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# Providing a Rationale in an Autonomy-Supportive Way as a Strategy to Motivate Others During an Uninteresting Activity[1]

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*When motivating others during uninteresting activities, people typically use extrinsic contingencies that promote controlling forms of extrinsic motivation. In contrast, we investigated a motivational strategy that could support another person's capacity to personally endorse and value the effort he or she put forth during the uninteresting activity. That strategy is the provision of an externally provided rationale when communicated in an autonomy-supportive way. In two studies, we tested and found support for a motivational mediation model, based on self-determination theory, in which the presence of such a rationale (vs. its absence) adds to participants' identification with the task's personal value which, in turn, explains participants' subsequent effort. These studies suggest that extrinsically motivated behaviors can become self-determined through the process of identification and that the promotion of this identification experience depends on the presence of a rationale that is communicated in an autonomy-supportive way.*

**KEY WORDS:** internalization; identified regulation; extrinsic motivation; rationale; self-determination; autonomy support.

When motivating others during uninteresting activities, people typically introduce an external contingency, such as a deadline (Amabile, DeJong, & Lepper, 1976), reward (Eisenberger & Armeli, 1997), or goal (Laporte & Nath, 1976). People pair such external contingencies with the uninteresting activities they ask others

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to engage in because they hope to redefine the activity away from something "not worth doing" toward something "worth doing." That is, the added external contingency functionally creates a motivation to engage in the activity that the activity itself cannot generate (i.e., "Do this in order to get that," where "that" is the added external contingency). The limitation of this approach, however, is that controlling forms of extrinsic motivation often lead to relatively poor functioning during task engagement (Deci & Ryan, 1987; Kohn, 1993; Ryan & Deci, 2000a), including challenge avoidance (Shapira, 1976), decreased creativity (Amabile, 1985), and lessened persistence (Vallerand, Fortier, & Guay, 1997). Recognizing that external contingencies generally promote controlling forms of extrinsic motivation associated with poor functioning, we sought to test the extent to which a noncontrolling external contingency could promote a self-determined form of extrinsic motivation associated with enhanced functioning.

According to self-determination theory (Ryan & Deci, 2000a, 2000b, 2002), different types of extrinsic motivation exist, and these different types produce qualitatively different effects on what people think, feel, and do. Self-determination theory makes these distinctions among types of extrinsic motivation based on how self-determined each type is. External contingencies that involve expected, tangible incentives and consequences ("do this because there will be a test") promote non-self-determined *external regulation* in others. External contingencies that cue up a demanding, pressure-inducing internalized voice ("do this because it is something you should/ought do") promote mildly self-determined *introjected regulation*. External contingencies that explain the activity's value or utility ("do this because it has health benefits") promote highly self-determined *identified regulation*. Thus, different reasons to engage in a task (i.e., different types of external contingencies) promote qualitatively different types of extrinsic motivation, some of which interfere with effort and engagement (external regulation, introjected regulation) and some of which actually enhance effort and engagement (identified regulation, integrated regulation[5]; Deci & Ryan, 1985; Rigby, Deci, Patrick, & Ryan, 1992; Ryan & Connell, 1989; Ryan & Deci, 2000a, 2000b), and this is true across a variety of domains, such as adhering to exercise (Ryan, Frederick, Lepes, Rubio, & Sheldon, 1997), participating in political elections (Koestner, Losier, Vallerand, & Carducci, 1996), and trying hard in school (Ryan & Connell, 1989).

## PROVIDING A RATIONALE AS A MOTIVATIONAL STRATEGY TO PROMOTE SELF-DETERMINED EXTRINSIC MOTIVATION

Practitioners have a variety of extrinsic contingencies from which to choose when trying to extrinsically motivate others. Only a few of these, however, can be expected to cultivate identified regulation (i.e., highly self-determined extrinsic

[5] An experimental investigation of "integrated regulation" was beyond the scope of the present study, because it involves not the internalization of a single externally-endorsed belief (as in the present study) but, instead, the holistic organization of the self-system (Ryan & Deci, 2000a, 2000b, 2002).

motivation). One such contingency is the provision of a rationale—a verbal explanation of why putting forth effort during the activity might be a useful thing to do.

Correlational studies show a positive association between rationales and effort, and these rationales have been provided both by others (e.g., Newby, 1991) and by the self (e.g., Green-Demers, Pelletier, Stewart, & Gushue, 1998). Also, theorists generally argue that learning is more effortful when a lesson is perceived to have personal utility for the self (Bruner, 1966; Rogers, 1969). But only a few studies have experimentally manipulated the presence versus absence of an externally provided rationale to test for its effects on another's engagement (Deci, Eghrari, Patrick, & Leone, 1994; Sansone, Weir, Harpster, & Morgan, 1992; Sansone, Wiebe, & Morgan, 1999). In the first of these, researchers asked participants to engage in an uninteresting task and told those in the experimental group that the task offered health benefits (Sansone et al., 1992). Though bogus, the health benefits rationale did increase on-task engagement because rationale-hearing participants were more likely to generate "interest-enhancing strategies" (e.g., perform the repetitive task a different way each time). This study shows that hearing a rationale helps people transform the otherwise boring task into a potentially more interesting one, a strategy that fosters engagement because increased interest predicts increased effort (Hidi, 1990, 2001).

In the second of these studies, Deci et al. (1994) asked participants to engage in a very uninteresting vigilance task (pressing the space bar on a keyboard whenever a light appeared on the computer screen) either with or without the following rationale:

> Doing this activity has been shown to be useful. We have found that those subjects who have done it have learned about their own concentration. This has occurred because the activity involves focused attention which is important in concentration. For example, this is the type of task that air traffic controllers use in order to enhance their signal detection abilities (Deci et al., 1994, p. 127).

The experimenter delivered this rationale either with controlling or noncontrolling language and either with or without acknowledging the negative feelings participants might experience while undertaking such an unappealing task. Across all conditions, hearing the rationale led participants to perceive the task as an important one (relative to not hearing the rationale). So, by itself, the rationale increased perceptions of task importance. However, when the rationale was communicated with controlling language or when the rationale was communicated without an acknowledgment of negative feelings, perceived self-determination and extent of engagement were both low. In contrast, when the rationale was communicated with noncontrolling language or with an acknowledgment of negative feelings, perceived self-determination and engagement were both high. From this study, it appears that a rationale, by itself, increases perceived importance but it does not, by itself, increase either self-determination or engagement. Only when the rationale is accompanied by facilitating autonomy-supportive conditions (i.e., noncontrolling

language, acknowledging negative feelings) can it be expected to increase self-determination and engagement.

