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# Fostering Personal Meaning and Self-relevance: A Self-Determination Theory Perspective on Internalization

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**ABSTRACT**

Central to self-determination theory (SDT) is the notion that autonomously motivated learning relates to greater learning benefits. While learners' intrinsic motivation has received substantial attention, learners also display volitional learning when they come to endorse the personal meaning or self-relevance of the learning task. In Part I of this review, we discuss how the process of internalization, in addition to intrinsic motivation, constitutes an important growth process. In Part II, we indicate how autonomy-supportive teaching and the provision of a rationale are critical to fostering internalization, and we review past empirical studies. Further, we propose an emerging model to explain when provided rationales foster perceived self-relevance and promote the process of internalization, thereby, considering both critical features of the rationale itself and the broader context in which the rationale becomes embedded. In Part III, the process of internalization is discussed in relation to the concepts of utility value and instrumentality.

"IT IS VIRTUALLY impossible to promote *all* children's interest and enjoyment for my course. Some of my students think that my assignments are simply boring. So, I have no other option than to use some pressure to get them going," argued a teacher in a workshop on motivating teaching. Much like scholars, many teachers champion the nurturance of children's *intrinsic motivation* for learning (Ryan & Deci, 2000a; 2017). They are convinced that if children are learning for their own sake—that is, out of pure interest and fascination for the learning content itself—they will process the learning material more deeply, be more persistent when facing obstacles, and eventually obtain better grades. Dozens of empirical studies have indeed provided empirical confirmation for this conviction (Ryan & Deci, 2000a). Sometimes, however, teachers struggle with students who find little interest in their course assignments. Under these circumstances, are teachers doomed to use pressure to elicit students' cooperation and to promote learning, as maintained by the teacher above? No. Teachers can make use of alternative, more-motivating teaching practices such that children, in spite of finding little interest in the activity itself, willingly engage in the learning activity.

Understanding the teaching practice of highlighting the personal significance or the *self-relevance* of the learning activity is critical to answering teachers' questions regarding how to motivate students during uninteresting lessons. Herein, we use self-determination theory as our guiding framework (SDT; Deci & Ryan, 2000; Ryan & Deci, 2000a; Vansteenkiste, Lens, & Deci, 2006). In Part I, we articulate how—in addition to intrinsic motivation—the process of internalization constitutes a critical

growth process within SDT, and we indicate where exactly the notion of self-relevance can be situated in SDT's motivational taxonomy. In Part II, we review past research on how to foster internalization through the provision of autonomy support, broadly, and a meaningful rationale, more specifically, thereby developing a model that outlines the critical conditions for how and when the provision of a rationale will engender perceptions of self-relevance and personal meaning. Finally in Part III, we discuss the (dis)similarities between the SDT viewpoint on internalization and other motivational constructs central to other frameworks (i.e., utility value and instrumentality). Along the way, a number of suggestions for both effective classroom practice and future research are provided.

## When learning becomes increasingly self-relevant

### *The process of internalization*

To fully appreciate and understand the notion of self-relevance within the SDT-framework, it is critical to locate the notion within the developed taxonomy of motives, which vary in their level of autonomy. The classic distinction between intrinsic and extrinsic motivation formed the initial basis for the development of SDT (Deci & Ryan, 1985; Ryan & Deci, 2017). Intrinsically motivated activities are carried out because the content of the activity is appealing and interesting, such that learners almost get pulled into the activity. Indeed, intrinsically motivating activities may function as magnets, with individuals naturally gravitating toward engagement. Because intrinsic motivation prompts individuals to spontaneously and willingly put effort into learning, it is considered the hallmark of autonomous or volitional motivation and, as such, is conceived as a highly desirable form of motivation (Deci & Ryan, 2008; Vansteenkiste, Niemiec, & Soenens, 2010).

While the appealing nature of the activity itself is central to intrinsic motivation, the activity gets instrumentalized when learners are extrinsically motivated (Ryan & Deci, 2000b). That is, the activity becomes an instrument or a means to attain an outcome that is separate from the content of the activity itself. The outcomes can be very different and the reasons underlying the extrinsically motivated behavior can be accepted—that is, internalized—to different degrees. As a result, extrinsic motivation does not constitute a homogeneous concept, but different types of extrinsic motivation are discerned within SDT, with some of them being rather controlled or pressured and others being more autonomous or volitional in nature. That is, in the case of controlled regulation, reasons that are rather alien to one's sense of self (e.g., external demands, guilt) are underlying one's activity engagement, whereas reasons congruent with one's sense of self (e.g., commitments, personal values) guide one's activity engagement in the case of autonomous regulation (Ryan & Deci, 2017). A schematic overview of the discerned motivational subtypes and reasons can be found in Figure 1. The motivational continuum does not apply only to learning behavior (i.e., children's and adolescents' processing and assimilation of new learning contents) but also to their compliance with school- or class-bounded guidelines

| Type of Motivation | Extrinsic motivation | | | | Intrinsic motivation |
|---|---|---|---|---|---|
| **Type of Regulation** | External regulation | Introjected regulation | Identified regulation | Integrated regulation | Intrinsic regulation |
| **Motivational force** | Commands, rewards, punishments | Guilt, shame, ego-involvement | Personal significance and value, relevance | Harmony and coherence with other values, commitments | Interest, enjoyment, curiosity |
| **Internalization** | Lack of internalisation | Partial | Full | Fullest | Not required |
| **Perceived self-relevance** | Low | Medium | High | Very high | - |

**Figure 1.** Overview of different types of regulation within self-determination theory (adapted from Ryan & Deci, 2000b).

and rules (e.g., not using smartphones in class). Indeed, both the learning material and behavioral guidelines can be perceived as either personally meaningful or as devoid of such self-relevance, such that they are experienced as imposed and rather controlling (Aelterman, Vansteenkiste, & Haerens, 2017).

*External regulation* constitutes a first form of extrinsic motivation. When externally regulated, the task itself offers little, if any, inherent appeal, and learners put effort in their studies only to meet others' expectations and to comply with demands. Children have found that their cooperative behavior and school success helps them to gain external approval, to obtain an external reward, or to avoid criticism and punishments. In the case of external regulation, the reason for performing the behavior has not been internalized at all (see Figure 1). Learners who are attentive in class to gain their teacher's appreciation or who stick to a rule to avoid being sanctioned constitute examples of students who are externally regulated. Because the activity is imposed and demanded, it is carried out with a sense of pressure, thus, constituting a first form of controlled motivation.

Interestingly, learners can also pressure themselves to put effort into their studies or to behave as a "good boy"—for instance, by buttressing their activity engagement with feelings of contingent worth, guilt, and shame (Assor, Vansteenkiste, & Kaplan, 2009). In this case, the behavioral regulation (i.e., the reason for engaging in the activity) has been introjected, which constitutes a second form of extrinsic motivation. *Introjection* is derived from the Latin *intro* and *jacere*, which mean "inside" and "throw" (Vansteenkiste et al., 2010). The reason for performing the activity is no longer outside the person but has been "thrown inside" without being fully accepted. Learners who study long hours to prove their smartness or who behave well to avoid guilty feelings are said to display introjected regulation. Although the activity is internally motivated and is valuable in the general sense, the student motivated by introjection feels conflicted to engage in the activity as the reason for performing the activity has only been partially accepted (i.e., internalized). As a result, introjected regulation is—similar to external regulation—considered a controlled form of motivation. External and introjected regulation are often combined in empirical research as a composite score of controlled motivation (e.g., Haerens, Kirk, Cardon, De Bourdeaudhuij, & Vansteenkiste, 2010; Ratelle, Guay, Vallerand, Larose, & Senécal, 2007).

