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4 **APPLYING SELF-DETERMINATION**
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6 **THEORY TO ORGANIZATIONAL**
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8 **RESEARCH**
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16 **ABSTRACT**
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18 *In this paper we argue that self-determination theory (SDT; Deci & Ryan,*
19 *2000) provides a useful conceptual tool for organizational researchers, one*
20 *that complements traditional work motivation theories. First, we review SDT,*
21 *showing that it has gone far beyond the “intrinsic versus extrinsic motiva-*
22 *tion” dichotomy with which it began. Then we show how the theory might be*
23 *applied to better understand a variety of organizational phenomena, includ-*
24 *ing the positive effects of transformational leadership, the nature of “true”*
25 *goal-commitment, the determinants of employees’ motivation to learn, and*
26 *the positive impact of certain human resource practices. We note that SDT*
27 *may yield significant new understanding of work motivation, and suggest*
28 *opportunities to refine the theory for research on work-related phenomena.*
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31 **INTRODUCTION**
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33 Questions regarding what dispositional and situational factors lead employees
34 to learn, perform, and be satisfied at work are enduring themes in organizational
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1 research. Many motivation theories have been brought to bear on these questions,
2 including expectancy theory (Van Erde & Thierry, 1996; Vroom, 1964), goal
3 setting theory (Locke & Latham, 1999), and self-efficacy theory (Bandura, 1997;
4 Stajkovic & Luthans, 1998). Reviews of motivational research on organizationally
5 relevant dependent variables such as job performance and training outcomes
6 suggest the continued dominance of these theories (Locke, 2000; Mathieu &
7 Martineau, 1997), despite the much broader array of motivation theories available
8 within the psychological literature (Higgins & Kruglanski, 2000).

9 One such theory, which has had a substantial influence on research in domains
10 such as health, education, and social psychology, is Self-Determination Theory
11 (SDT). Recent commentators state that SDT is “an impressive accomplishment”
12 (Pyszczynski, Greenberg & Solomon, 2000, p. 301), provides “new impetus to
13 research on human motivation” (Coleman, 2000, p. 291), and may be “the most
14 ambitious contribution to what some have termed the rebirth of motivational re-
15 search” (Hennessey, 2000, p. 293). However, organizational scholars have been
16 relatively slow to apply the theory, perhaps because of a lack of understanding of
17 SDT’s current formulation.¹ Thus, the purpose of this paper is to describe new
18 developments within SDT, and to show how the theory might be applied to some
19 enduring research themes with organizational research.

20 SDT is grounded in the organismic perspective upon human nature and
21 motivation (Angyal, 1941; Goldstein, 1939; Rogers, 1961; Werner, 1957). The
22 organismic perspective is a long-standing one within psychology, philosophy,
23 and theoretical biology, which can walk a line between general systems and
24 cognitive-developmental approaches, on the one hand, and humanistic and
25 existential approaches, on the other. Organismic perspectives assume that humans
26 are inherently motivated to develop their interests and skills, to connect and
27 contribute to other people, and to move towards their fullest potential; in other
28 words, the energy and impulse to grow and develop are innate. However, this
29 perspective also asserts that the growth impulse is easily derailed or distorted,
30 if environments or people’s own inner processes do not support it. Thus, much
31 of the empirical and experimental work in SDT has focused on delineating what
32 characteristics of intrapersonal, social and task environments enhance or detract
33 from the desire to grow and develop, and thus enhance or detract from positive
34 outcomes such as persistence, creativity, flexibility, well-being, and happiness.²

35 Ryan and Deci (2001) noted that organismic motivation theories make
36 somewhat different assumptions about human nature than do traditional hedonic
37 motivation theories (such as expectancy theories and utility theories). Although
38 a full discussion of such differences is beyond the scope of this paper (see Ryan
39 & Deci, 2001), hedonic theories generally assume that individuals are motivated

1 to maximize pleasure and reward and to minimize pain and cost. In contrast,
2 SDT focuses on peoples' motivation to grow, both in terms of developing their
3 potential, and in terms of enhancing their connection with others and their
4 community. We believe that both types of theory, while on the surface appearing
5 somewhat contradictory, are useful in understanding the full range of work
6 behavior. However, given the relative inattention to SDT in the organizational
7 literature, we believe it is worthy of attention in this paper.

8 Self-determination theory is a macro-theory consisting of several *mini-theories*:
9 Cognitive Evaluation Theory, Organismic Integration Theory, Causality Ori-
10 entations Theory, and Basic Needs Theory. Below we will cover each of the
11 four mini-theories within SDT, thereby both providing a historical perspective
12 and bringing readers up-to-date on the theory as it now stands. Subsequently,
13 we will offer an overarching conceptual framework that incorporates all four
14 mini-theories into a single process model of goal-directed behavior. Afterwards,
15 we will consider the applicability of this process model for several important areas
16 of organizational research, namely transformational leadership, goal commitment,
17 motivation to learn, and strategic human resource management. The variety of
18 topics addressed is intended to suggest that SDT has applicability both for
19 refining study on particular constructs (e.g. goal commitment and motivation
20 to learn), and for expanding the focus of research on broader organizational
21 processes (e.g. leadership and human resource practices). The selection of
22 topics is not intended to be exhaustive but instead is representative of some
23 important areas in organizational research where SDT may be fruitfully applied.
24 Finally, we will discuss some potential limitations and boundary conditions for
25 the theory.

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SELF-DETERMINATION THEORY

30 SDT began in the late 1960s with the pioneering work of Edward Deci, who
31 explored the conditions that can undermine "intrinsic" motivation (i.e. the desire
32 to engage in an activity because one enjoys, or is interested in, the activity). Using
33 a *free choice* methodology, in which intrinsic motivation is operationalized as
34 the number of seconds spent doing an appealing target activity after being left
35 alone, Deci found many factors that can undermine intrinsic motivation. These
36 include certain types of performance-contingent rewards, time pressures, threats
37 of punishment, and certain types of competition. These experimental results (and
38 other supporting survey and field data) were summarized in a theory that became
39 known as Cognitive Evaluation Theory.