## MOTIVATIONAL MEDIATION MODEL

Given Deci and his colleagues' findings, we argue that an externally provided rationale, when communicated in an autonomy-supportive way, supports another person's effort and engagement to the extent that it supports that person's capacity to personally endorse and value the effort he or she puts forth during the uninteresting activity. This logic leads us to propose the following motivational mediation model: Presence of a Rationale (administered in an autonomy-supportive way) → Identification → Effort. Hence, our model posits that this identification experience functions as a pivotal mediator between an externally provided rationale and the person's ensuing engagement.

We conceptualized "identification" as the moment-to-moment experience in which the person accepts, personally endorses, and values the effort put forth during the uninteresting activity. This identification experience is the building block for the person's relatively more enduring and ongoing identified regulation toward that activity (following Deci, Vallerand, Pelletier, & Ryan, 1991; Ryan & Deci, 2000a, 2000b). The identification experience occurs in proportion to which people recognize the value of their effort (high perceived importance) and fully accept that the effort they put forth emanates from the self (high perceived self-determination). With identification, the individual puts forth effort willingly because the once external regulatory process has become more fully a part of the self. In the present study, we operationally defined the identification experience as a higher order latent variable consisting of the two indicators of high perceived importance and high perceived self-determination.

To test the motivational mediation model, our first hypothesis was that the offering of different external contingencies associated with external regulation, introjected regulation, and identified regulation to engage in the same uninteresting activity would generate different types of extrinsic motivation. To test our hypothesis, we manipulated the reason to try that participants heard by providing either the absence of a reason to try (a control group) or one of these three different reasons to try. We expected only the latter of these manipulations—namely, the identified external contingency in which the externally provided rationale was communicated in an autonomy-supportive way—to produce the identification experience in participants who were all exposed to the same uninteresting activity. Our second hypothesis was that extent of identification would, in turn, explain extent of effort put forth during the task. That is, overall, we anticipated that the effect of a rationale on effort would be an indirect one, as the functional significance of the externally provided rationale (when communicated in an autonomy-supportive way) would be to support the other person's capacity for an identification experience in which

he or she freely wanted to put forth effort during the uninteresting, but personally valued, activity.

## STUDY 1

In Study 1, we tested two hypotheses—namely, that the provision of a rationale communicated in an autonomy-supportive way would facilitate participants' identification experience and that the extent of this identification experience would predict extent of subsequent effort. Overall, the primary purpose of Study 1 was to test the validity of our Reason to Try → Identification → Effort motivational mediation model. In addition, we further recognized that other motivational mediation models are conceptually possible, and so we further tested the viability and relative merit of three alternative models. In one alternative model, we added a direct effect path (Reason to Try → Effort) to our hypothesized indirect effect model. In this direct effect model, we tested whether or not the externally provided rationale exerted a direct effect on effort (i.e., one that is not mediated by the identification experience). A second alternative model was based on the possibility that the externally provided rationale affected not the identification experience but instead only perceived importance (as it had done in the Deci et al., 1994, study), which in turn facilitated subsequent perceived self-determination and hence effort: Reason to Try → Perceived Importance → Self-Determination → Effort. This is an alternative model because the rationale predicts valuing (not an identification experience) and because the perception of task value, rather than the rationale communicated in an autonomy-supportive way, predicts perceived self-determination. A third alternative model is based on the interest-enhancing strategies hypothesis mentioned earlier, one that argues that effort can be regulated through interest. If so, then the externally provided rationale should increase interest, and interest, in turn, should regulate effort: Reason to Try → Interest → Effort. Unlike the first two models, which we conceptualized as alternatives to our hypothesized model, we conceptualized this third model as a potentially compatible one (because while regulation by interest and regulation by identification are different motivational processes, they are nonetheless compatible and complimentary processes; Alexander & Jetton, 1996; Ryan & Deci, 2000a; Wade, Buxton, & Kelly, 1999).

### Method

#### *Participants*

Participants consisted of 141 college students (103 females, 38 males) recruited from sections of an introductory educational psychology class at a large

midwestern university. During the debriefing, we learned that one woman in the control group studied Chinese formally, and so we excluded her data to analyze a sample of 140 participants exposed to an unfamiliar activity.

### *Uninteresting Activity*

For an uninteresting—yet potentially worthwhile—activity, we created a lesson in "conversational Chinese." We constructed a two-part, 18-min videotaped lesson that featured text-based slides accompanied by the recorded voices of two narrators, one English-speaking and one Chinese-speaking. Part 1 presented common greetings (e.g., "Good morning") and friendly questions (e.g., "What is your name?"). Part 2 presented the numbers 1–10 and the vocabulary of counting. The Chinese-speaker spoke all Chinese words and phrases.

Learning conversational Chinese is not an inherently uninteresting activity, but for the purposes of the present study we presented it in an uninteresting format. To do so, we presented the lesson in a way that was both monotonous (following Berlyne, 1966) and void of interest-enhancing embellishments (e.g., challenge, fantasy; following Parker & Lepper, 1992). Pilot testing indicated that participants found the activity to be both relatively uninteresting and of only a minimal relevance to their daily lives. We knew from the demographic characteristics of children attending schools in the local area, however, that this activity could provide our participants with an honest and believable rationale, since Chinese-speaking students represented about 5% of the children in the local schools. These demographic statistics allowed us the opportunity to explain why putting forth effort during the lesson might be a potentially worthwhile investment for our sample of preservice teachers, namely to cultivate a useful teaching skill.

### *Experimental Conditions*

All participants saw and heard the same two-part lesson. The only difference from one condition to the next was that each of the two parts of the lesson was preceded by a separate 90-s introductory statement spoken on the videotape by the English-speaking narrator. These remarks manipulated reason to try (i.e., external contingency).

In the *control group*, a reason to try was not given. That is, the narrator did not speak during either of the two 90-s introductory statements. The screen simply showed slides entitled "Lesson 1: Conversation" and "Lesson 2: Numbers" with no voice narration.

Participants in the experimental groups received one of three different reasons to try hard, and the wording used for each external contingency was based on the self-determination theory conceptualization. In the *external regulation group*, the reason to try was because there was a forthcoming test (excerpt: "The reason we

are asking you to try hard during conversational Chinese is because we are going to give you a test on the material to evaluate how well you studied the information."). We used this test manipulation partly for its high ecological validity and partly because other researchers have successfully used this same manipulation to induce external regulation (Benware & Deci, 1984; Grolnick & Ryan, 1987). In presenting the test as a reason to try hard, the language used by the narrator had a generally controlling tone ("We included the test because we want you to pay attention and to try hard.") and it failed to acknowledge any negative affect participants might experience.