A more volitional form of regulation occurs when learners come to identify the importance of the activity to the self. In the case of *identified regulation*, learners notice and accept the personal relevance of the activity such that they come to "own" their behavior. That is, the learning activity or classroom rule is perceived to be endowed with personal significance and purpose as it helps attain personally valued immediate or long-term outcomes. Because students have internalized the reason for engaging in the activity in these instances, they exert effort in the activity more volitionally or more willingly comply with classroom rules. That is, students take more personal responsibility for their own functioning. Rather than the appealing or intrinsically motivating character of the activity, the important personal benefits the activity can bring (e.g., more skills, better friendships, improved health) generate students' volitional motivation. Due to its volitional character, identified regulation constitutes a form of autonomous motivation (much like intrinsic motivation).

The fullest form of internalization occurs when the reason for doing the activity is not just personally meaningful but is also brought in harmony with broader and more deeply anchored values, commitments, and interests of the person. Such *integrated regulation* may not be easily achieved on a day-to-day basis and may require considerable awareness, self-understanding, and maturity (Sheldon & Kasser, 2001). Especially during key-decision moments during a school career (e.g., when deciding which college studies to embark on), it may be critical for learners to consider their decisions from a broader perspective, thereby, taking into account their future professional identity, long-term aspirations, and personal dreams (Erikson, 1968; Kroger & Marcia, 2011). If learners perceive their career choices to be coherent with their personal values, aspirations, and interests, they may be more likely to display integrated regulation when studying. That is, students will experience very high ownership and personal endorsement of the activity because they see it as an expression of their self—or more specifically an expression or extension of their identity, long-term aspirations, and personal dreams. Because students' commitment is of the volitional sort, integrated regulation is also considered—together with identified regulation and intrinsic motivation—a third subtype of autonomous motivation (Ryan & Deci, 2000b).

While some theories of motivation and development conceptualize internalization in a dichotomous way, distinguishing between factors inside and outside the person (e.g., attribution theory; Lepper, 1983), SDT adopts a more refined viewpoint, distinguishing different types of regulation as a function of increasing ownership. Also, children and adolescents are not considered passive recipients of an externally driven socialization process in which values, beliefs, and guidelines are transmitted to them that they eventually adopt. Instead, internalization is viewed as an intentional, proactive process that is initiated and regulated by the student, not just by the society. That is, learners want to adapt and adjust and this natural striving for greater integrative functioning leads them to seek out values, beliefs, and ways of behaving they fully endorse. Thus, the process of internalization requires that learners actively take in externally offered values, regulations, and guidelines and transform them into their own (Ryan & Deci, 2000b, 2017), such that they come to function as personally meaningful guideposts in the learners' lives.

### *Conceptual and practical considerations*

To more deeply understand the process of internalization, four points need to be highlighted, including (a) the co-occurrence of intrinsic motivation and internalization; (b) the specific location of the notion of relevance on the internalization continuum; (c) the fact that the process of internalization does not represent a stage-like sequence; and (d) the implications of the process of internalization for both learners and teachers.

First, the content of the activity at hand largely determines which of both processes—that is, intrinsic motivation or internalization—is most likely to be operative. When activities are perceived to be enjoyable, interesting, or fascinating, learners' intrinsic motivation is by definition operative; and when activities are perceived to be meaningful, relevant, and of value to the self, learners' identified/integrated regulation is by definition operative. Many activities, however, can be both interesting and self-relevant such that intrinsic motivation and identified/integrated regulation co-occur. Indeed, intrinsic and well-internalized forms of motivation are very often positively correlated (e.g., Calvo, Cervello, Jiminez, Iglesias, & Murcia, 2010). Yet, the strength of this correlation can vary, indicating that intrinsic motivation and identified regulation may sometimes function in a more disconnected way for two reasons. First, a lot of activities in learners' lives are not at all interesting but are nonetheless worthwhile pursuits that require considerable effort and diligence (Chandler & Connell, 1987). Here, the process of internalization becomes more critical and yields multiple benefits. To illustrate, with increasing ownership of the reasons for learning, students will display greater persistence in the face of adversity (Ntoumanis et al., 2014; Pelletier, Fortier, Vallerand, & Brière, 2001). Second, in some cases, individuals can display a very strong interest and passion for an activity; yet, they fail to bring this activity in harmony with other personally held values and commitments and instead they are obsessed with partaking and excelling in the activity (Curran, Hill, Appleton, Vallerand, & Standage, 2015). Technically speaking, in such instances, individuals' intrinsically motivated pursuits become disconnected from their deeply held values and, rather, are coupled with self-worth concerns (i.e., ego involvements) and rigidly held standards (i.e., introjects), such that they fail to display full integrative functioning.

Second, although all types of extrinsically motivated activities may be important to people in a very general sense, the notion of self-relevance applies only to the more internalized forms of extrinsic motivation. That is, for an activity to be perceived as self-relevant, learners need to identify with its personal significance. Perceptions of self-relevance and personal meaning may be strengthened further if the regulation is brought in harmony with other held values and commitments. Thus, while any motivated activity may be important to be carried out as it allows one to obtain an outcome, it is only when the activity is perceived to be self-relevant—that is, endowed with personal meaning and significance—that learners would start owning (i.e., internalizing) the behavior.

Third, both developmental psychologists (e.g., Piaget, Kohlberg) and clinical accounts (e.g., transtheoretical model of change) have distinguished different discrete, categorical phases that individuals gradually progress through to evolve toward more-advanced forms of cognitive, moral, or motivational

functioning. The internalization continuum within SDT, however, cannot be equated with such a stage-like model, as individuals often display different forms of regulation simultaneously and, more importantly, external regulation does not constitute a necessary requirement for internalization to occur. Indeed, to foster the process of internalization, socializing agents can at best directly nurture identified/integrated forms of regulation and try to avoid practices that encourage external/introjected forms of regulation. That is, the increase of external pressure does not constitute a necessary first step to foster greater ownership (see Reeve, Jang, Hardre, & Omura, 2002). On the contrary, external pressure may even prompt a defiant reaction such that learners come to resist and reject external requests (Haerens, Aelterman, Vansteenkiste, Soenens, & Van Petegem, 2015; Van Petegem, Soenens, Vansteenkiste, & Beyers, 2015). The contention that the SDT continuum of motivation is not a stage-like model is also a crucial practical point: Teachers often hold the belief that external regulation is a necessary springboard for internalized motivation to evolve, as when they adopt the strategy of "I'll externally pressure my students today in hopes that, in time, they will develop value and interest for it later." Yet, there is, to the best of our knowledge, no empirical evidence for the idea that externally pressured behavior will automatically get transformed into a volitionally sustained habit once the external contingency is removed. Indeed, the problem with external regulation is its lack of maintenance and transfer once the external contingency is removed (Deci & Ryan, 1985). Therefore, to help students develop value for the uninteresting activity and for the activity to be sustained over time, teachers may want to directly promote identified regulation by explaining the activity's importance, value, and personal relevance for the students.

