort they should put into generating a message. In both paradigms, it seems clear that people dedicate more effort when they are more sure that they do not like (vs. like) something, regardless of whether that effort results in processing external information or in generating arguments to convince themselves.

Although the present research seems compatible with previous research on external persuasion, there is also an important difference between the self-generated and external persuasion paradigms. In the J. K. Clark et al. (2008) research, participants exposed to an external counterattitudinal message presumably devoted their effort to guard against persuasion. That is, the effort is presumably exerted because people know that they have to work hard to defend their attitudes from counterattitudinal attacks, whereas in the proattitudinal message condition, they know they do not have to work hard to defend themselves. In the current studies on self-persuasion, the extra effort that occurs in generating arguments is presumably aimed at producing (rather than defending oneself from) persuasion when the message is counter versus proattitudinal.

The similarity between our research and past studies on external persuasion suggests that our paradigm on self-persuasion through

role playing could be used as a potential indirect measure of attitudes. Instead of directly asking people how much they like something, one could ask them to convince themselves (vs. another person) and use the actual and/or perceived number of arguments generated to infer how much they disliked the idea to begin with, or one might simply ask people how much effort would be necessary to convince themselves. Future research should explore this potential bidirectional link between knowing your attitudes and effort in elaboration.

### Implications for Self-Persuasion Research

People sometimes work hard to talk themselves into facing their fears and be healthier. According to Maio and Thomas (2007), people might try to convince themselves for many reasons (e.g., to feel better, to be coherent) and through multiple tactics (e.g., including the self-generation of biased thoughts, as in the classic role-playing research). Although the Maio and Thomas model of self-persuasion argues for the possibility of people deliberately convincing themselves, it does not address whether it matters if people self-generate arguments with the aim of convincing themselves or another person. The present research not only demonstrates that the intended target of persuasion matters but also specifies the conditions under which trying to convince oneself (versus another person) is particularly likely to be effective (i.e., depending on whether the topic is pro or counterattitudinal; whether the attitude of the other person is known or not).

The present research is also consistent with past research on the *communication game* in showing that whenever people engage in active construction and/or delivery of a persuasive message, it can lead to attitude change in the transmitter (see Higgins et al., 1982). Importantly, the current work specifies a previously unexplored audience that could make a difference in the transmitter: whether the target of the transmission is the self or another person. As shown across our studies, people put different degrees of effort into convincing themselves or another person, depending on the circumstances.

In some of the studies of the present research, we asked participants to generate arguments about something they did not like (e.g., raising tuition). Constructing a counterattitudinal message to persuade the self or someone else can produce *cognitive dissonance* (Festinger, 1957). Although dissonance from generating arguments can lead to attitude change, we think that dissonance does not provide a plausible account for our studies. First, in our studies, the behavior of generating arguments was instructed explicitly by the experimenter, not carried out by free choice (for a similar argument regarding the work on role playing, see Fazio, Zanna, & Cooper, 1977). In addition to freely choosing the behavior, for cognitive dissonance to operate, a number of further conditions are believed to be necessary (e.g., the behavior has a foreseeable aversive consequence; see Cooper & Fazio, 1984). However, our research does not include these conditions. Most importantly, many of our conditions involve proattitudinal topics (i.e., reducing tuition) for which dissonance is not likely to emerge. Furthermore dissonance theory would not predict the effects that we observed on measures of perceived or actual effort. For example, if generating counterattitudinal arguments to convince the self is more dissonance arousing than generating them for another person, why would the individual exert more effort in doing so?

Dissonance expects the reverse order of effects. That is, if a person is subtly induced to exert more effort (e.g., by the experimenter) in one condition than another, then they could infer attitudes from this as in the classic dissonance research on positive attitudes stemming from severe initiations (Aronson & Mills, 1959). In our research, however, participants were not induced to engage in more effort in some conditions than others. Rather, they voluntarily chose to do so. In sum, cognitive dissonance is not likely to be operating in this research.