In the *introjected regulation group*, the reason to try was because that is what preservice teachers ought to do (excerpt: "The reason we are asking you to try hard during conversational Chinese is because doing so is what today's classroom teacher should do. It's what a good teacher ought to want to do."). We used this pressure-inducing internalized voice manipulation to induce regulation through introjection. Introjected regulation involves taking in—but not truly accepting—other people's rules or demands to think, feel, or behave in a particular manner. As such, there is little consistency or coherence between the person's personal beliefs and his or her public behaviors (Ryan & Connell, 1989). Instead, the person, acting as a proxy for the interpersonal environment, emotionally rewards himself or herself for performing other-defined good behavior and emotionally punishes himself or herself for performing other-defined bad behavior. In this condition, the narrator frequently used controlling language like "should," "must," "have to," and "ought to" (following Ryan, 1982), and the narrator did not acknowledge any negative affect participants might experience.

In the *identified regulation group*, we, like Deci et al. (1994), provided participants with an externally provided reason to try that articulated why effort during the activity was useful. To cultivate an experience of perceived self-determination, we, again like Deci and his colleagues, delivered the rationale with noncontrolling language and an acknowledgment of negative affect. The reason to try hard was because it was an opportunity to cultivate a useful skill (excerpt: "The reason we are asking you to try hard during the conversational Chinese lesson is because it is useful. Today's lesson offers you the opportunity to gain a skill that will be very handy when you become a classroom teacher."). In contrast to introjected regulation, with identified regulation the person voluntarily accepts (i.e., internalizes) the merits of a way of behaving because it seems useful to the self. In this condition, the narrator provided facilitating autonomy-supportive conditions by using noncontrolling language ("the reason we are asking you to try hard is for the benefit of all the Chinese-speaking students you will one day very soon have in your classes.") and by acknowledging and accepting that participants would likely experience negative affect (e.g., "the information so far has been difficult and at times frustrating. Still, we ask you to concentrate, persevere, and try hard.").

### *Procedure*

Participants were randomly assigned into one of the four conditions, and each participant individually viewed the lesson in a private room that had a comfortable desk, TV monitor, VCR, notepad, and ink pens. After seating the participant, the experimenter explained that the lesson would be presented on videotape and that the participant was free to take notes (or not). Once the participant understood the procedure, the experimenter pressed the play button on the VCR, left the room, and waited nearby. When the participant opened the door (to signal finishing the lesson), the experimenter returned and asked the participant to complete the postexperimental questionnaire. Once done, the experimenter conducted the debriefing.

### *Measures*

The study recorded three dependent measures: perceived importance, perceived self-determination, and effort. We used these measures to construct our hypothesized motivational mediation model. We also included brief, supplemental measures of interest and of enjoyment. We used scores on the interest measure to confirm that participants found the lesson to be relatively uninteresting (a manipulation check) and to afford us the opportunity of testing the aforementioned interest alternative model. We used scores on the enjoyment measure to confirm that the effort participants put forth on the uninteresting activity was associated with positive emotion. Confirming that the effort measure correlated positively with enjoyment was important because effort accompanied by a positive emotional tone is associated with enhanced functioning (Connell & Wellborn, 1991) whereas effort accompanied by a negative emotional tone is associated with diminished functioning (Ryan, Koestner, & Deci, 1991).

*Perceived Importance.* We assessed perceived importance with a 5-item scale. Each of the following items used a 1–7 response scale (*Not at all true–Very much true*): Learning conversational Chinese is an important thing to do; I can use this information; Learning conversational Chinese is pointless—a waste of my time (reverse scored); Learning conversational Chinese will be valuable to me; and I can't see how I'll ever use this information (reverse scored). These five items were averaged into a single score for perceived importance ($\alpha = .88$).

*Perceived Self-Determination.* We assessed perceived self-determination with a 5-item scale. The first four items (from Reeve, Nix, & Hamm, in press) began with the stem "For the most part, I felt like I was. . ." Two items measured an internal perceived locus of causality to index high perceived self-determination ("listening because I wanted to" and "doing what I wanted to do"), and two items measured an external perceived locus of causality to index low perceived self-determination ("listening only because the experimenter wanted me to" and "doing

only what the experimenter wanted me to do"). The fifth item (from the Intrinsic Motivation Inventory, Ryan, 1982) was "I participated in the lesson only because I had to." All five items used a 1–7 response scale (*Not at all true–Very much true*). The latter three items were reverse scored, and the five items were averaged into a single score for perceived self-determination ($\alpha = .85$).

*Effort.* We assessed effort with three items, two of which were self-reported and one of which was a behavioral measure. The two self-reported effort items, using 1–7 response scales, were as follows: "How hard did you try during the lesson?" (*I didn't try at all/I tried very hard*) and "How much effort did you put forth during the lesson?" (*No effort at all/Very much effort*). The third effort item was a surreptitious behavioral measure of the extent of notes the participant took during the lesson. Two raters independently and reliably ($r = .96$) scored how extensive were the notes: $0 =$ *no notes*; $1 =$ *minimal*; $2 =$ *moderate*; $3 =$ *comprehensive* ($M = 1.3$, $SD = 1.2$). We first standardized each of the three items into *z*-scores and then averaged the three equally weighted standardized scores into a single score for effort ($\alpha = .73$). To confirm that the effort put forth by participants was associated with positive emotion, we included a 3-item scale to assess enjoyment (from Williams, Weiner, Markakis, Reeve, & Deci, 1994). Each of the following items used the same 1–7 response scale (*Not at all true–Very much true*) with the stem "Please rate 'conversational Chinese' as an activity": It was fun; It was an enjoyable activity; and It was a pleasant, happy task to do. These three items were averaged into a single score ($\alpha = .96$). As expected, extent of effort correlated positively with extent of enjoyment, $r(140) = .60$, $p < .01$.

*Interest.* The interest measure was a 3-item scale (from Williams et al., 1994). Each of the following items used the same 1–7 response scale (*Not at all true–Very much true*) with the stem "Please rate 'conversational Chinese' as an activity": It held my full and constant attention; It stimulated my curiosity without interruption; It was very interesting. These three items were averaged into a single score for interest ($\alpha = .95$).

## Results

To confirm that participants found the activity uninteresting, we examined the descriptive statistics for the 35 participants in the control group (who were exposed to the lesson without a preceding reason to try hard). They rated the lesson as mildly uninteresting ($M = 3.26$, $SD = 1.90$, on the 7-point scale).