Fourth, the process of internalization is important not only to learners, but also to teachers. To illustrate, many school principals introduce a number of innovations on a yearly basis. Teachers' *readiness* to implement these changes largely depends on the extent to which they have come to personally endorse them. Thus, much as teachers face the challenge to promote children's self-endorsed learning, principals face the same challenge of highlighting the relevance of proposed innovations so that teachers accept them and implement the proposed changes over a period of time (see Gagné, Koestner, & Zuckerman, 2000). Further, much as students vary in their motivation across courses, teachers also do not find all their tasks to be as interesting and enjoyable (Fernet, Sen, Guay, Marsh, & Dowson, 2008). While they typically enjoy preparing their classes and delivering instruction on content, managing the order and discipline in their classes and taking up various administrative activities is often considered a burden that requires considerable effort and self-control, so that the internalization of these tasks is of vital importance for their sustained engagement.

### *Correlates of different types of regulation*

Dozens of studies in the SDT literature have examined the external correlates of the different types of regulation as displayed in Figure 1. Overall, the pattern of correlates obtained with student outcomes has been found to follow a simplex pattern, with the correlates becoming increasingly less negative and more positive as one moves along the continuum from external regulation to intrinsic motivation (Ryan & Connell, 1989). External regulation has been found to come with the poorest outcomes, including emotional disaffection (e.g., Van der Kaap-Deeder et al., 2016), dropout (Pelletier et al., 2001) and ill-being (Stenling, Ivarsson, Hassmen, & Lindwall, 2017).

Especially relevant for the purpose of our review is the difference in how introjected regulation, identified/integrated regulation, and intrinsic motivation relate to student outcomes. In each of these cases, the reason for performing the activity is inside the person—that is, the person is displaying internal motivation (Koestner & Losier, 2002). In the case of both introjected and identified regulation the activity is perceived as important (see Vansteenkiste, Lens, De Witte, & Feather, 2005; Wilson, Rodgers, Fraser, & Murray, 2004); yet introjected regulation is a mixed blessing, involving both advantages and disadvantages. For instance, while introjected regulation relates positively to initial effort-expenditure (Wilson et al., 2004) and self-reported behavioral engagement (Van der Kaap-Deeder et al., 2016), as indicated by learners' persistence (Reeve et al., 2011; Skinner et al., 2009), introjected regulation equally relates positively to maladaptive coping (Ryan & Connell, 1989), negative affect (Assor et al., 2009), anxiety,

emotional disaffection (Van der Kaap-Deeder et al., 2016) and dropout over the longer term (Calvo et al., 2010). The reason why introjection yields both pros and cons is due to its conflicting nature: The activity is perceived to be important yet is lacking in *personal* meaning and self-relevance such that enacting the required behavior will require considerable self-control and effort. The person feels pushed into the activity by an "internal should," yet is paying an emotional price for it. Directly testifying to this ambivalent characteristic of introjected regulation, drug- and alcohol-addicted clients with introjected regulation indicated they had both pro- and counterarguments for change (Wild, Cunningham, & Ryan, 2006).

In the case of identified and integrated regulation, the activity is not only perceived to be important, it is perceived as self-relevant and personally valuable, entailing a greater volitional commitment. As a result, identified regulation comes with more-uniform benefits as it relates positively to positive affect (Assor et al., 2009), performance (Walls & Little, 2005), emotional engagement (Van der Kaap-Deeder et al., 2016), and persistence (Pelletier et al., 2001). While personal relevance is central to identified/integrated regulation, interest, curiosity, and enjoyment are central to intrinsic motivation. The affective character of intrinsic motivation makes it especially critical for learners' task absorption (Kowal & Fortier, 1999), well-being (Burton, Lydon, D'Allesandro, & Koestner, 2006; Walls & Little, 2005), and creativity (de Jesus, Rus, Lens, & Imaginario, 2013). Intrinsic motivation also comes with various behavioral benefits as it relates positively to persistence (Deci, Koestner, & Ryan, 1991), challenge seeking (De Muynck et al., in press), and performance (Cerascoli, Nicklin, & Ford, 2014). Putting aside the advantages of intrinsic motivation, when students find little interest in an activity and, hence, activity engagement is more effortful, students may benefit from seeing the personal relevance and necessity of the activity. Such identified regulation may be particularly critical when learners face obstacles to accomplish a desired outcome as learners who have identified with the personal relevance of the learning may engage in more problem-focused coping, put forth more effort to overcome the obstacle and, due to their persistence, eventually perform better—and do so with little accompanying emotional conflict (Jang, 2008).

Consistent with this reasoning, Burton et al. (2006) showed in a series of studies among elementary and undergraduate students that intrinsic motivation was primarily predictive of learners' well-being, while identified regulation predicted their performance, even when controlling for performance expectations. Such findings appeared both correlationally and experimentally. In one experiment, students whose intrinsic motivation for coursework was primed displayed an increase in well-being. Such affective benefits were not observed among students whose identified regulation was primed. Along similar lines, Van der Kaap-Deeder et al. (2016) noted in a sample of eighth- and ninth-grade high school students that identified regulation was uniquely predictive of behavioral (dis)engagement, while both intrinsic motivation and identified regulation related positively to emotional engagement.

Clearly, more work is needed in this area to disentangle the potentially unique and complementary roles of well-internalized extrinsic motivation and intrinsic motivation. Indeed, for many learners and for many activities, the process of internalization and intrinsic motivation may work in tandem—that is, they are both simultaneously operative. Yet, at least for some activities (e.g., boring ones), the two processes of intrinsic motivation and identified regulation may work in a divorced fashion. Future studies could examine whether the predictive validity of intrinsic motivation and well-internalized motivation for a broad array of outcomes (i.e., affective, cognitive, behavioral) depends on the content of the activity or the characteristics of the learners.

### *Resources of internalization*

As noted, internalization is the process by which an external demand (i.e., "try hard on this lesson") is assimilated into a more self-determined, personally endorsed, and personally valued (i.e., "identified with") regulation (Deci & Ryan, 1985, 1991; Ryan & Deci, 2000a). Two conditions need to be met for students to "take in" reasons, either for engaging in a learning activity or for sticking to a classroom rule, in a way that they get transformed into their own, self-endorsed reason.

First, the value and importance of the activity at hand needs to be clear. Socializing agents such as teachers can communicate why the uninteresting activity or classroom rule is important and valuable

to the students (Jang, 2008). In experiments, such value is typically communicated with utterances such as, "Doing this activity has been shown to be useful" (Deci, Eghrari, Patrick, & Leone, 1994, p. 127), as the teacher then proceeds to explain why that activity might be meaningful to the student. Such a rationale is a necessary condition for students to see the activity as important; yet, it may not be a sufficient condition as not all externally communicated rationales may elicit perceptions of self-relevance. To illustrate, rationales that connect the learning material to students' daily life appear to be more motivating for students with low confidence relative to rationales that highlight the importance of the task for students' future schooling and career (Canning & Harackiewicz, 2015). In many situations, students are capable of generating the value of an activity themselves (Hulleman, Godes, Hendricks, & Harackiewicz, 2010), or they can read through a predetermined list of relevance quotations from their peers to which they then relate (Gaspard et al., 2015).