40

Cognitive Evaluation Theory

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3 In his 1975 book, *Intrinsic Motivation*, Deci argued that the common thread
4 underlying these findings is the psychology of autonomy versus control. Specific-
5 ically, intrinsic motivation is undermined when people feel controlled (i.e. a
6 lack of autonomy/freedom in performing the activity). According to Cognitive
7 Evaluation Theory, rewards, competitions, and pressures do not necessarily
8 undermine intrinsic motivation because, after all, these forums can help supply
9 important competence information to the individual. Rather, problems can arise
10 when rewards, competitions and pressures are used by authority figures as means
11 of coercing or over-controlling people's behavior and performance, thus thwarting
12 their natural need for autonomy (discussed below). When people feel controlled
13 (or compelled) by others to perform an activity, what was formerly an enjoyable
14 activity can become routine, or even aversive, to perform. The key to understand-
15 ing intrinsic motivation, from this perspective, is the person's *cognitive evaluation*
16 of the rewards, pressures, and constraints within the environment. Of course, such
17 evaluations will be in part a function of the environment and in part a function
18 of the person.

19 Emphasizing the latter factor, Ryan (1982) showed that people can feel
20 controlled by internal compulsions, impulses, and drives, just as much as they can
21 feel controlled by external forces and constraints. In other words, felt autonomy is
22 to some extent a dispositional variable, representing the individual's characteristic
23 way of relating to his/her own choices and outcomes. Although this was an
24 important extension, Deci and Ryan urged that theorists not lose sight of the
25 undermining characteristics of social and interpersonal environments, in a rush
26 to blame the lack of felt autonomy on the person. Deci and Ryan's (1985a) book,
27 *Intrinsic Motivation and Self-Determination in Human Behavior*, consolidates
28 what was known at that time.

29 Again, Deci and Ryan (1985a) argued that extrinsic rewards undermine
30 intrinsic motivation, if such rewards are experienced by recipients as an attempt
31 to control their behavior. And indeed, a large literature exists to support this
32 conclusion. Notably, however, there is still some controversy concerning the
33 effect of different types of extrinsic rewards on intrinsic motivation, with different
34 meta-analyses coming to different conclusions (for example, see Cameron &
35 Pierce, 1994; Deci, Koestner & Ryan, 1999a, b; Eisenberger & Cameron, 1996;
36 Eisenberger, Pierce & Cameron, 1999a; Tang & Hall, 1995). These different con-
37 clusions resulted, in large part, from different decisions made by the researchers
38 regarding what studies to include in the meta-analysis, how to code different
39 categories of experimental conditions, and what to use as the appropriate control
40 groups.

1 Lepper, Henderlong and Gingras (1999) reviewed the various meta-analyses,
2 and concluded that, in general, results seem to support the conclusion that
3 extrinsic rewards can undermine intrinsic motivation. In particular, rewards that
4 are material and tangible and which are contingent upon either engaging in the
5 task, completing the task, or performing the task at a certain level of proficiency
6 tend to undermine intrinsic motivation. Notably, the meta-analyses also indicate
7 that verbal rewards (i.e. praise) can *enhance*, rather than detract from, intrinsic
8 motivation. Finally, non-contingent rewards (i.e. rewards given unexpectedly after
9 the task was complete) appear to have little negative effect on intrinsic motivation.

10 Assuming that these conclusions are correct and definitive, their applicability
11 for organizational researchers and settings remains somewhat unclear. As noted by
12 Lepper and Henderlong (2000) many of the studies included in the meta-analyses
13 were designed to test issues of theoretical significance and do not “mirror any real-
14 world situation” (p. 269). Furthermore, the Deci et al. (1999a, b) meta-analysis,
15 which included one hundred and twenty-eight studies and is arguably the most
16 comprehensive meta-analysis, included only experimental studies with target tasks
17 that were at least moderately interesting. In fact, Deci et al. (1999a, b) specifically
18 excluded studies with boring tasks from the meta-analysis, since cognitive
19 evaluation theory only predicts that rewards undermine intrinsic motivation for
20 tasks in which individuals are interested (motivated), and presumably there is no
21 intrinsic motivation to undermine for boring tasks. Clearly, however, boring tasks
22 are characteristic of many jobs and work situations. Does this mean that SDT has
23 only limited applicability for organizational researchers? Perhaps not – as we will
24 see below, contemporary SDT asserts that the support of self-determination is
25 still important in the case of boring tasks, as autonomy-supportive contexts foster
26 peoples’ internalization of such tasks, with many positive results.

27 To summarize, cognitive evaluation theory proposes that rewards (environmen-
28 tal information) can undermine intrinsic motivation when they are experienced
29 as controlling (reducing autonomy), but rewards also can positively impact
30 intrinsic motivation when they are experienced as providing information and thus
31 satisfying the need for competence (Deci & Ryan, 2000; Ryan & Deci, 2000).
32 Thus, the effects of the reward depend upon how it experienced by the individual
33 and whether the reward leads to satisfaction of innate needs. For example, even
34 tangible extrinsic rewards, which tend to be controlling, may not undermine
35 intrinsic motivation if they are administered in an autonomy-supportive manner
36 (Ryan & Deci, 2000). Similarly, performance-contingent rewards, delivered in
37 an autonomy-supportive manner, may provide competence information that can
38 enhance intrinsic motivation. Such evidence suggests the importance of *autonomy*
39 *support* for positively influencing behaviors in work settings, an issue to which
40 we return after our review of self-determination theory.

Organismic Integration Theory

Although much of the early research in SDT focused on intrinsic motivation, as noted above, not all desirable behaviors (such as many important but boring or aversive work-tasks) are intrinsically motivating. This leads to the question: can people be positively motivated even while doing extrinsic tasks, that is, while doing activities they do not enjoy doing? In other words, are there any “good” forms of extrinsic motivation?

SDT began to investigate this important question in the late 1980s. The answer to the question is a qualified “yes.” The picture is somewhat complex, however, in part because Deci and Ryan sought to incorporate other major theoretical perspectives upon motivation, including cognitive, behavioral, psychodynamic, and humanistic perspectives, within their model. Figure 1 illustrates SDT’s current specification of the various forms of motivation, ranging from amotivation to external motivation to introjected motivation to identified motivation to intrinsic motivation.