Finally, *self-perception* theory (Bem, 1972) would suggest that people might infer their attitude from the position they have to generate arguments to support. However, such an inference based on the position advocated would not predict the obtained differences as a function of the target (self vs. other) interacting with the position exposed (pro versus counter). Of course, one could think of self-perception more broadly as it applies to the observation of mental activity (rather than overt behavior). In this metacognitive approach to the original theory (observing our mental activity is a form of metacognition, Petty, Briñol, Tormala, & Wegener, 2007), our view would be coherent with the idea that people can make inferences based on the cognitive effort involved in convincing the self versus others.

### Implications for Attitude Change in Applied Domains

The current research reveals that the magnitude of persuasion through self-generation of arguments varies as a function of the circumstances. Specifically, self-generating arguments to convince the self versus another person had different effects on persuasion depending on whether the topic was about something participants did or did not initially endorse. These findings suggest that having a goal to convince the self might be more effective than convincing other people in some situations (i.e., counterattitudinal position), whereas trying to convince other people might be a better strategy to convince oneself in other situations (i.e., proattitudinal position). Thus, if you wanted to change the attitudes of individuals who liked smoking but wanted to dislike it (counterattitudinal), you should ask them to focus the message on persuading themselves. However, sometimes people already dislike smoking but want to be even more negative (proattitudinal). These individuals probably focus a self-persuasive message on themselves naturally, but the current research suggests it would be more effective if they were to generate a message with the intended goal of persuading someone else.

The present results have potential implications for the selection of persuasive strategies in a number of domains. For example, one method often used by therapists to induce self-persuasion through role playing consists of asking clients to convince another person to change their undesired beliefs and behaviors (Ellis, 2002). The therapist would ask, "If you have a friend or relative who holds this self-sabotaging belief and will not give it up, what would you advise him or her to do about it?" Of course, in answering this question about convincing others, people often produce good arguments that they can use themselves. The logic is similar to the classic research in self-persuasion through role playing. In a variation of this technique, two or more people are asked to adopt the client's dysfunctional convictions and rigidly maintain them while the client tries to convince them to change their beliefs. In other words, the client is given the task of disputing his or her own

irrational beliefs by convincing others. One of the most frequent uses of this method consists of the *you be the therapist* technique. Briefly described, the therapist says to the client, "I am going out of the room for about 10 seconds. When I return, you will be me, and I will be you. We will meet for the first time, and I will tell you my problem and you will be the counselor" (e.g., Corsini, 1979).

As revealed by the present research and the classic approaches to self-persuasion through role-playing, any technique in which the target person has to convince others can be effective in changing the target's own attitudes. The present investigation takes this general notion one step further by specifying the conditions under which this approach is more likely to lead to persuasion. According to our findings, asking a person to convince others is particularly effective for issues and topics that are proattitudinal. This is important because convincing-other paradigms, such as the *you be the therapist* technique, have been recommended for counterattitudinal situations (i.e., for highly resistant clients; e.g., Corsini, 1999; Moreno, 1946). Although speculative at this point, the present findings would suggest that these sorts of strategies would be more appropriate for individuals with low levels of initial resistance or perhaps for convincing others about the aspects that already have been changed through therapy (i.e., the aspects with which the person already agrees).

According to the present findings, for highly resistant individuals who really know that they do not like something, it would be more effective to use direct forms of self-persuasion in which people are asked to generate arguments to convince themselves rather than another person. For example, as part of the rational-emotional therapy, Ellis (2002) recommended that his clients attempt to convince themselves to do whatever they are afraid to do. In particular, individuals are asked to deliberately face their fears by listing all the good things that they could accomplish by overcoming their limitations (i.e., generating favorable thoughts toward the desired change) and listing all the disadvantages of avoiding frightful things. Based on our research, other similar strategies in which people have to convince themselves, such as the "fake it until you make it" tactic used in Alcoholics Anonymous, are likely to be particularly effective when it comes to things people know they do not like in advance.