From the SDT perspective, for a given rationale to be truly effective and to foster internalization, a second crucial ingredient is required—that is, the satisfaction of students' psychological needs. The satisfaction of the basic psychological needs for autonomy, competence, and relatedness is said to energize the process of increasing internalization and integration. That is, learners are said to increasingly acquire ownership over their learning and externally offered norms, guidelines, and regulations to the extent that (a) they experience a strong sense of connectedness and bonding with the person introducing the learning content/guidelines (i.e., relatedness); (b) they feel effective and capable to engage in the required activity or to meet external expectations (i.e., competence), and (c) they experience a sense of volition and psychological freedom during their activity engagement or when complying with external guidelines (i.e., autonomy). To the extent these psychological needs get frustrated, learners may become reactant (Brehm, 1966), thereby, bluntly defying the assigned learning tasks (Haerens et al., 2015) or purposefully transgressing introduced behavioral guidelines and regulations (Vansteenkiste & Ryan, 2013; Van Petegem et al., 2015).

Competence and relatedness satisfaction are considered critical ingredients for individuals to begin internalizing the reason for performing the assigned learning material; yet, for full internalization to occur they also need to experience a sense of volition and psychological freedom (i.e., autonomy satisfaction). That is, if learners experience a strong bond with their teacher and feel effective in carrying out the activity, they may merely do so to please their teachers, to gain the teachers' approval, or to avoid feeling guilty for being disloyal (Calvo et al., 2010; Haerens et al., 2015). Although the regulation has been taken in, the activity is not performed wholeheartedly. For learners to fully endorse an activity or guidelines, they must have the feeling that they took personal responsibility for the assigned learning activity or behavioral guidelines, such that they autonomously engage in them.

Consistent with the presumed differential role of the psychological needs for the fostering of different types of regulation, Markland and Tobin (2010) reported in a sample of female exercisers that experiences of autonomy and social assimilation related negatively to external regulation, while experiences of relatedness, but not autonomy, related to greater introjected regulation. Notably, as can be hypothesized based on the theory, satisfaction of all three needs was involved in the prediction of identified regulation, suggesting that the experience of competence and relatedness by themselves may not suffice for exercisers to perceive the relevance and benefits of their exercising. Along similar lines, Sparks, Dimmock, Lonsdale, and Jackson (2016) reported that relatedness satisfaction was positively predictive of both introjected and identified regulation for physical education among high school students. Interestingly, in studies that involved the assessment of both need satisfaction and need frustration (Haerens et al., 2015), autonomous regulation was uniquely positively predicted by need satisfaction, while controlled regulation was found to be strongly rooted in a composite score of need frustration, while also being—although rather minimally—predicted by a composite score of need satisfaction. Follow-up analyses, looking at the subtypes of controlled regulation, indicated that competence satisfaction related to introjected regulation only (Haerens et al., 2015). Although more research in this area is needed, the available findings to date suggest that introjected regulation, congruent with its presumed ambivalent nature, stems primarily from the frustration of the psychological needs, while also emerging when individuals feel effective to engage in the activity or experience a sense of connection to the socializing agent introducing the activity. Importantly, for such an "internal should" to be transformed

into more internalized functioning, the satisfaction of the need for autonomy forms an additional prerequisite.

Note that apart from fostering greater internalization, need satisfaction has been found to come with multiple other benefits, including greater engagement (Jang, Kim, & Reeve, 2016; Wilson et al., 2012), more self-regulated learning (Mouratidis, Vansteenkiste, Michou, & Lens, 2013), and higher well-being (Chen et al., 2015). For the present discussion, however, the key conclusion is that the process of internalization requires two crucial ingredients: (1) an understanding of why the uninteresting activity is useful, valuable, and important to one's self-functioning and (2) an experience of satisfaction of all three psychological needs during both the contemplation and the engagement of that activity.

## Fostering self-relevance: The critical role of autonomy support

### *Promoting internalization*

To foster the process of internalization and to promote more self-endorsed learning, teachers need to adopt an autonomy-supportive teaching style (Reeve, 2009). The basic attitude underlying an autonomy-supportive style is one of curiosity, openness, and empathic understanding, which allows teachers to connect with the learners' frame of reference such that learners have the feeling they can be themselves in relation with their teacher (Vansteenkiste & Soenens, 2015). That is, under autonomy-supportive circumstances, learners' psychological needs for autonomy (i.e., experience of volition), but often also their needs for relatedness (i.e., experiencing connection and warmth) and competence (i.e., experience of effectiveness) are nurtured, promoting internalization (e.g., Markland & Tobin, 2010), intrinsic motivation (e.g., Dysvik, Kuvaas, & Gagné, 2013), and learners' engagement (e.g., Jang et al., 2016) and persistence (e.g., Vallerand, Fortier, & Guay, 1997).

An autonomy-supportive teaching style consists of several building blocks, including (1) the provision of choice and input, (2) attuning the tempo of teaching to learners' pace of development, and (3) eliciting students' interest and curiosity for the learning content (Assor, Kaplan, & Roth, 2002; Deci et al., 1994; Patall & Hooper, in press; Reeve, 2016). Of course, not all learning material is interesting to all children, and teachers are not always able or willing to provide choices. Can children maintain their sense of volition and autonomy for learning when they lack intrinsic motivation and the teacher is taking the lead? Yes. In this case, a number of other autonomy-supportive strategies are critical, including the (4) the acceptance rather than the suppression and countering of children's and adolescents' negative affect and resistance through perspective taking (Deci et al., 1994), (5) the use of inviting instead of controlling language (Ryan, 1982; Vansteenkiste, Simons, Lens, Sheldon, & Deci, 2004), and (6) the explanation of the personal relevance of the learning material such that children become more willing to invest effort into it (Jang, 2008).

For a rationale to be truly motivating, and thus fostering a learner's personal endorsement of the learning material, it is critical that teachers take the child's frame of reference such that they can begin thinking of a rationale that is meaningful from the learners' perspective. A provided rationale will be perceived to be self-relevant by a learner to the extent that the teacher is capable of connecting to the child's goals, values, and aspirations. That is, the rationale makes clear how the learning material is attuned to the learners' own perspective and life, such that the learning material is endowed with a sense of meaning in their eyes. In other words, internalization is likely to occur when the learners notice the value and relevance of the activity for themselves, while internalization is unlikely to occur when the rationale is only meaningful from the teacher's perspective—not from the learner's perspective.

Such personalized, learner-centered rationales are more likely to provoke perceptions of self-relevance in comparison with teacher-centered rationales, such as when teachers indicate that the curriculum is also imposed upon them. If teachers refer to external authority figures to justify their own decisions and functioning, such externally driven rationales are unlikely to be perceived as personally meaningful to the student. On the contrary, learners may even feel misunderstood and left to their own devices as the rationale is experienced as rather controlling (Steingut, Patall, & Trimble, 2017).