As can be seen in the figure, SDT begins with the distinction between amotivation (the form on the left) and motivation (the four forms on the right). Does the person feel helpless, or are his/her actions guided by stable intentions? Many social-cognitive motivation theories focus here, attempting to predict the strength of peoples’ intentions or the quantity of their motivation. This is understandable, given that the “motivation versus no motivation” distinction is perhaps the most important of all. Thus, for example, self-efficacy theory maintains that the “quantity” of a person’s motivation to do a behavior can be predicted by strength of their belief

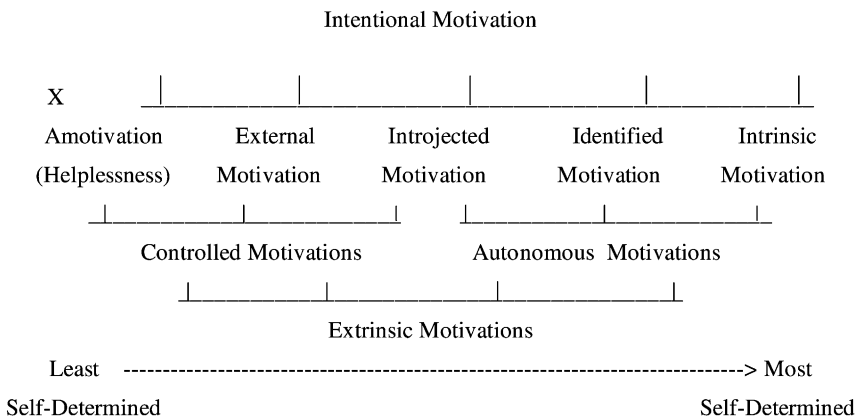


Fig. 1. Schematic Relation of the Five Types of Motivation.

1 they can successfully perform the behavior. However, SDT proposes that it is also
2 important to address the “quality” of a person’s motivation, an issue that is typically
3 not considered within expectancy and utility theories. As argued at the beginning
4 of this paper, we believe such perspectives may provide a useful complement to
5 traditional work-motivation theories.

6 Originally, the consideration of “quality” went no further than the distinction
7 between intrinsic and extrinsic motivation. However, SDT now specifies three types
8 of extrinsic motivation (the three middle forms in Fig. 1), that vary in their degree
9 of self-determination: *external motivation* (acting only to get a reward, or because
10 the external situation seems to compel or require action), *introjected motivation*
11 (acting to avoid feeling anxious or guilty over not doing what one “should” do),
12 and *identified motivation* (acting to express one’s values and uphold one’s self-
13 investments). These are all classified as extrinsic motivations because they do not
14 involve engaging in the activity for its own sake (i.e. they are not intrinsically
15 motivated). However, whereas external and introjected motivations are classified
16 as non-autonomous or controlled motivations, identified motivation is classified as
17 autonomous because people feel fully self-endorsing of the behavior, even if they
18 do not enjoy it.

19 Thus, contemporary SDT asserts that some forms of extrinsic motivation can
20 indeed be autonomous and “organismically integrated,” if the person identifies
21 with them. For example, an employee may engage in a work behavior (such
22 as assembling a computer) primarily to earn money or to not be punished by
23 a supervisor (external motivation), primarily to avoid feeling guilty or to avoid
24 being a bad worker (introjected motivation), or primarily because of a genuine
25 identification with her role in the company, and a real concern for the customer’s
26 need for a quality computer (identified motivation, which has been integrated
27 into the person’s sense of self). In none of these examples would assembling a
28 computer be intrinsically enjoyable, but in the third case, it is at least tolerable and
29 even meaningful! Doubtless, the reader can think of many similar examples, both
30 in his/her own work-life, and in the problems faced by managers in motivating
31 their employees. Thus, an important question arises – what factors lead employees
32 to feel a sense of identification with their work behaviors, especially when those
33 behaviors are tedious or even aversive to perform?

34 Relevant to this question, an additional development within SDT in the late
35 1980s was the concept of internalization. Although the concept of internalization
36 is not new within psychological theory (see, for example, Erikson, 1963, or
37 Kelman, 1961), SDT has provided perhaps the most elaborated account of the
38 process. Specifically, Deci and Ryan (1985a, 2000) posited that non-autonomous
39 motivations can be transmuted into autonomous ones over time (i.e. internal-
40 ization can occur). Furthermore, Deci and Ryan argued that this process tends

1 to take place automatically, as a result of the organismic integration process.
2 That is, people are naturally motivated to move towards greater ownership
3 of behavior.

4 To illustrate, an employee might be assigned the aversive job of maintaining
5 a database, a task that requires much tedious attention to detail. Initially, the
6 employee might feel quite controlled and resistant to the task. However, after a
7 few weeks the employee might do the task because he would feel guilty for not
8 doing it. Over time, hopefully, the employee will come to a better understanding
9 of the value of the task for the organization, and even identify with its purpose
10 and importance. Although the task may never reach intrinsic status, contemporary
11 SDT views this as non-problematic, as long as it has been internalized enough
12 to be undertaken autonomously. Of course, some employees might identify with
13 a boring task immediately, whereas others may never come to own that task, or
14 indeed, may be unable to take responsibility for performing any non-enjoyable
15 behaviors. From the organismic integration perspective, the most “mature” person
16 is one who has most fully internalized the doing of important, if unpleasant, duties
17 (Erikson, 1963; Sheldon & Kasser, 2001).

18 While we are on the topic of the motivation continuum, it is noteworthy that some
19 intrinsic motivation researchers have argued that even external motivation can have
20 positive effects (Amabile, 1996; Lepper & Henderlong, 2000; Sansone & Smith,
21 2000). For example, external motivation might help a person to cope with more
22 mundane or aversive aspects of the job (i.e. an artist with strong external motivation
23 may better accomplish the important task of marketing his/her work). As another
24 example, external motivation may get a person to do an activity long enough to
25 begin to find intrinsic incentives it (i.e. a child who is forced to practice the piano
26 may eventually develop enough skill to begin taking pleasure in playing). Sheldon
27 and Deci (2000) agreed with these suggestions, but further suggested that external
28 motivations are least likely to be problematic (i.e. are least likely to undermine the
29 artist’s creativity, or the child’s potential interest) when they are internalized. In
30 this case, although they would still be extrinsic motivations, they would no longer
31 be considered external motivations, but instead, would have reached the status of
32 identified motivations (see Fig. 1).