### *Preliminary Analyses*

To begin our analyses, we tested for the beneficial effects of the identified reason to try by contrasting scores for participants given the identified reason versus scores for participants given the absence of a reason to try (i.e., the control

**Table I.** Means and Standard Deviations for All Three Dependent Measures by Experimental Condition

| | | Manipulated reason to try | | | |
|---|---|---|---|---|---|
| Dependent measure | | Control ($n = 35$) | External ($n = 35$) | Introjected ($n = 35$) | Identified ($n = 35$) |
| Perceived importance | *M* | $3.89_a$ | $3.80_a$ | $3.69_a$ | $4.57_b$ |
| | *SD* | (1.31) | (1.25) | (1.08) | (1.27) |
| Perceived self-determination | *M* | $4.14_a$ | $3.95_a$ | $4.10_a$ | $4.94_b$ |
| | *SD* | (1.23) | (1.06) | (1.36) | (1.34) |
| Effort | *M* | −0.30 | 0.01 | 0.13 | 0.24 |
| | *SD* | (0.86) | (0.70) | (0.88) | (0.95) |

*Note*. Perceived importance and perceived self-determination were scored on a 1–7 scale with higher numbers representing higher levels; effort was scored as a *z*-score with higher numbers representing greater effort. Means with different subscripts are significantly different from one another, according to Student–Newman–Keuls tests, $p < .05$.

group), using Dunnett's a priori contrasts. Compared to the absence of a reason to try, the presence of an identified reason enhanced participants' scores on all three dependent measures: perceived importance (*M*s, 4.57 vs. 3.89), $tD = 2.30$, $p < .05$; perceived self-determination (*M*s, 4.94 vs. 4.14), $tD = 2.69$, $p < .05$; and effort (*M*s, 0.24 vs. −0.30), $tD = 2.61$, $p < .05$. To examine how the full range of the different reasons to try affected each dependent measure, we next conducted a series of one-way analyses of variances with follow-up Student–Newman–Keuls post hoc mean comparisons ($p < .05$). The means and standard deviations for each dependent measure, broken down by experimental condition, appear in Table I.

The manipulated "reason to try" significantly affected perceived importance, $F(3, 136) = 3.56$, $p < .05$, as participants engaging in the task for an identified reason rated the lesson as significantly more important than did participants in the other three conditions, who did not differ significantly from one another. Reason to try significantly affected perceived self-determination, $F(3, 136) = 4.47$, $p < .01$, as participants engaging in the task for an identified reason reported significantly higher perceived self-determination than did participants in the other three conditions, who did not differ. Reason to try exerted an overall marginally significant effect on effort, $F(3, 136) = 2.53$, $p = .06$.

### *Structural Equation Modeling Analyses*

To conduct the analyses to test our hypothesized motivational mediation model, we relied on structural equation modeling (using LISREL 8; Joreskog & Sorbom, 1993). We first organized scores from our independent variable (reason to try) and three dependent measures into the a priori motivational mediation model (Reason to Try → Identification → Effort). To do so, we coded the reason to try manipulation in accordance with the weighting procedure used in research on self-determination theory to create a "relative autonomy index" (RAI; see

**Table II.** Correlation Matrix for Reason to Try Codes and the Three Dependent Measures

| | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| 1. Code for reason to try[a] | — | .24** | .24** | .01 |
| 2. Perceived importance | | — | .68** | .49** |
| 3. Perceived self-determination | | | — | .51** |
| 4. Effort | | | | — |

$N = 140$.
[a]Higher code numbers reflect reasons to try associated with supporting autonomy.
*$p < .05$. **$p < .01$.

Grolnick & Ryan, 1987, p. 894, for this weighting procedure): identified reason, +1 (self-determined); control condition, 0 (neither self-determined nor controlled); introjected reason, −1 (mildly controlling); and external reason, −2 (highly controlling). We used perceived importance and perceived self-determination as indicators of the identification experience (a latent variable), and we used effort as the outcome measure. The intercorrelations among the codes for reason to try and the three dependent measures appear in Table II.

To evaluate the fit of the hypothesized motivational mediation model to the observed data, we relied on four test statistics. Traditionally, a nonsignificant chi-square serves as the basic test of whether a model adequately describes the data (Bollen & Long, 1993), but we further included a set of fit indices because they sometimes provide a better evaluation of model fit than does the chi-square statistic (Bentler & Bonett, 1980; Marsh, Balla, & McDonald, 1988). Our three fit indices were the root mean square residual (RMR), normed fit index (NFI), and comparative fit index (CFI). RMR is a summary statistic for the residuals, so the lower the number the better the model (i.e., RMR $\leq .05$, down to a possible low of 0; Hu & Bentler, 1999); NFI and CFI compare the lack of fit of the theoretical model to the independence model, so the higher the number the better (i.e., NFI and CFI $\geq .95$, up to a possible high of 1; Hu & Bentler, 1999). Thus, to provide the information necessary to evaluate how well our hypothesized model fit the observed data, we present four statistics—the chi-square statistic and the three fit indices. According to each of these test statistics, the motivational mediation model fit the observed data well, $X^2\ (2\ df) = 5.73$, *ns*, RMR = .05, NFI = .96, CFI = .97. The standardized coefficients from the structural equation model appear in Fig. 1. As shown, reason to try predicted the identification experience ($\beta = .26$, $p < .01$) and the identification experience predicted effort ($\beta = .59$, $p < .01$).

To determine whether the motivational mediation model was the best fitting possible model, we tested the viability of our three alternative models. The first alternative model added the direct path from Reason to Try → Effort. Using the change in $X^2$ as our test statistic, we found that this alternative model did fit the data significantly better than did our hypothesized model, change $X^2$ (*df* change $= 1) = 5.71$, $p < .05$. However, the added path (Reason to Try → Effort) was negative (i.e., in the wrong direction, $\beta = -.18$, $p < .05$), and hence artificially

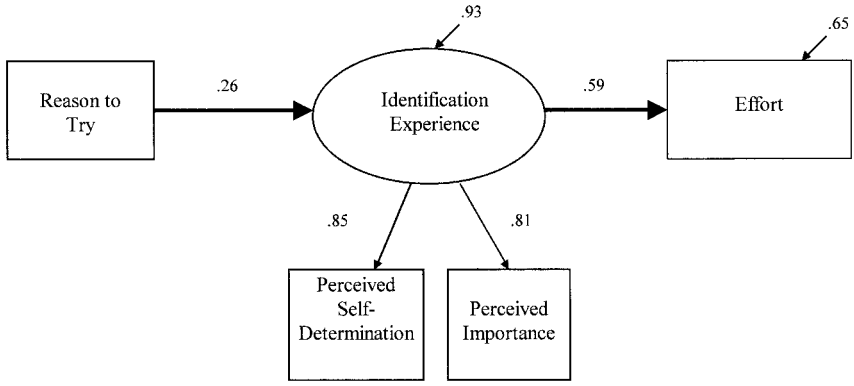


**Fig. 1.** Standardized path coefficients ($\beta$'s) for the structural equation model from Study 1. Solid lines represent significant paths ($p < .05$).