This is the case for not only learning content but also for classroom- or school-based rules that are typically uninteresting or tedious to stick to, yet, are critical for children to accept. Again, it is

important that teachers or principals provide student-centered explanations for these rules rather than teacher-centered explanations. Children will fail to perceive rules as personally relevant or internalize them if the explanations focus only on how the rules are important to authority figures. In fact, children's behavioral problems and resentment at school are often rooted in the noncompliance or even blunt defiance against requests, which have little personal meaning for children (Aelterman, Vansteenkiste, Soenens, & Haerens, 2016). So, the challenge for teachers and principals is to clarify the necessity and value of introduced rules with rationales that emphasize the importance for the learners themselves, ideally through dialogue with and based on the input of their students.

## Empirical basis for rationale provision

### Rationale provision embedded within other autonomy-supportive practices

A number of correlational and experimental studies, within the SDT literature and beyond, have indicated that providing a meaningful rationale in an autonomy-supportive way promotes internalization, which in turn, contributes to greater engagement and learning. In an early experimental study (Deci et al., 1994), university students participated in a boring activity with the number of internalization-promoting factors (i.e., rationale provision, inviting language, and acknowledgment of negative feelings) being experimentally varied. The more internalization-promoting factors were present, the more participants felt a sense of choice, perceived the activity to be valuable, and persisted at the activity during a free-choice period. Interestingly, although a minority of participants in the nonfacilitating conditions also continued working at the activity, their persistence was disconnected from their affective experience and valuation of the activity as such, presumably because participants had merely introjected instead of fully integrated the reason for performing the activity.

Following this pioneering study, Reeve et al. (2002) examined the role of providing a rationale among college students who were engaging in a rather uninteresting language-learning task. Similar to Deci et al. (1994), the rationale was provided in an autonomy-supportive way—that is, in combination with the use of inviting language and the acceptance of participants' negative affect vis-à-vis the task. Compared to a control group, the autonomy-supportive introduction of the rationale predicted increased relevance of the learning activity as well as greater autonomy, indicating that learners had better internalized the reason for engaging in the boring activity. To the extent they had identified more strongly with its self-importance, learners exerted more effort in the learning activity.

More recently, the Deci et al. (1994) and Reeve et al. (2002) studies were replicated and extended in a sample of female teenagers with emotional and behavioral problems who were participating in a tedious but important clinical workshop in which skills for interpersonal problem solving were taught (Savard, Joussemet, Pelletier, & Mageau, 2013). Compared to the laboratory study of Deci et al. (1994), the ecological validity of this study was higher, thereby, also addressing the question whether youngsters with a history of problem behavior may benefit from an autonomy-supportive approach. Teenagers randomly assigned to the autonomy-supportive condition, which involved the combination of rationale provision, the offer of choice, and empathy, found the workshop to be more valuable, experienced less negative affect (e.g., frustration), and thought the instructor was more competent compared to teenagers assigned to the control group.

Similar findings have been reported in correlational studies. For instance, in the parenting domain, to the extent that adolescents perceived their parents to introduce prohibitions in an autonomy-supportive way, thereby providing a sensible rationale for the prohibition, adolescents were more likely to accept the prohibition (Soenens, Vansteenkiste, & Niemiec, 2009). A perceived autonomy-supportive style even led adolescents to more strongly identify with the self-relevance of the prohibition over a one-year period, while at the same time offsetting a blunt defiance against the prohibition (Vansteenkiste, Soenens, Van Petegem, & Duriez, 2014). This pattern of findings appears highly consistent across the domain (e.g., friendships, moral) to which the prohibition belongs (Van Petegem et al., 2017).

Also, teachers install a multitude of behavioral regulations in their classrooms (Gable, Hester, Rock, & Hughes, 2009), with many of them involving prohibitions that can be introduced and monitored in a more autonomy-supportive or a more controlling way. Similarly, many schools undergo

transformations on an almost yearly basis, changes that can be imposed top down or introduced in more autonomy-supportive ways. To the extent that the requested organizational change is perceived as meaningful by employees, the change is more readily accepted, especially if employees' perspective with respect to the timing and type of change being implemented is also taken into account. In a longitudinal study with employees at a Canadian telecommunications company, a perceived autonomy-supportive communication style that highlighted a rationale explaining the critical importance of the organizational change predicted employees' greater acceptance of organizational change 13 months later when the organization was in the midst of the actual transformation (Gagné et al., 2000).

### Rationale provision in isolation

In the studies discussed until now, the provision of a meaningful rationale was embedded within an experimental manipulation or self-report measure involving a variety of autonomy-supportive components. Hence, it remains unclear to what extent the provision of a meaningful rationale, when experimentally isolated or when assessed with a broader set of items, is by itself a sufficient condition to facilitate greater ownership and internalization. In one illustrative study, Jang (2008) experimentally varied the provision of a rationale to students prior to engaging in a statistics class. Participants who were given a rationale, compared to those being placed in the control group, were observed to be more engaged in the activity, an effect that became stronger over time. More specifically, as the statistics class continued, control participants' engagement was found to decline, yet, the provision of a rationale buffered against such a decline among participants in the experimental group. A process-analysis further indicated that a meaningful rationale elicited greater engagement and better conceptual learning because it promoted more internalization, as indexed by a combination of greater experienced autonomy and perceptions of self-importance of the activity (Jang, 2008; see also Reeve et al., 2002).

Patall, Dent, Oyer, and Wynn (2013) also examined the unique roles of different autonomy-supportive practices, including rationale provision, offering choice, perspective taking, and asking students' opinions, in a sample of ninth-grade to 12th-grade students. Each of the practices was assessed with multiple items. Perceived rationale provision predicted students' perceptions of value for coursework above and beyond the other practices. Although perceived rationale provision was positively related to autonomy-need satisfaction at the correlational level, using hierarchical linear modeling this relation dropped to nonsignificance when controlling for the other autonomy-supportive practices.

### An emerging model on rationale provision and internalization

### Not all rationales are equal

From the SDT-perspective, the provision of rationale by a socializing agent constitutes an external event, of which the functional significance or perceived meaning can vary (Deci & Ryan, 1985). Specifically, if teachers' rationales are perceived to be evaluative, steering, and pressuring, they may fail to support or even thwart individuals' needs, such that the benefits get reduced or even cancelled out and the internalization process gets forestalled. Instead, to the extent the provided rationale is perceived as informational and helpful, it will allow for greater need satisfaction and foster the internalization process.

In a recent meta-analysis involving 23 experimental studies, Steingut et al. (2017) indicated that the provision of a rationale, compared to the lack thereof, promoted greater autonomy and task value (medium effect size) and greater engagement and performance (small effect sizes). Effects on relatedness satisfaction, controlled motivation, and autonomous motivation were absent, and rationale provision even had a negative effect on competence satisfaction, although the number of studies focusing on some of these outcomes (e.g., competence, controlled motivation) was rather limited. Herein, we maintain that several factors can determine whether the rationale is perceived to be self-relevant, including properties of the rationale itself and the broader context in which the rationale is embedded (see also Steingut et al., 2017). To better communicate how these conditions promote the internalization process, we provide an emerging model in Figure 2.