33 To summarize, SDT views motivation as ranging along a continuum from
34 amotivation to intrinsic motivation, with higher “quality” motivation being that
35 which is more self-determined. Furthermore, SDT proposes that individuals
36 naturally tend toward internalization of external requirements. As will be
37 discussed in more detail below, however, internalization depends upon both
38 intrapersonal factors, such as the person’s causality orientation, and contextual
39 factors, such as supervisor autonomy support. Below we first consider causality
40 orientations.

Causality Orientations Theory

1
2
3 Although SDT has historically focused on contextual factors that influence
4 internalization of goals and subsequent outcomes, [Deci and Ryan \(1985b\)](#) have
5 shown that individual differences in self-regulation also impact the internalization
6 process. In their model, a person's "causality orientation" is the dispositional
7 propensity to ascribe causality for his or her own behavior to internal factors,
8 external factors, or neither ([Deci & Ryan, 1985b](#)). An autonomy-oriented person
9 tends to locate causality inside the self, and seeks out situations in which he/she
10 can freely choose what to do, on the basis of internal information and needs.
11 Autonomy orientation is correlated with variables such as well-being, empathy,
12 vitality, and ego development, and is also correlated with intrinsic and identified
13 motivation ([Sheldon & Kasser, 1995](#)). In contrast, a control-oriented person tends
14 to locate causality outside the self, and seeks out situations that clearly dictate
15 what he or she should do. Control orientation is associated with variables such as
16 Type A behavior, competitiveness and power seeking, and self-monitoring, and is
17 also correlated with external and introjected motivation. Finally, an impersonally
18 oriented person is one who feels little capability of making anything happen,
19 regardless of the locus of causality. Impersonal orientation is associated with
20 amotivation, depression, and pathology ([Deci & Ryan, 1985b](#)).

21 Causality orientation is different than locus of control, although as noted by
22 [Koestner and Zuckerman \(1994\)](#), many people confuse locus of control with locus
23 of causality. Locus of control is derived from a reinforcement theory framework,
24 and refers to a person's beliefs about the extent to which his/her *outcomes* result
25 from forces within the person (internal locus of control) or forces outside of the
26 person (external locus of control; [Rotter, 1966](#), [Spector, 1982](#)). In contrast, causal-
27 ity orientation is derived from a phenomenological analysis of the dynamics of
28 felt agency ([Deci & Ryan, 1991](#)), and refers to a person's beliefs about the extent
29 to which his/her *actions* are determined by external forces (control orientation) or
30 by the self (autonomy orientation). In other words, locus of control refers to the
31 determinants of outcomes, whereas locus of causality refers to the determinants
32 of behavior. Although the concepts are different, there is also some overlap; thus,
33 individuals with an external locus of control are more likely to have an impersonal
34 or a controlled orientation than an autonomous orientation ([Deci & Ryan, 1985b](#)).

35 There has been somewhat less research on causality orientations theory than
36 on the other mini-theories of SDT, and thus we provide minimal discussion of it
37 here. We should note, however, that the causality orientations concept is consistent
38 with other conceptions of intrinsically – versus extrinsically-oriented personality
39 styles ([Amabile, Hill, Hennessey & Tighe, 1994](#); [Kasser & Ryan, 1996](#); [Kernis,](#)
40 [Paradise, Whitaker, Wheatman & Goldman, 2000](#)).

Basic Needs Theory

1
2
3 What accounts for the well-being and performance differences found between
4 those with relatively high degrees of autonomy orientation, control orientation,
5 or impersonal orientation? This brings us to perhaps the most important element
6 of contemporary SDT – the concept of psychological needs. Psychological
7 needs have been widely discussed in the literature, and there are many different
8 conceptualizations of needs (see Deci & Ryan, 2000 for a discussion of some of
9 these). In SDT, needs specify “*innate psychological nutrients that are essential*
10 *for ongoing psychological growth, integrity and well-being*” (Deci & Ryan, 2000,
11 p. 229, italics in original). As articulated by Deci and Ryan (1991, 2000), the
12 concept of innate psychological needs is fundamental to SDT, and is necessary
13 to understand and make predictions about individuals’ motivation and behavior.
14 More specifically, SDT argues that there are three universal and evolved human
15 needs, which, when satisfied, lead a person to thrive in the same way that a
16 plant thrives when it is given sun, soil, and water. The needs are: *autonomy*
17 (to be self-regulating, to be the maker or at least the owner of one’s choices);
18 *competence* (to be effective in what one does, mastering new skills in the process);
19 and *relatedness* (to feel connected and in sympathy with at least some others).

20 In contemporary social/motivational psychology, competence and relatedness
21 are relatively uncontroversial needs, given what is now known about the posi-
22 tive effects of self-efficacy, optimism, attachment security, and social inclusion
23 (Bandura, 1997, Baumeister & Leary, 1995). As Deci and Ryan (2000) noted,
24 however, empirical psychology has focused less on autonomy, in part because of
25 confusion concerning its definition. In SDT autonomy is conceptualized as the
26 experience of feeling that one’s behavior is self-chosen and endorsed. Autonomy
27 is *not* total freedom to do whatever one wants, nor is it a complete lack of structure,
28 nor is it social isolation, reactive independence, or western individualism – rather,
29 it is felt volition. Stated differently, autonomy is conceptualized as the freedom to
30 behave in accordance with one’s sense of self (Deci & Ryan, 2000).

31 Recent work attempting to confirm the importance of all three of these needs
32 has found unique and additive effects for each, in terms of predicting positive
33 performances and outcomes. Specifically, feelings of autonomy, competence, and
34 relatedness are all part of “what makes for a good day” (Reis, Sheldon, Gable,
35 Roscoe & Ryan, 2000; Sheldon, Ryan & Reis, 1996), “what’s satisfying about
36 satisfying events” (Sheldon, Elliot, Kim & Kasser, 2001), “what makes a secure
37 attachment secure” (LaGuardia, Ryan, Couchman & Deci, 2000), and “what makes
38 personal goals truly personal” (Sheldon & Elliot, 1999).