inflated the Reason to Try → Identification effect (from $\beta = .26$ up to $\beta = .29$) and also artificially inflated the Identification → Effort effect (from $\beta = .59$ up to $\beta = .66$). The Reason to Try → Effort path therefore functioned as a suppressor variable (i.e., as a statistical artifact), so we rejected this alternative model because the added path was nonsensical on both theoretical and statistical grounds.

We next tested the viability of the perceived importance alternative model: Reason to Try → Perceived Importance → Self-Determination → Effort. The perceived importance model did not fit the observed data well, $X^2$ (3 $df$) = 12.79, $p <$ .01, RMR = .06, NFI = .91, CFI = .93, though each of the three paths were individually statistically significant (Reason to Try → Importance, $\beta = .24$, $p < .01$; Importance → Self-Determination, $\beta = .68$, $p < .01$; and Self-Determination → Effort, $\beta = .51$, $p < .01$). So, treating perceived importance and perceived self-determination as separate variables (instead of as indicators of the same underlying latent construct) produced a model with a relatively poorer fit to the data.

We also tested the viability of the interest alternative model: Reason to Try → Interest → Effort. The interest model fit the observed data well overall, $X^2$ (1 $df$) = 0.78, *ns*, RMR = .02, NFI = .99, CFI = 1.00. However, the Reason to Try → Interest path was nonsignificant, $\beta = .10$, *ns*, though the Interest → Effort path was individually significant, $\beta = .66$, $p < .01$. Thus, while interest did predict effort, the reason to try manipulation, once weighted according to the RAI, did not explain how interesting participants in the different conditions found the task to be.

## Discussion

Results supported both hypotheses. For participants offered one of the four manipulated reasons to try, only the identified reason facilitated the identification

experience. Further, the extent to which participants perceived high personal value in putting forth effort (i.e., experienced identification), they showed a proportional extent of effort during the lesson. Lastly, the alternative models generally did not fit the data as well as did the hypothesized model, though interest, like the identification experience, predicted the extent of effort participants put forth.

To support participants' identification experience, we used a compound manipulation in which we provided participants in the "identified reason to try" condition with, first, a rationale as to why putting forth effort was useful and, second, noncontrolling language that acknowledged and accepted participants' negative affect. The compound manipulation leaves open the question of precisely why the rationale nurtured the identification experience—was it because of the rationale, the noncontrolling language, or both? We used this manipulation because we already knew from previous research (Deci et al., 1994) that (1) the rationale by itself could increase perceived importance but not self-determination, and (2) noncontrolling language by itself could increase self-determination but not perceived importance (see Deci et al. 1994, p. 133, Table III). Our compound manipulation was therefore necessary because the functional significance of the rationale is to increase participants' sense of importance whereas the functional significance of the noncontrolling language is to preserve or increase participants' sense of self-determination. Since we operationally defined the identification experience as consisting of *both* high perceived importance and high self-determination, the compound manipulation was both needed and necessary.

The motivational mediation model explained participants' effort ($R^2 = .35$) better than it explained participants' identification experience ($R^2 = .07$). We offer three reasons to explain why the identified reason to try produced only a modest effect on the identification experience: (1) the deferred utility before participants could expect the lesson to be useful; (2) the absence of an interpersonal relationship between the faceless narrator and the participant; and (3) the participants' unmeasured pre-lesson capacity to regulate their task effort through identification.

As to the first factor (deferred utility), our stated rationale would not apply to participants' lives until they actually begin their teaching careers. Presumably, the magnitude of this effect could be increased by making the activity more immediately useful (e.g., opportunity to interact with a Chinese-speaker following the lesson). As to the second factor (quality of the interpersonal relationship), each of the following qualities in a socializer contributes positively to the socializee's willingness to accept (i.e., internalize) a communicated rationale: warmth (Goodenow, 1993; Midgley, Feldlaufer, & Eccles, 1989), involvement (Skinner & Belmont, 1993), and interpersonal relatedness (Ryan & Powelson, 1991). Presumably, providing a rationale within the context of a warm, caring, and established relationship could produce a stronger effect. As to the third factor, people begin

their encounters with activities with a range of forecasts as to how personally useful those activities are likely to be. Acknowledging that people bring varying levels of pre-lesson identified regulation into their encounters with uninteresting activities (e.g., see the analysis of athletes' training activities by Green-Demers et al., 1998), we designed Study 2 to add the contribution that people's pre-lesson identified regulation might make to explaining additional variance in the extent of their identification during the lesson. By the term, "pre-lesson identified regulation," we refer to people's initial forecasts of how important the activity is likely to be and how self-determined they are to engage it. In adding this pre-lesson assessment to Study 2, we hoped to construct a motivational mediation model that could explain a substantially greater proportion of the variance in participants' identification experience during the lesson. Our expectation that we could account for a greater proportion of the variance in participants' identification experiences was based on the strategy of combining sources of motivation that arose from both situation-specific sources (i.e., the externally provided rationale) and from domain-general sources in the personality (i.e., preexisting identified regulation; Vallerand, 1997).

## STUDY 2

For Study 2, we included only two of the four conditions from Study 1, namely the "identified reason to try" and the "absence of a reason to try" (control) conditions. Before we presented or withheld the identified reason to try, however, we first assessed participants' pre-lesson levels of identified regulation toward the conversational Chinese lesson. Thus, in Study 2, we included two independent predictors of participants' identification experience—the presence versus absence of the identified reason to try and the level of pre-lesson identified regulation participants brought into the activity. In Study 2, we expected two findings to emerge. First, we expected to increase substantially the proportion of variance explained in participants' identification during the lesson. Second, we expected to replicate the pattern of findings for the hypothesized motivational mediation model from Study 1.

### Method

#### *Participants*

Participants consisted of 70 college students (56 females, 14 males) recruited from sections of an introductory educational psychology class at a large midwestern University.