### Rationale-related features

For a given rationale to promote the process of internalization, the rationale needs to be perceived as relevant—that is, as personally meaningful in the eyes of the recipient of the rationale rather than being meaningful merely in the eyes of the rationale provider. Several conditions need to be met in this respect (see Table 1). First, the rationale has to be specific and concrete instead of abstract and vague. In an illustrative experimental study, students in a physical education class were informed that a new activity (i.e., tae bo) was "important for their future," while no importance statement was made to participants in the control group (Vansteenkiste, Simons, Lens, & Soenens, 2004). Those in the experimental group displayed increased introjected regulation, yet failed to internalize the activity at hand. Clearly, the vague rationale had a motivating effect as it elicited a general sense of anxiety and guilt for not putting effort into the task at hand; yet, participants did not see the relevance of the activity for themselves (see also Canning & Harackiewicz, 2015, Study 3).

Second, when providing a more specific rationale, it is critical that the rationale be intrinsically rather than extrinsically goal oriented (Vansteenkiste, Sierens, Soenens, Luyckx, & Lens, 2009). Within SDT, growth-promoting or intrinsic goals, including personal development, contributing to the community, health, and affiliation, are distinguished from extrinsic goals, such as amassing material success, achieving an attractive appearance, and acquiring power and social status (Kasser, 2002; Kasser & Ryan, 1996). Similar to the observation in correlational research that a lifestyle centered around the attainment of intrinsic goals at the expense of extrinsic goals relates to better well-being and prosocial and eco-friendly behavior (e.g., Brown & Kasser, 2005; Unanue, Vignoles, Dittmar, & Vansteenkiste, 2014), experimental research has indicated that framing a learning activity in the service of intrinsic, instead of extrinsic, goals comes with multiple benefits. To illustrate, in a series of three experimental studies (Vansteenkiste, Simons, Lens, Soenens, & Matos, 2005), 11- to 12-year-old (obese) children were motivated to attentively read a text during their regular class period, with participants being informed that learning more about this topic was important for either their health (an intrinsic goal) or for their attractive appearance (an extrinsic goal). Intrinsic goal framing prompted greater task involvement, more autonomous motivation, and better conceptual (but not rote) learning compared to extrinsic goal framing, an effect that remained significant four weeks later when a retention test was given to participants. Similar effects have been observed with both high school and college students, using different text materials and experimentally varying different intrinsic (e.g., community contribution; self-development) and extrinsic goals (e.g., materialism; status; see Vansteenkiste et al., 2006, and Vansteenkiste et al., 2009, for overviews). Importantly, scholars from different research traditions, including the fields of materialism (e.g., Ku, Dittmar, & Banerjee, 2014) and purpose for learning (Grant & Hoffman, 2011; Yeager et al., 2014), have reported similar findings.

A third critical feature that to the best of our knowledge has not been directly studied is whether the provided information included in the rationale is novel or familiar in the eyes of the rationale recipient.
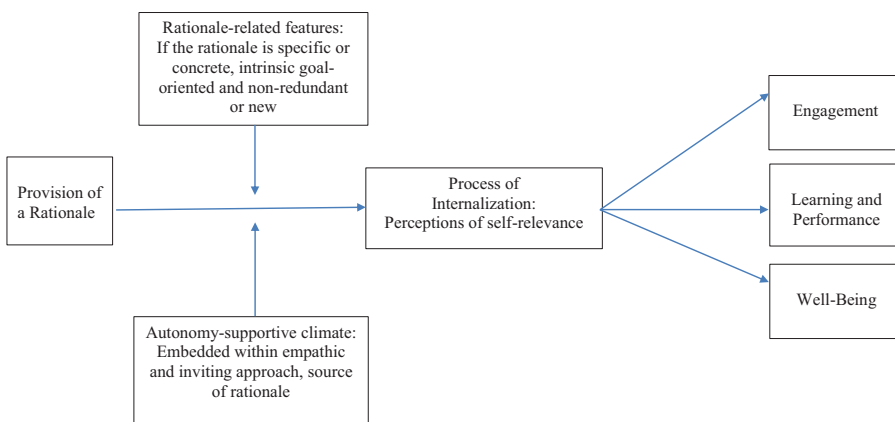


**Figure 2.** Proposed process model.

**Table 1.** Overview of critical conditions of a motivating rationale.

| | Description | Supportive reference |
|---|---|---|
| **Rationale-related features** | | |
| Specificity | Specific and concrete relative to vague and abstract | Vansteenkiste, Simons, Lens, & Soenens (2004) |
| Content | Intrinsic-or extrinsic-goal-oriented rationale | Reeve et al. (2002); Sansone et al. (1992); Steingut et al. (2017); Vansteenkiste et al. (2004, 2005) |
| Novelty | Self-evident or novel | To be examined |
| **Autonomy-supportive climate** | | |
| Embeddedness | In isolation or in conjunction with an empathic stance and inviting language | Deci et al. (1994); Reeve et al. (2002); Savard et al. (2013) |
| Source | Self-generated versus externally offered rationale versus selected from a quotations list | Canning and Harackiewicz (2015); Gaspard et al. (2015) |

All too often, externally offered rationales contain information that is already familiar to the recipient. Although such self-evident rationales may contain useful information, they may not necessarily be meaningful and, in the worst case, may even elicit irritation because they are perceived to contain redundant information. Yet, for a rationale to foster the internalization process and be optimally motivating, the rationale needs to help build *new* motivational resources. Reeve (2016) referred to this as teachers communicating to students the "hidden value" in the activity—the very good and useful purpose or relevance of the activity that the teacher is aware of but the student is not. To achieve this goal, a new bit of information that the rationale recipient was not aware of needs to be provided, such that a new insight is generated.

### *Autonomy-supportive climate*

As noted above, the provision of a meaningful rationale constitutes only one autonomy-supportive practice from the SDT-perspective. Although rationale provision can be studied in isolation in experimental work (e.g., Jang, 2008), in practice, this strategy is often offered in conjunction with other autonomy-supportive strategies, such that the likelihood of the rationale being perceived as self-relevant is augmented.

First, the provision of a rationale can be embedded with other autonomy-supportive strategies (see embeddedness in Table 1), such as the acceptance of recipients' negative affect and resistance vis-à-vis the effortful or boring task and the use of inviting instead of pressuring language (Deci et al., 1994; Savard et al., 2013). The additional presence of these autonomy-supportive strategies may alter the perceived functional significance of the provided rationale, with a broader autonomy-supportive climate leading the rationale to be perceived as more informational and more meaningful (Vansteenkiste, Ryan, & Deci, 2008). Specifically, as far as rationales are coupled with a sincere understanding of the recipient's perspective, the given rationale will more likely foster internalization. In line with this assumption, the meta-analysis by Steingut et al. (2017) indicated that rationales especially promoted engagement, and tended to yield a stronger impact on performance if they were coupled with the acknowledgment of negative affect.