39 Readers might ask: “How does SDT’s need-theory differ from Maslow’s
40 theory of needs?” which of course received much attention in management

1 research twenty to twenty-five years ago (Ambrose & Kulik, 1999). There are
2 several differences, the most important one being that SDT does not assume any
3 hierarchical relation among the three needs. Instead, everybody “needs” all three
4 kinds of experiences, to an approximately equal extent, all the time. Thus, SDT
5 does not assume strong individual, cultural, or developmental differences in the
6 needs, although their means of being satisfied and expressed may certainly differ
7 between individuals, cultures, or ages. Work thus far supports these assumptions.
8 For example, in the domain of cross-cultural psychology, Sheldon, Ryan, Elliot,
9 Kim, Chirkov, Demir and Wu (2002) recently found that having autonomous
10 motivation for one’s personal goal-pursuits (i.e. to be “self-concordant”; Sheldon,
11 2002) predicts positive well-being in Turkey, Russia, Taiwan, China, and South
12 Korea, as well as in the U.S. In the domain of developmental psychology, Sheldon
13 and Kasser (2001) recently showed that goal-autonomy predicts well-being in
14 people of all ages. Interestingly, Sheldon and Kasser (2001) also showed that older
15 people were more autonomous in their goals. That is, consistent with organismic
16 integration theory, people tend to better internalize their own strivings over time.

17 Given the importance of need satisfaction for SDT, an important question is:
18 “what characteristics of social, academic and work environments best support
19 psychological need-satisfaction?” In accordance with basic needs theory, three
20 factors are theorized to result in need satisfaction: relationship support, compe-
21 tence support, and autonomy support. In other words, a boss, coach, parent, or
22 teacher who is trying to motivate an individual should try to help that person to
23 feel *competent* in the behavior by expressing confidence in the person’s abilities,
24 providing encouragement, and providing appropriate material and task support;
25 should help the person feel *related* to the motivator, by evidencing genuine concern
26 for his/her thoughts and feelings and by empathizing; and should help the person
27 feel *autonomous* in the behavior, by helping him or her to endorse and “own” the
28 task, even if he/she does not enjoy it. Because it is most controversial, most prior
29 SDT research has focused on the characteristics and effects of autonomy-support.
30 Thus we consider autonomy-support in greater detail below, and also later in
31 the paper.

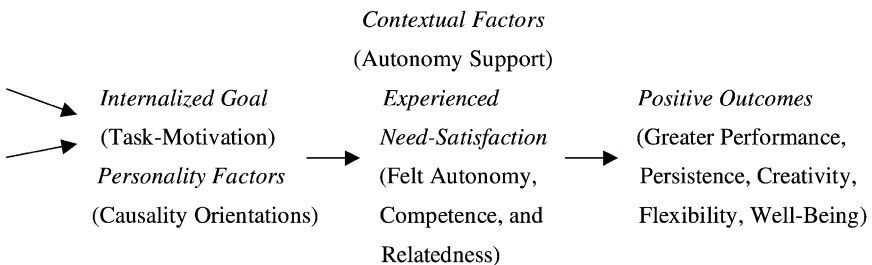
32 As demonstrated by Deci, Eghrari, Patrick and Leone (1994), autonomy support
33 has at least three components: taking the person’s perspective upon the situation,
34 giving as much choice as possible, and providing a meaningful rationale when
35 choice-provision is not possible. Specifically, Deci et al. (1994) showed that when
36 all three factors were present, people were most likely to spontaneously continue
37 doing the boring task of pressing a spacebar whenever a light appeared, after
38 the task’s formal completion. To take a work-related example: a supervisor might
39 need an employee to check spreadsheets for accuracy of data entered. Although the
40 employee does not have a choice about whether or not to do it, the supervisor can

1 give the employee some choice about *how* to do it, *when* to do it, and perhaps with
 2 *whom* to do it. In addition, the supervisor can be sympathetic to the subordinate’s
 3 perspective (“I know this may not always seem like fun, because I can remember
 4 having to do this myself”), and explain why it is so important (“If the data aren’t
 5 accurate then the analyses will be wrong, which will damage the company”). In
 6 this case the employee is most likely to “own” the task, so that he/she might even
 7 work on it over the weekend without being asked, if the company needs it.

8 Considerable evidence, much of it from educational contexts, indicates that such
 9 autonomy-support helps maintain and enhance intrinsic motivation, and also helps
 10 to promote quicker and deeper internalization of formerly extrinsically-motivated
 11 behaviors (Ryan & Stiller, 1991). Focusing on work settings, Hackman and Oldham
 12 (1976) argued that workers would experience more internal work motivation when
 13 the job provided greater autonomy. Indeed, a meta-analysis of studies investigating
 14 Hackman and Oldham’s job characteristics model found a corrected correlation
 15 of 0.42 between jobs providing autonomy and internal work motivation (Fried
 16 & Ferris, 1987). In addition, some studies applying self-determination theory in
 17 work contexts have also found that autonomy support is important in such contexts
 18 (Deci, Connell & Ryan, 1989; Deci, Ryan, Gagne, Leone, Usunov & Kornazheva,
 19 2001; Hackman & Oldham, 1976). We will consider such work in more detail in
 20 the final section.

21
 22
 23 *Bringing the Four Mini-Theories Together: An Integrated Process Model*
 24

25 We have now discussed the four mini-theories that comprise the current state of
 26 SDT and have touched upon some of the research that has investigated SDT (see
 27 Deci & Ryan, 2000; Ryan & Deci, 2000). Figure 2 provides a summary causal
 28 model of how the various pieces of SDT currently fit together. As shown in the
 29 model, both contextual factors and personality factors are theorized to influence
 30



39
 40 *Fig. 2. SDT’s General Casual-Process Model.*

1 the extent to which individuals internalize goals and tasks. More specifically,
2 individuals who receive greater autonomy support from the environmental
3 context are theorized to be more likely to internalize goals and tasks. Similarly,
4 individuals with an autonomous personality style are more likely to have inter-
5 nalized motivation when performing a goal or task. As a result of the internalized
6 motivation, individuals are likely to derive positive momentary feelings of
7 autonomy, competence, and relatedness from doing the task. Such feelings satisfy
8 the organism and give access to full cognitive and motivational resources, thus
9 leading to a variety of positive outcomes, including performance, creativity, and
10 psychological well-being. Much recent work supports this general ordering of
11 factors and processes, in the domains of medicine, sports, parenting, education,
12 politics, religion, and intimate relationships, although there are sometimes direct
13 effects in addition to the mediated effects depicted in Fig. 2.