### *Uninteresting Activity and Experimental Conditions*

We used the same conversational Chinese lesson from Study 1—with one change. We presented only Part 1 (on conversation) and removed Part 2 (on numbers). All participants heard the same 13-min lesson.

Study 2 featured two experimental conditions. The only difference between the two conditions was the content of the one-time 90-s introductory statement provided by the English-speaking narrator. As was the case in Study 1, participants in the *control group* were exposed to an absence of a reason to try. The screen simply showed the slide entitled "Lesson: Conversational Chinese" with no voice narration. In the *identified regulation group*, the reason to try repeated the same narration provided to participants in the identified regulation group in Study 1.

### *Procedure*

Participants were randomly assigned into one of the two conditions. After seating the participant in a private room that had a comfortable desk, TV monitor, VCR, notepad, and ink pens, the experimenter explained that the lesson would be presented on videotape and that the participant was free to take notes (or not). Once the participant understood the procedure, the experimenter administered a 3-item questionnaire that included the items to assess pre-lesson identified regulation. Once the participant finished this questionnaire, the experimenter pressed the play button on the VCR, left the room, and waited nearby. Each participant viewed the lesson individually and when he or she opened the door (to signal finishing the lesson), the experimenter returned and asked the participant to complete the postexperimental questionnaire. Once done, the experimenter conducted the debriefing.

### *Measures*

Study 2 assessed the same three dependent measures from Study 1—perceived importance, perceived self-determination, and effort—and also the new measure for pre-lesson identified regulation. We also included the same brief measures for both interest and enjoyment. The reliability data from these measures were as follows: perceived importance (5 items, $\alpha = .81$); perceived self-determination (5 items, $\alpha = .75$); effort (3 items, $\alpha = .78$); interest (3 items, $\alpha = .89$); and enjoyment (3 items, $\alpha = .89$). For the pre-lesson identified regulation measure, we asked two questions on a 1–7 response scale: "This lesson sounds important/useful" (*Strongly disagree/Strongly agree*) and "Spending 15 minutes learning conversational Chinese strikes me as something I do/don't want to do" (*Don't want to do/Do want to do*). These items were designed to assess pre-lesson perceived

importance and pre-lesson perceived self-determination, respectively, and they correlated highly with one another, $r(70) = .70$, $p < .01$. [As it did in Study 1, the enjoyment measure correlated with extent of effort, $r(70) = .40$, $p < .01$.]

## Results

To confirm that participants found the activity uninteresting, we examined the descriptive statistics for the 35 participants in the control group. They rated the lesson as mildly uninteresting ($M = 3.49$, $SD = 1.79$, on the 7-point scale).

### *Preliminary Analyses*

To examine how the presence versus absence of the identified reason to try affected each dependent measure, we used a series of $t$ tests. Compared to the absence of a reason to try, the presence of an identified reason to try enhanced participants' scores on perceived importance (*M*s, 4.82 vs. 3.99), $t(68) = 2.94$, $p < .05$; perceived self-determination (*M*s, 4.68 vs. 3.97), $t(68) = 2.63$, $p < .05$; but not effort (*M*s, 0.15 vs. $-0.16$), $t(68) = 1.57$, *ns*.

### *Structural Equation Modeling Analyses*

To conduct the analyses to test the hypothesized motivational mediation model, we again relied on structural equation modeling and the set of four test statistics: nonsignificant $X^2$, RMR $< .05$, NFI $> .95$, and CFI $> .95$. We recognized that conventional wisdom recommends that LISREL-generated statistical claims "be modest" when sample size is less than 100 (Loehlin, 1992, p. 60). However, our sample size of 70 is one of a medium, rather than one of a small, size, because sample size adequacy is less an absolute number (i.e., sample size) than it is a ratio between sample size and the number of observed variables. According to the formula ($N > p^*$) of Bentler and Yuan (1998), a data set with 5 observed variables ($p$) and 70 cases ($N$) is of a medium size. So, we proceeded to use structural equation modeling, though we respected the call for modest claims by limiting ours to those related to replicating and extending the findings from Study 1. To conduct the analyses, we first organized scores from our two independent variables (reason to try, pre-lesson identified regulation) and three dependent measures into the same motivational mediation model from Study 1. We coded the reason to try manipulation as 0 for "absence of a reason to try" and 1 for the "identified reason to try." We again used perceived importance and perceived self-determination as indicators of the identification experience (a latent variable), and we used effort as the outcome measure. The intercorrelations among the codes for reason to try, pre-lesson identified regulation, and the three dependent measures appear in Table III.

**Table III.** Correlation Matrix for Reason to Try Codes, Pre-Lesson Identified Regulation, and the Three Dependent Measures

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 1. Code for reason to try[a] | — | .16 | .33** | .30** | .19 |
| 2. Pre-lesson identified regulation | | — | .39** | .48** | .31** |
| 3. Perceived importance | | | — | .57** | .39** |
| 4. Perceived self-determination | | | | — | .25* |
| 5. Effort | | | | | — |

$N = 70$.
[a] "No reason to try" coded as 0, "identified reason to try" coded as 1.
* $p < .05$. ** $p < .01$.

The motivational mediation model fit the observed data well, $X^2$ (4 *df*) = 3.67, *ns*, RMR = .03, NFI = .95, CFI = 1.00. The standardized coefficients from the structural equation model appear in Fig. 2. As shown, both reason to try ($\beta$ = .34, $p < .01$) and pre-lesson identified regulation ($\beta = .54$, $p < .01$) predicted the identification experience, whereas extent of identification predicted effort ($\beta$ = .45, $p < .01$).

To determine whether the motivational mediation model was the best fitting possible model, we tested the viability of three direct-effect alternative models that added paths from Reason to Try → Effort (direct-effect alternative model 1), from Pre-Lesson Identified Regulation → Effort (direct-effect alternative model 2), or from both of these paths (direct-effect alternative model 3). Using the change in $X^2$ as our test statistic, we found that none of the three alternative models fit the data significantly better than did the hypothesized model. For the direct-effect alternative model 1, the added Reason to Try → Effort path was nonsignificant

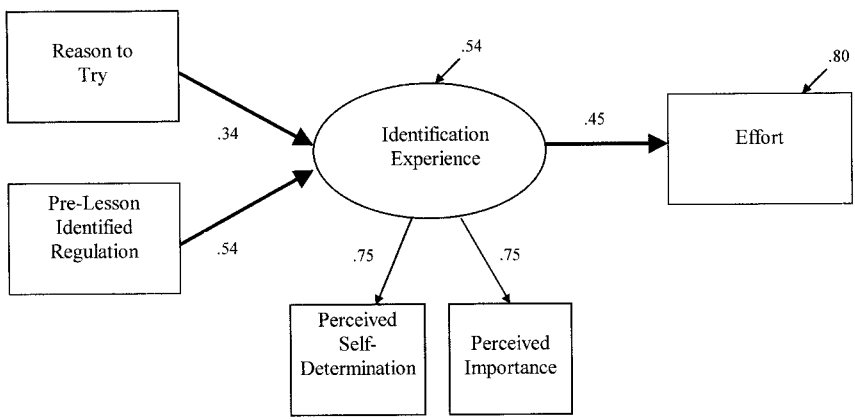


**Fig. 2.** Standardized path coefficients ($\beta$'s) for the structural equation model from Study 2. Solid lines represent significant paths ($p < .05$).