A second critical feature of an autonomy-supportive climate is the issue of the *provider* of the rationale. Specifically, rather than telling the learner up front what the value is of learning a new skill, of a class or of schoolwork, more generally, the learners could be prompted to reflect on the purpose of learning themselves (e.g., "Why do you think this task is important?" or "How could this guideline help us to optimally work together?"), thereby, fostering the self-generation of a rationale. Such self-reflection may best occur in a guided, structured way (see Yeager et al., 2014) because the request may otherwise be too difficult, such that learners feel incompetent to generate their own reasons for putting effort into an activity (Hulleman et al., 2010). Canning and Harackiewicz (2015) conducted a series of laboratory studies directly contrasting the effects of externally communicated and self-generated reasons for engaging in a math task. Especially, low-confident participants benefitted from a combination of self-generated and externally offered reasons for putting effort into the task, presumably because the externally offered reasons provided some initial structure to further reflect upon themselves. One way

to structure the self-reflection process is to provide a list of rationales that participants could go over and selectively endorse (see Gaspard et al., 2015), thus, also fostering a sense of autonomy through choice in the process.

Does this imply that socializing agents are prohibited from providing an externally offered rationale to learners? No, yet, they would be mindful of the exact *timing* of doing so. The rationale would only be provided after recipients' perspectives were voiced, such that its functional significance would be informational instead of evaluative. That is, socializing agents would provide additional, unknown information to the learner after initiating a dialogue about the self-relevance of the activity. Because socializing agents would attune any complementary information to the learners' knowledge and perspective, the rationale is less likely to be perceived as redundant and, hence, may be perceived as informational and helpful (see Reeve et al., 2002; Steingut et al., 2017).

The broader issue that emerges here is what the exact *purpose* is of the socializing agents: What is their intention in providing a rationale? Social agents (e.g., teachers) often think of uttering rationales to persuade students to do what they want them to be doing. That is, explanatory rationales are considered a motivational tool to make sure that students follow rules or comply with requests, in which case they may come across as steering, preaching, and pressuring. Yet, if the intention of the socializing agents is to truly connect with the student and to be as helpful as possible, they will be more mindful of how (e.g., externally communicated or self-generated) and when (e.g., after acknowledging negative affect) a rationale should given, such that the process of internalization is fostered.

### Other considerations

Apart from these critical contextual conditions, a number of studies have examined the role of task- and learner-related characteristics. With respect to the task characteristics, Steingut et al. (2017) reported that a rationale had a more powerful positive effect on value and engagement when the task was rather uninteresting. There was a trend for a similar effect for the outcomes of autonomous motivation and performance. Hence, especially when the task is by its very nature rather boring, the provision of a rationale may help to build motivational resources (Jang, 2008). As for learner-related characteristics, past work has focused on the potentially moderating role of gender (e.g., Rozek, Hyde, Svoboda, Hulleman, & Harackiewicz, 2015) and perceived confidence (e.g., Canning & Harackiewicz, 2015) among other factors.

From the SDT-perspective, several contextual, task- and learner-related features may need to be considered simultaneously to better understand which rationales are perceived to be self-relevant and to foster internalization for which individuals under which circumstances.

We provide two illustrative examples. Learners who are reluctant to make a change in their study habits may especially benefit from other autonomy-supportive practices before any rationale is given. For instance, their resistance may first be recognized and voiced through perspective taking. Also, the rationale may be evoked from their point of view instead of being offered up front so as to ensure that the rationale is aligned with their perspective. Such an example suggests that learner characteristics (i.e., reactance) may work together with task characteristics (i.e., boring activities) and contextual features (i.e., acceptance of negative affect; self-generation of rationale) to yield an optimally motivating effect. As another example, if a task is novel, students may benefit more from an externally offered rationale because they may feel unable to self-generate such arguments. Overall then, it is critical for socializing agents to have a basic attitude of curiosity and openness as to well align any rationales with the learners' perspective, thereby, taking into account learner- and task-characteristics. Under such circumstances, the rationale will be perceived as self-relevant and informative instead of steering and evaluative.

## When do utility values and instrumentalities yield the greatest benefits?

### Some reflections from the process of internalization

Because multiple motivational frameworks have focused on the notion of self-relevance in the past few decades, it is worthwhile and critical to explore the conceptual (dis)similarities between the SDT-perspective and these other frameworks (see Vansteenkiste & Mouratidis, 2016).

### Utility value and usefulness

The notion of utility value has received increasing attention from scholars over the past years, with both correlational (e.g., Schoor, 2016) and intervention research (e.g., Harackiewicz, Canning, Tibbetts, Priniski, & Hyde, 2016) underscoring its motivational power. Utility value is central to Expectancy-Value Theory (EVT; Eccles & Wigfield, 2002), a cognitive-motivational theory that explains an individual's level or strength of motivation to engage in a task as a function of an individual's degree of valuation of the task and his or her expectation to succeed in the task (Wigfield & Eccles, 2000). In some EVT-models, the multiplicative function between both sets of beliefs is considered, such that individuals would be especially motivated to engage in an activity if they believe the task is valuable and if they are capable of executing the task (Feather, 1992; Trautwein et al., 2012). Individuals' beliefs about the task and themselves are then used as predictors of learners' choices, persistence, and performance. As such, a rather quantitative perspective on motivation is developed within EVT, with students becoming more strongly motivated if they value the activity more and feeling more capable to do it well.

Eccles and colleagues (Wigfield & Eccles, 2000, 2002) differentiated the concept of value by breaking it apart into three facets—that is, intrinsic, utility, and attainment value. Especially relevant here is the notion of *utility value*, which reflects the subjective belief that engaging with an activity will be useful for achieving short-term or long-term outcomes. As such, the notion of utility value can be largely equated with the concept of extrinsic motivation. This was also recognized by Wigfield, Tonks, and Klauda (2009) when they noted: "In certain respects utility value is similar to extrinsic motivation because when doing the activity out of utility value, the activity is a means to an end rather than an end in itself" (p. 58). Although utility value captures the more "extrinsic" reasons for engaging in a task, Eccles and Wigfield (2002, p. 120) equally suggested that "it also relates directly to an individual's internalized short- and long-term goals," thus reflecting more autonomous forms of extrinsic motivation. Indeed, when learners perceive the personal value of a learning activity, they are likely to experience greater ownership, presumably because they have identified with its self-importance.

To better highlight that activities with high utility value carry a personal meaning for the learner, the definition of utility value may be sharpened. That is, the notions utility value and usefulness are often used interchangeably by EV-theorists (e.g., Wigfield & Eccles, 2000, p. 72). Yet, from the SDT-perspective, usefulness is a broader concept that denotes the instrumental nature of an activity. Specifically, as far as an activity is useful, it is a means to an end and, hence, useful activities are by definition extrinsically motivated. Yet, utility value, considered from the perspective of SDT, may denote a specific class of extrinsically motivated activities—that is, those that are fully identified with and even integrated—thus constituting more internalized forms of extrinsic motivation. This is because activities with high utility value carry more personal meaning for the learner (see also Priniski, Hecht, & Harackiewicz, this issue).