14 It is also worth mentioning that empirical evidence does *not* support the
15 proposition that control-oriented participants, who report a stronger preference
16 for structure and direction, benefit from being in treated in controlling ways. In
17 terms of Fig. 2, causality orientations do not interact with autonomy-supportive
18 versus controlling environmental characteristics to predict outcomes. Rather, the
19 evidence indicates that although control-oriented employees may in some ways
20 feel more comfortable being treated as a “pawn” (DeCharms, 1968), even they
21 benefit if they are instead treated as self-creating, self-responsible agents. Stated
22 more broadly, the evidence indicates that all individuals benefit when they are
23 allowed to fulfill their universal need for autonomy, as proposed by SDT (Deci &
24 Ryan, 2000; Sheldon, Joiner & Williams, *in press*).

25 This concludes our brief overview of contemporary SDT (for further infor-
26 mation, readers also may consult the SDT website, <http://www.psych.rochester.edu/SDT/>, where they may also gain access to measures often used in SDT
27 research). A question that readers may have at this point is, “how does SDT
28 explicitly differ from the motivation theories that are often used to study behavior
29 in organizations?” Although a full answer to this question is beyond the scope
30 of this paper (see Deci & Ryan, 2000, for one view), it is worth noting that we
31 see important differences among expectancy, goal, self-efficacy theories (as the
32 dominant motivational theories in organizational research), and SDT. Perhaps
33 most important are differences in focus and scope that allow SDT to complement
34 the prevailing theories in organizational research.
35

36 Expectancy, self-efficacy, and goal theories generally focus on understanding
37 and predicting rational, deliberate behaviors (Mitchell & Daniels, 2002). For
38 example, research suggests that expectancy theory is essentially a hedonic
39 decision-making theory that best predicts choice examined from a within-subject
40 perspective (e.g. predicting which choice from a set of options a person will select;

1 Van Erde & Thierry, 1996). Thus, expectancy theory, and perhaps by extension
2 the other theories, may be most useful for understanding and predicting specific
3 choices that follow deliberate reflection. In contrast, SDT may be best suited for
4 predicting and understanding what Mitchell and Daniels (2002) refer to as “not
5 rational” behavior; that is, behaviors that derive from “who people are (including
6 traits and dispositions) and what they feel and need, rather than on what they think
7 and believe” (p. 236). The study of such behavior is essential not only because
8 of its prevalence, but also because the research offers a window to understanding
9 more than just specific choices. SDT provides a framework to examine broad-
10 based psychological outcomes in organizations, such as commitment, satisfaction,
11 and well-being.

12 With this said, we also believe that SDT is difficult to categorize using the
13 Mitchell and Daniels (2002) framework because, in its current state of theoretical
14 development (i.e. Fig. 2), it describes connections among dispositions, beliefs,
15 needs, feelings, and actions. Thus, its scope is broad enough to cross the boundary
16 of “rational” and “not rational” theory. The model offered by SDT integrates dis-
17 position and situational influences on need satisfaction, and links need satisfaction
18 to affect (e.g., satisfaction) and behavior (e.g. learning and performance).

19 The remainder of the paper will demonstrate the breadth of SDT by applying
20 it to various issues and domains within organizational research. Specifically, we
21 apply SDT to the following, notably quite different, organizational phenomena:
22 transformational leadership, goal commitment, training motivation, and high-
23 performance human resource practices. Our intent in discussing such a wide
24 range of organizational phenomena is to demonstrate the potentially far-reaching
25 applicability of SDT and thereby, hopefully, to stimulate additional theorizing and
26 research in other domains. As we discuss the organizational phenomena, we will
27 attempt to apply three key SDT concepts: (1) the *internalization continuum*, as
28 we consider causes and outcomes of peoples’ ability to “own” their work-tasks;
29 (2) *autonomy supportive contexts*, as we consider what managerial styles and
30 behaviors best help people to become more self-directing in their lives; and (3)
31 *need satisfaction*, as we consider what kinds of work environments and reward
32 structures lead to maximal satisfaction, performance, and thriving.

35 APPLICATIONS IN ORGANIZATIONAL RESEARCH

37 *Transformational Leadership*

38
39 In the past two decades, more research has been conducted on transformational
40 or charismatic leadership than on all of the other major theories of leadership

1 combined (e.g., LPC, path-goal, situational leadership, and normative decision
2 theories).³ This research has produced impressive evidence regarding the positive
3 effects of transformational leadership upon measured outcomes such as follower
4 perceptions of leader effectiveness, follower job attitudes, and objective leader
5 performance (Lowe, Kroeck & Sivasubramaniam, 1996). Despite this extensive
6 body of research and clear empirical pattern, there is a poor understanding of the
7 *processes* by which transformational leaders are effective (Bass, 1999). In short,
8 how do transformational leaders achieve their often-remarkable results?

9 We suggest that SDT may provide an important part of the explanation, helping
10 to inform both the leadership and job attitudes literatures. Using Fig. 2, we
11 suggest that transformational leadership is a *contextual* factor that helps followers
12 to develop more *internalized work-motivation*, which in turn leads to *greater*
13 *need-satisfaction and job performance*.

14 There are several ways that transformational leaders may help their followers
15 to internalize work tasks. First, because transformational leaders *appeal to values*
16 and describe work in value-based terms, they increase the likelihood that followers
17 will come to identify with the values the leader espouses. Indeed, transformational
18 leaders are particularly adept at framing goals in terms of values and needs that
19 are attractive to both leaders and followers (Burns, 1978), facilitating followers'
20 internalization of those goals. Thus they resolve the paradox inherent in the leader-
21 follower relationship (Deci & Ryan, 1985a), enabling people to feel free even as
22 they are directed by a leader or authority.

23 A second way that transformational leaders likely promote internalization is by
24 *providing vision*. "Vision," a concept common to all major theories of transforma-
25 tional and charismatic leadership (House & Shamir, 1993), provides both a goal
26 and a justification for the goal. In short, an effective vision is an abstract, distal goal
27 (an "end state"; Gardner & Avolio, 1998, p. 39), accompanied by a justification in
28 value-based terms (Kirkpatrick & Locke, 1996). Transformational leaders' goals
29 and goal-justifications tend to be universalistic in orientation (Kirkpatrick, Locke
30 & Latham, 1996), tend to appeal to followers' collective identities (Shamir, House
31 & Arthur, 1993), and tend to be "ideological rather than pragmatic" and "laden
32 with moral overtones" (House & Shamir, 1993, p. 97). According to SDT, these
33 characteristics give the vision special appeal, because of peoples' inherent desire
34 to achieve integration and forge new connections in their lives. Here, we see that
35 SDT's organismic theory emphasis on the growth impulse can provide conceptual
36 tools not offered by conventional utility and expectancy theories.