($\beta = .00$, *ns*), and the overall model did not fit significantly better than did the hypothesized model, change $X^2$ (*df* change $= 1) = 0.00$, *ns*. For the direct-effect alternative model 2, the added Pre-Lesson Identified Regulation → Effort path was nonsignificant ($\beta = .09$, *ns*), and the overall model did not fit significantly better than did the hypothesized model, change $X^2$ (*df* change $= 1) = 0.38$, *ns*. For the direct-effect alternative model 3, neither the added Reason to Try → Effort path ($\beta = .03$, *ns*.) nor the added Pre-Lesson Identified Regulation path ($\beta = .10$, *ns*.) was significant, and the overall model did not fit significantly better than did the hypothesized model, change $X^2$ (*df* change $= 2) = 0.41$, *ns*.

We next tested the viability of the perceived importance alternative model: Reason to Try (predictor #1) and Pre-Lesson Identified Regulation (predictor #2) → Perceived Importance → Self-Determination → Effort. The perceived importance model did not fit the observed data well, $X^2$ ($5\,df$) $= 19.65$, $p < .01$, RMR $= .12$, NFI $= .72$, CFI $= .76$, though each of the model's three included paths were individually statistically significant (Reason to Try → Importance, $\beta = .27$, $p < .05$; Pre-Lesson Identified Regulation → Importance, $\beta = .35$, $p < .01$; Importance → Self-Determination, $\beta = .57$, $p < .01$; and Self-Determination → Effort, $\beta = .25$, $p < .05$).

Lastly, we tested the viability of the interest alternative model: Reason to Try (predictor #1) and Pre-Lesson Identified Regulation (predictor #2) → Interest → Effort. Results for the interest model were mixed, as the interest model fit the observed data well according to two of the four test statistics: $X^2$ ($2\,df$) $= 3.41$, *ns*, RMR $= .06$, NFI $= .89$, CFI $= .94$. All three paths included in the interest model were individually statistically significant (Reason to Try → Interest, $\beta = .26$, $p < .05$; Pre-Lesson Identified Regulation → Interest, $\beta = .24$, $p < .05$; Interest → Effort, $\beta = .45$, $p < .01$).

## Discussion

We designed Study 2 with two objectives in mind. First, we wanted to add the contribution that people's pre-lesson identified regulation toward putting forth effort during the activity could make to explaining the extent to which they experienced identification during the lesson. In Study 2 we increased the variance accounted for in the identification experience ($R^2 = .46$ in Study 2, whereas $R^2 = .07$ in Study 1). Second, we wanted to replicate our finding from Study 1 that an identified reason to try, when delivered in an autonomy-supportive way, could support an identification experience. Like the results in Study 1, the results in Study 2 showed that relative to the absence of an identified reason to try (the control group), the presence of an identified reason to try facilitated participants' capacity to generate the identification experience [$d = .56$ in Study 1 (based on means of 4.57 vs. 3.89); $d = .58$ in Study 2 (based on means of 4.82 vs. 3.99), using Cohen's formula (Cohen, 1969) and rule of thumb for interpreting the magnitude of effect sizes]. Also, like Study 1, the hypothesized motivational mediation

model fit the observed data well, and the model fit the data better than did the set of alternative models, though interest again predicted extent of effort participants put forth.

## GENERAL DISCUSSION

This investigation constituted an explicit attempt to address the motivational problem practitioners face when they attempt to motivate others to engage in uninteresting, but potentially worthwhile, activities. Because controlling extrinsic contingencies often lead others into relatively poor functioning and outcomes (Ryan & Deci, 2000a), we focused on an extrinsic motivational strategy capable of supporting a self-determined type of extrinsic motivation—namely, identified regulation. We found that the offering of an identified contingency—an externally provided rationale communicated in an autonomy-supportive way—facilitated the identification experience relative to its absence (and relative to both introjected and external contingencies). In addition, our findings in Study 2 showed that the person's own preexisting identified regulation toward the activity further contributed to the identification experience. Lastly, the extent of participants' identification experience during the activity predicted their subsequent positive functioning in terms of a display of relatively high effort.

Our findings can be readily interpreted both by cognitive evaluation theory and by the hierarchical model of motivation. According to cognitive evaluation theory (Deci & Ryan, 1985; Ryan & Deci, 2002), any external event can be delivered in an autonomy-supportive way and hence promote autonomous forms of motivation or in a controlling way and hence interfere with autonomous motivation. Accordingly, it is not the rationale itself that nurtures the identification experience but is, instead, the fact that the rationale was administered in an autonomy-supportive way (see Deci, Koestner, & Ryan, 1999, for the same argument applied to extrinsic rewards). When communicated in an autonomy-supportive way, people are more likely to perceive the rationale as a conduit for autonomy support. That is, people are likely to view the purpose (or functional significance) of the rationale as an external event intended to support their autonomy. If the same rationale were not delivered in an autonomy-supportive way, then it would not be expected to facilitate the identification experience.

According to the hierarchical model (Vallerand, 1997), motivational states exist at two levels of generality—situation-specific motivation and context-general motivation. At the situational level, a motivational state like the identification experience is affected by factors specific to that situation, such as the presence or absence of the externally provided rationale immediately prior to the lesson. At the contextual or domain level (e.g., school, sports), identification is affected by more enduring and more pervasive factors, such as an autonomy-supportive relationship that is recurring within that context. Externally provided rationales are generally

situation-specific factors, and they can therefore be expected to affect the identification experience most during a particular task (i.e., learning conversational Chinese) and at a particular time. Autonomy-supportive relationships (as from teachers, coaches, or parents) are generally ongoing contextual factors, and they can therefore be expected to affect the identification experience more pervasively across the domain. The hierarchical model of motivation therefore argues that humans are motivational complex and if researchers are going to understand providing a rationale as a motivational strategy then they will need to attend to people's capacity for identified regulation at both the situation-specific and the domain-general levels.