This is an important point because, analogous to the fact that not all extrinsically motivated activities are created equal, not all useful activities are created equal. That is, from the SDT-perspective, not all useful activities would promote internalization. For internalization to take place, the useful activity needs to contain high personal meaning or value. For example, a teacher could indicate that paying attention in class is useful for passing the test (e.g., Reeve et al., 2002) or is useful to demonstrate that one is a model student. Although the activity would be perceived to be useful in both cases, thereby strengthening the person's motivation to pay attention, the activity is not necessarily self-relevant as it lacks personal meaning for the learner. From the perspective of SDT, these different usefulness inductions promote, respectively, external and introjected regulation.

Contrariwise, an activity could be both useful and carry personal meaning. Continuing the example above, the teacher could explain how the learning material aligns with learners' personally held values and aspirations (e.g., Jang, 2008). As an illustration, a language teacher could make it clear that acquiring a new language would be useful if one is travelling or needs to communicate in a nonnative language for one's future job. In this case, the activity would not only be perceived to be useful it would also carry *personal* meaning such that learners more easily come to self-endorse (i.e., internalize) the reason for performing the activity. It is only when learners perceive an activity as personally valuable

that the activity would be truly relevant or meaningful for them and, hence, foster the process of internalization and associated outcomes. Indeed, based on their meta-analysis, Steingut et al. (2017) concluded that more autonomous rationales yielded stronger effects on participants' engagement, autonomous motivation, and performance relative to more controlling rationales.

The broader issue that emerges here is that the process of internalization helps to better discriminate between the terms usefulness and utility value. We suggest not using these terms interchangeably as activities with high utility value constitute only a subset of useful activities. Indeed, both terms stand in an asymmetrical relation to each other such that activities with high utility value are by definition useful yet not all useful activities carry high utility value. In our view, this insight becomes particularly clear when approaching both notions from the continuum of increasing internalization and self-relevance as outlined within SDT. That is, the continuum allows one to better understand, first, why (utility) value generates engagement and produces better learning (i.e., it fosters greater ownership) and, second, when highlighting the usefulness of an activity yields benefits. That is, as far as enhanced usefulness leads learners to better identify with the personal meaning of the activity and to self-endorse the activity, they will benefit. This is more likely to be the case if personally meaningful connections are drawn between the learning material and learners' personally held values, interests, and aspired identities. Without such personalized linkages, the learning activity may be valuable in the general sense, yet, it would fail to foster self-endorsed learning (see also Cordova & Lepper, 1996).

To illustrate, in one study (Vansteenkiste et al., 2004) participants were informed that reading more about recycling strategies was either useful in attaining both extrinsic goals (i.e., financial benefits) and intrinsic goals (i.e., contributing to the community) or in attaining one of these two goals. While learners in the double-goal condition presumably perceived the activity to contain higher usefulness, they were less task-involved and performed worse than individuals in the single intrinsic goal condition. The authors concluded that "less is sometimes more"; that is, prompting higher usefulness does not necessarily yield benefits, as not all useful activities get translated into perceptions of self-relevance. Thus, we suggest considering the effectiveness of utility value interventions in terms of the extent to which they promote internalization and engender greater autonomous and integrative functioning.

### *Instrumentality*

Besides the notion of usefulness and utility value, another concept that has been put forward in the literature is instrumentality. The notion of instrumentality is central to future time perspective theory, which addresses the motivating role of the future for one's present behavior (Husman & Lens, 1999; Simons, Lens, Vansteenkiste, & Lacante, 2004). Perceived instrumentality refers to "the connection between successfully completing a present task and reaching a long term future goal" (Husman & Hilpert, 2007, p. 230). Thus, the emphasis is especially on the future benefits that can be gained by putting effort in the task at hand, with individuals cognitively grasping the linkage between their current behavior and a future valued goal. Because the present behavior is perceived as an instrument to reach a future goal, the activity is by definition extrinsically motivated. In this respect, the concepts of instrumental motivation and extrinsic motivation can be used interchangeably. Various studies within the context of future time perspective theory (see Lens, Paixao, Herrera, & Grobler, 2012, for an overview) have indicated that higher perceived instrumentality relates to various learning benefits, including higher motivation, better grades (Van Calster, Lens, & Nuttin, 1987), and higher self-regulated learning (De Bilde, Vansteenkiste, & Lens, 2011).

Because instrumentality is inherently an extrinsic motivating process, we suggest that future instrumentalities can and do vary in their level of autonomy and hence in their capacity to facilitate internalization. Future instrumentalities can be externally regulating and, therefore, foster some reactance and resistance (e.g., "make good grades today in order to get a high-paying job in the future"). Future instrumentalities can be introjection-regulating and, therefore, foster some emotional conflict (e.g., "make good grades today in order to impress college-admission committees that you are someone special"). But to endow future instrumentalities with an identified-regulating capacity, it makes little sense to start by telling the student what future they should desire and strive for. It makes more sense to

initiate an honest discussion of how one's current activity might or might not be instrumental to that students' particular future striving. In this example, the teacher seeks to align students' current activity with students' desired future rather than to manufacture a desired future state to justify engaging in a current activity that is otherwise unappealing on its own merits.

Much like the notion of utility value is increasingly approached from a qualitative perspective (Albrecht & Karabenick, 2017), likewise is the notion of instrumentality. Specifically, Husman and colleagues (Husman & Lens, 1999; Husman & Hilpert, 2007) distinguished between endogenous and exogenous types of instrumentality. When learners understand that mastering the content of the present task is directly important for their future—for instance because similar skills are required to effectively execute a future task—the task is said to have high endogenous instrumentality. In contrast, when learners understand that not so much the content of the present activity but rather the outcomes it entails (e.g., passing an exam) yields important future benefits, the activity is said to have high exogenous instrumentality. Endogenous-instrumentality perceptions have been found to relate to more time spent studying (Husman et al., 2004), more self-regulated learning and self-efficacy (Husman & Hilpert, 2007), and greater intrinsic motivation (Lee, Turner, & Thomson, 2015). Although researched rarely, exogenous instrumentality was found to relate positively to extrinsic motivation (Lee et al., 2015), with extrinsic motivation not being decomposed into its subtypes. Considered from the internalization continuum, these two types of instrumentality may relate to different types of regulation, with endogenous instrumentality being especially predictive of identified/integrated regulation and exogenous instrumentality relating to external regulation.

## Conclusion

In sum, we have argued that the process of recognizing the self-relevance of learning tasks—that is, internalizing their personal significance and value—is an important pathway to growth and learning from a self-determination theory perspective. Evidence suggests that providing rationales (or prompting students to reflect on possible rationales) that highlight the self-relevance of activities (in terms of the students' already-existing personal values, interests, goals, and aspirations) is a strategy that supports this process of internalization. Moreover, rationales are especially likely to lead students to internalize the value of a task when it is concrete and specific, intrinsic-goal oriented, and delivered within a broadly autonomy-supportive environment that is free from pressure or coercion.

Theoretical frameworks focused on the concepts of utility value and instrumentality seem to share with self-determination theory an emphasis on the importance of self-relevance as a source of motivation. Good progress has been made in distinguishing among tasks and inductions focused on utility value and instrumentality in order to better understand when students will experience the greatest benefits. Herein, we argue that one way that motivation researchers can continue these important efforts is by considering the extent to which interventions focused on utility value or instrumentality promote learners' ownership (i.e., internalization) of learning activities and ways of behaving.

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