37 A third way that transformational leadership promotes internalization is
38 by encouraging individuals to pursue *higher-order potentials*, incentives that
39 transcend purely economic self-interest (Bass, 1985). In other words, whereas
40 transactional leaders emphasize the rational exchange of extrinsic rewards,

1 transformational leaders instead emphasize the search for meaning, excellence,
2 and self-expression. In the language of SDT, followers of transformational leaders
3 are thus less likely to fall prey to external or “controlled” motivations, and less
4 likely to have their intrinsic motivation eroded or undermined over time. Instead,
5 followers of transformational leaders tend to become ever more “self-directing
6 and self-reinforcing. They take on greater responsibilities” (Bass, 1985, p. 16).

7 What are the specific benefits of the internalized motivation promoted by trans-
8 formational leaders? Moving downstream in Fig. 2, the most immediate benefit
9 of internalized work-motivation is that it leads to psychological need-satisfaction.
10 As Conger and Kanungo (1998, p. 157) note, charismatic leaders formulate “a set
11 of idealized, future goals that represent the embodiment of a perspective shared
12 by followers and that appear to satisfy their needs.” For example, participants in
13 Bass’ (1985, p. 210) studies reported that their leader “increases my optimism
14 for the future,” “excites us,” “makes me proud,” “makes me feel good,” and
15 “makes everyone around him/her enthusiastic.” Similarly, Conger and Kanungo
16 (1998) found that leader charisma was positively related to follower task efficacy
17 ($r = 0.35, p < 0.001$) and feelings of empowerment ($r = 0.31, p < 0.001$).

18 Given that past research has shown that transformational leadership is
19 associated with follower satisfaction and performance, and having linked
20 transformational leadership to self-determination here, we can complete this
21 proposed mediated relationship by linking self-determination to satisfaction and
22 performance. Fortunately, research suggests that perceptions of self-determination
23 are indeed positively associated with satisfaction with work (Spreitzer, Kizilos &
24 Nason, 1997) and task performance (Eisenberger, Rhoades & Cameron, 1999b).
25 More recently, Bono and Judge (in press) found mixed support for a model
26 linking transformational leadership to follower goal self-concordance and goal
27 self-concordance to follower performance.

28 Again, Fig. 2 suggests that transformational leaders satisfy follower needs
29 primarily via promoting autonomous or internalized motivation in their followers.
30 However, we propose here that exceptional leaders may affect need-satisfaction
31 in other ways besides that depicted in Fig. 2, ways not yet recognized by
32 SDT. For example, peoples’ sense of camaraderie and shared purpose, derived
33 from the vision of the transformational leader, may create a positive climate
34 that promotes relatedness need-satisfaction independently of workers’ positive
35 motivation for their own specific work tasks. Indeed, it appears that vision
36 and teambuilding are positively linked (Anderson & West, 1996). As another
37 example, Pillai, Schriesheim and Williams (1999) found support for the mediating
38 role of justice perceptions between transformational leadership and worker
39 job-satisfaction. Fleshing out such paths represents one potentially important way
40 that organizational research can help expand and improve upon SDT.

1 To formalize and summarize, we offer the following proposition, which we hope
2 will generate new research:

3
4 **Proposition 1.** Transformational leaders promote follower satisfaction and per-
5 formance by helping followers to internalize work-related goals and motivations.

6 7 8 *Goal Commitment* 9

10 Goals are a central concept in work motivation research (Austin & Vancouver,
11 1996; Locke & Latham, 1999). For example, Locke and Latham's goal setting
12 theory proposes that specific and difficult goals lead to greater effort and
13 performance, especially when individuals are committed to the goal. A recent
14 meta-analysis supported both this main effect and this interaction effect – difficult
15 goals led to greater performance than less difficult goals, and goal commitment
16 moderated that relationship such that the highest performance resulted when
17 individuals were highly committed to difficult goals (Klein, Wesson, Hollenbeck
18 & Alge, 1999; although see also Donovan & Radosevich, 1998). Obviously, then,
19 goal commitment is a very important construct for goal-setting theory (Klein et al.,
20 1999; Locke & Latham, 1999). But what is the best way to conceptualize and
21 predict it?

22 Current models of goal commitment use an expectancy framework, such that
23 the expectancy of goal attainment and the attractiveness of goal attainment are
24 theorized to be the primary determinants of goal commitment (Hollenbeck &
25 Klein, 1987; Klein et al., 1999). Results from a recent meta-analysis (Klein et al.,
26 1999) supported this, showing that the expectancy and the attractiveness of goals
27 strongly predicted goal commitment, with corrected correlations of 0.36 and 0.29,
28 respectively. However, scholars have noted that considerably more research is
29 needed to investigate the nature of goal commitment, as people sometimes become
30 committed to goals despite low expectancy and/or low apparent attractiveness, and
31 sometimes fail to commit to goals which *do* meet these criteria (Klein et al., 1999;
32 Klein, Wesson, Hollenbeck, Wright and DeShon, 2001). What other factors might
33 be at work?

34 We believe that SDT can provide new insight into the antecedents to goal
35 commitment, while also illuminating the nature of deeper, enduring commitment
36 (as opposed to superficial, temporary commitment). Recall that SDT proposes
37 a continuum of reasons for engaging in behavior, ranging from non-internalized
38 (i.e. controlled) reasons to internalized (i.e. autonomous) reasons (see Fig. 1).
39 Considerable evidence now indicates that individuals exert more enduring effort
40 toward, and better attain, personal goals that are more internalized (Sheldon &

1 Elliot, 1998, 1999; Sheldon & Kasser, 1995, 1998, 2001), similar to evidence
2 from goal setting theory that goal commitment is positively related to performance
3 (Klein et al., 1999).