## Internalization

The identified-regulation-supporting reason to try sparked the identification experience in both studies, we suspect, because it enabled some degree of internalization of that reason to occur. Internalization is the process by which an external regulation (i.e., try hard on this lesson) is assimilated into a more self-determined, internally endorsed regulation (Deci & Ryan, 1985, 1991; Ryan & Deci, 2000a). In our motivational mediation model, we labeled this internalization process as the "identification experience," and internalization occurred to the extent that participants "took on" the externally provided reason to try as their own, self-endorsed reason to try hard. According to Deci and Ryan's model of internalization, the more fully an individual transforms an externally-prescribed regulation into an internally endorsed one, the more self-determined will be the person's motivation and behavior (i.e., effort) in respect to that regulation.

It would be a misrepresentation of our findings to conclude that simply telling another person that an activity is useful will lead them to identify with its personal (i.e., internalized) value. After all, Deci et al. (1994) showed that a rationale, by itself, failed to support participants' self-determination or engagement. Telling another person that an activity is useful might facilitate a perception of importance or value, but it does not necessarily facilitate a perception of *personal* importance or value. For instance, consider the following externally provided rationale that offered a valid, though impersonal, reason to put forth effort:

> Because it is sometimes hard to see how participation in experiments can provide useful information, we wanted to begin by letting you know how helpful your participation can be. In particular, the tasks we are using in the present experiment are simulations of types of tasks that are part of many jobs. Your reactions after some experience with the task will help us to develop optimal ways to present and construct these tasks. Thus, as a result of your participation, we may be able to enhance the experience for people who have to do these tasks on a regular basis (Sansone et al., 1999, p. 711).

To help another person "take on" an externally provided reason as his or her own requires not only an articulation of why the activity is useful but also the presence

of autonomy-supportive facilitating conditions. Before a rationale such as the one above can be expected to facilitate the identification experience, the socializer first needs to discover and then communicate why putting forth effort on the task would be a valuable investment for the person (not just for the experimenter or future workers).

## Directions for Future Research

Research on how to motivate others during uninteresting activities has pursued one of two paths. One research strategy has generally used correlational methods to illuminate the intrapersonal psychological processes people go through to mentally transform the boring activities they face into relatively more interesting things to do (Green-Demers et al., 1998; Sansone et al., 1999). This program of research identifies the merits of motivating others during uninteresting activities by trying to activate interest. The assumption driving this research is that just because an activity is initially perceived to be relatively uninteresting does not necessarily mean that the activity will continue to be perceived as uninteresting over time (Sansone & Smith, 2000). Providing a rationale in an autonomy-supportive way might be one way to promote task interest, though the magnitude at which the rationale increased interest in the present investigation was less than the magnitude at which the rationale increased the identification experience.

Our investigation illustrates the second research strategy, one that relies on experimental methods to illuminate the interpersonal processes that help others mentally transform the uninteresting activities they face into something of greater personal value (see also Deci et al., 1994). These studies identify the merits of motivating others on uninteresting activities by trying to activate identified regulation (i.e., extrinsic motivational processes). Previous experimental research shows that extrinsically motivated behaviors can become self-determined through the process of identification and that this process of identification depends on the context being autonomy-supportive. Our results extend this conclusion by showing that motivational strategies to promote identified regulation need to cultivate the compound psychological experience of high perceived importance and high perceived self-determination. For future research, we suspect that any externally provided identified contingency—whether it is a rationale, a choice, a behavioral limit, a goal, or some other external event—can help others regulate their effort productively during uninteresting endeavors to the extent that it is administered in a way that nurtures the compound psychological experience of high perceived importance and high perceived self-determination.

A third direction for future research is the empirical exploration of integrated regulation. Integration occurs when otherwise isolated identified regulations become fully assimilated into the self (Ryan & Deci, 2000b). Integrated regulation is therefore an even more self-determined type of extrinsic motivation than is

identified regulation (Ryan & Deci, 2000a). Because it is the most self-determined type of extrinsic motivation, integrated regulation is also associated with the most positive outcomes (e.g., well-being, social development; Ryan & Deci, 2000a). It occurs through a self-examination process in which the person successfully brings the sort of identified regulations studied in the present investigation ("try hard on this lesson") into coherence and congruence with his or her existing values and needs. At present, integrated regulation has not been a focus of empirical study (except for research on the self-concordance model; Sheldon & Houser-Marko, 2001; Sheldon & Kasser, 1995). But progress in understanding the identification process seems like a necessary prerequisite to developing an understanding of regulation through integration, because the person's assorted identified regulations constitute the working material for that which is to be integrated into the self. For instance, researchers might investigate how a person integrates a newly internalized identified regulation into the self that is initially either congruent or incongruent with preexisting values and needs. Our inclusion of the variable "pre-lesson identified regulation" in Study 2 illustrates, for instance, how value congruence adds to the identification experience (see the Pre-Lesson Identified Regulation → Identification path in Fig. 2). We suspect that such a line of research would show that a person's sense of self (i.e., preexisting values and needs) is at least as important a contributor to the identification experience as is the quality of the socializer's externally provided rationale.

## Limitations

One limitation some might find within our results is that the presence (vs. absence) of the identified-regulation-supporting rationale did not exert a strong, direct effect on effort. Rather, the rationale, when presented in an autonomy-supportive way, affected the identification experience which, in turn, affected effort. This limitation has practical implications.

In practical terms, what the motivational mediation model means is that effort does not emanate directly out of the externally provided rationales socializers provide. Rather, our findings show that trying hard on an uninteresting task can emanate out of the person's own pre- and concurrent-levels of identified regulation toward the activity at hand. Hence, in practice, the effective use of externally provided rationales likely begins with an understanding of and appreciation for the person's preexisting level of identification with the activity. With one's attention focused on the other's self-determined motivational strivings (rather than on the other's behavioral compliance), an externally provided rationale can be used to add to, strengthen, and support the other's perception that the task at hand might be personally useful to the self. If extrinsic instrumentalities are to be used in ways that foster optimal functioning and positive outcomes, then they need to be communicated in autonomy-supportive ways. The reason why controlling external contingencies (those designed to promote external regulation or introjected

regulation) do not foster optimal functioning is because they are employed as substitutes, or as replacements, for otherwise muted perceptions of self-determination. The strategy we investigated—providing a rationale in an autonomy-supportive way—promotes effort during uninteresting endeavors not because it substitutes for an absence of self-determined motivational strivings but, instead, because it enriches these strivings.

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