Of course, self-persuasion strategies through role playing and through direct self-talk are used in many social contexts other than therapy. The present research also has very clear implications for when people can benefit from engaging in direct forms of self-persuasion and when it might be better to engage them in convincing others in those domains. For example, one strategy followed by many organizations to increase competitive advantage is to have people engage in active promotion of the organization's image and reputation. Thus, as part of the recruitment team, employees are often asked to convince others to join the organization (a task for which they have to generate arguments in favor of the organization). At other times, as part of the socialization process, employees are required either directly (e.g., to defend the organization) or indirectly (e.g., to wear merchandising) to convince themselves of the merits of their organization (e.g., Pfeffer, 1981). According to the present findings, the former strategies would be more effective for organizations (or aspects of the job) that the person likes, whereas the latter strategies would be more appropriate for disliked aspects.

In closing this section, consider all of the marketing strategies that give people incentives (e.g., discounts, free products or membership) if they convince other people to buy a given product, to try a new service, or to join a given network. As shown in classic research on role-playing and the present studies, the process of generating arguments to convince other consumers is likely to result in self-persuasion. Now consider other marketing strategies that directly ask consumers for personal testimonials about the product, or that ask people to convince themselves of the merits of the product. Of course, self-persuasion can also occur in these scenarios. The present research suggests the conditions under which each set of strategies would be more likely to produce attitude change. The former approaches (i.e., asking consumers to convince others) would be more effective for products and services that consumers already like, whereas the latter strategies (i.e., asking consumers to convince themselves) would be recommended for cases in which they do not initially like the product or service.

### Future Research

In the previous section, we examined the implications of the present research for selecting self-persuasion strategies as a function of the direction of the topic. As revealed by the present studies, the logic behind these predictions is based on the idea that people put forth more effort in generating arguments when they suspect they have to work harder to induce attitude change, such as when they are more certain that they oppose something, compared with someone else. It is worth noting that there are particular situations or individuals for which a pattern of results different from what we obtained could emerge. For example, individuals low in self-awareness (Duval & Wicklund, 1972) or self-concept clarity (Campbell et al., 1996) or high in self-monitoring (Snyder, 1974) might not know or have much confidence in what their attitudes are and, as a consequence, they might invest the same effort in convincing themselves (vs. others) regardless of whether the topic was something liked or disliked. Similarly, individuals high in chronic self-doubt (Oleson, Poehlmann, Yost, Lynch, & Arkin, 2000) or low in self-confidence (Briñol, DeMarree, & Petty, 2010) might not trust their own attitudes, leading to the same outcome. Not only might individuals differ in the knowledge or certainty regarding their attitudes relative to the perceptions of others but situations might also vary in this regard. As illustrated by Experiment 3, in some cases, people know the attitudes of others as well as they know themselves, and in those cases there would be fewer differences in trying to convince oneself or a specific other person into believing or doing something. It might even be the case that people sometimes know the attitudes of others better than they know their own, and that might potentially lead to the opposite pattern of results observed in the present studies. Future research should examine these and other moderators.

Another area for future research concerns variation in the other target of persuasion. It is noteworthy that even though we used other targets that varied in numerous ways (e.g., professors, friend, child), we did not observe any differences among the other group. We do not mean to suggest that the other person who is the target of persuasion is completely irrelevant and never matters. Such a conclusion would be foolish because there are literally an infinite

number of other targets and dimensions of targets that could be explored. It is already clear that factors such as the extent to which the other's opinion is known or unknown are important (Experiment 4), and there may be other dimensions that could prove critical as well. However, Experiment 4 explored a variety of other targets, and the results suggest that unless more extreme variations in the other target are used, variations in the other as a target of persuasion seem to matter less than the self–other distinction.

Finally, it is important to note that although we have focused on the comparison between convincing the self and convincing others, the logic behind our research can be applied to other meaningful dimensions potentially relevant to self-persuasion. For example, future research on self-persuasion can begin to explore the consequences of asking people to rely on their emotions to convince the self (vs. other) or to focus on the reasons for doing so (cf. See, Petty, & Fabrigar, 2008).

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