4 There is an important difference in these literatures, however. Although
5 organizational goal-setting researchers have tended to assume that individuals
6 are automatically committed to self-set goals (Klein et al., 1999), Sheldon and
7 colleagues have found variability in the extent to which individuals internalize
8 self-set personal goals (Sheldon & Elliot, 1998, 1999; Sheldon & Houser-Marko,
9 2001; Sheldon & Kasser, 1998). For example, Sheldon and his colleagues asked
10 subjects to list goals they were pursuing and found that some individuals reported
11 pursuing self-set personal goals for non-autonomous reasons (i.e. because they felt
12 others wanted them to), indicating that not all self-set goals are felt as autonomous.
13 In other words, just because self-set goals are *nominally* self-determined does
14 not mean that they feel *phenomenologically* self-determined. As noted earlier
15 in the section on the organismic integration sub-theory of SDT, people do not
16 necessarily feel full ownership of their motivated behavior.

17 This reasoning suggests that commitment to self-set goals is affected not only by
18 attractiveness and value, but also by the extent the person feels internally motivated
19 to pursue the goal. Simply put, individuals who felt that they freely chose a goal
20 are more committed to the goal than individuals who felt that they chose a goal
21 because of external pressures. Interestingly, results from a recent meta-analysis
22 of the organizational literature indicated that one of the strongest antecedents of
23 goal commitment was felt volition (Klein et al., 1999); the corrected correlation
24 was 0.40, which is somewhat stronger than the corrected correlations found for
25 expectancy and attractiveness.

26 The above reasoning suggests that one way to improve the prediction of positive
27 outcomes would be to measure peoples' degree of internalization of goals, in
28 addition to their degree of commitment to such goals. Demonstrating the added
29 value of conducting such an assessment, Sheldon and Elliot (1998, 1999) and
30 Sheldon and Kasser (1998) showed that measured internalization predicted posi-
31 tive downstream effects above and beyond the effects of alternative motivational
32 constructs, including expectancy, commitment, and implementation intentions.
33 In other words, people who strive for autonomous reasons gain motivational
34 resources that cannot be accounted for by conventional utility, expectancy, and
35 plan theories.

36 To formalize and summarize the above, we offer the following proposition:
37

38 **Proposition 2.** Not all self-set goals feel autonomously chosen. The degree of
39 goal-internalization will predict goal-commitment above and beyond the pre-
40 dictive effects of expectancy and attractiveness.

Motivation to Learn

Motivation in the training and development literature is often captured with the construct *motivation to learn*, which has been found to predict employees' learning from training and development opportunities (for a meta-analytic review, see Colquitt, LePine & Noe, 2000). As defined by Hicks and Klimoski (1987) and (Noe, 1986; Noe & Schmitt, 1986), motivation to learn is an employee's desire to learn the content of a particular program. Conceptually, the motivation to learn construct has been rooted in expectancy theory. That is, employees' motivation to learn has been theorized to be largely determined by their assessments of the usefulness of mastering training content for obtaining valued outcomes at work (Mathieu, Tannenbaum & Salas, 1992; Noe, 1986; Tharenou, 2001). Although this perspective has been useful for empirically validating the role of motivation in learning, it has also limited the motivational research questions posed by training researchers. More specifically, the emphasis on a single, aggregate assessment of motivation does not fully capture the nature of learners' *personal goals* (i.e. variety of goals they hope to accomplish and, perhaps more importantly with regard to internalization, why), nor does it lend itself to detailed study of instructor and manager behaviors that may influence these goals. Each issue is addressed by SDT, although to date SDT has been neglected in training and development research. In fact, reviews of the training motivation literature suggest a total absence of research on the internalization of learners' goals and on the influence that instructors and managers have on learners' needs satisfaction (Colquitt et al., 2000; Mathieu & Martineau, 1997; Noe, Wilk, Mullen & Wanek, 1997). Each of these issues is explored below along with propositions derived from SDT.

Learner's Internalized Goals

Research on motivation to learn typically focuses on the content of training as the determinant of motivation. Thus, measures of motivation to learn contain statements like "I have a strong desire to learn the content of this program" (e.g. Noe & Schmitt, 1986). Such an approach does not acknowledge that employees come to a learning experience with goals that may only overlap partially with program content (such as having a goal to learn a small portion of the training content) and may not deal with training content at all (such as having a goal to impress colleagues and/or the instructor). Although there are emerging streams of organizational research on goals and learning that begin to address these questions (e.g. Brett & VandeWalle, 1999; Ford, Smith, Weissbein, Gully & Salas, 1998; Kozłowski, Gully, Brown, Salas, Smith & Nason, 2001a), we found no organizational research that has investigated the degree to which learners have *internalized* different types goals related to training. Educational research, however, clearly

1 suggests that higher quality learning occurs when learners experience internalized
2 motivation (Rigby, Deci, Patrick & Ryan, 1992). More recent educational research
3 directly demonstrates the learning benefit of having internalized reasons for being
4 in a course (Black & Deci, 2000). Thus, SDT theory and research would suggest
5 the following:

6
7 **Proposition 3.** Trainees with internalized goals for learning training content
8 will exert greater effort toward learning and learn more from training than
9 trainees without such internalized goals.

10 *Instructor Effects on Learners*

12 Research examining motivation in training seldom examines what learners
13 actually do and experience in the training environment (Brown, 2001), and thus
14 it may overlook important motivational phenomena that occur after training
15 begins. Motivation measures are typically administered once, either before
16 (e.g. Quiñones, 1995) or after (e.g. Hicks & Klimoski, 1987) training. Such an
17 approach does not allow for an examination of how the training experience may
18 alter learners' goals and motivational states. For example, a trainee who starts out
19 with high motivation to learn may quickly lose it. Alternatively, a trainee with low
20 initial motivation may become inspired to learn by a talented or creative teacher.
21 We will focus on the latter effect below because the field knows the least about
22 how trainers inspire others to learn (Towler & Dipboye, 2001).

23 First, let us consider several possible explanations for this "inspiration" effect
24 from other motivation theories. Expectancy theory suggests that motivation-
25 enhancing teachers succeed by illuminating the connections between training con-
26 tent and valued job outcomes. In other words, they show trainees how learning the
27 training material will help them perform more effectively on the job. Instructional
28 design models that focus on gaining and keeping learner attention often suggest
29 this approach (e.g. Gagné, Briggs & Wager, 1992). Self-efficacy theory suggests
30 that motivation-enhancing teachers succeed by raising learner self-efficacy,
31 perhaps by convincing trainees verbally of their own competence, or perhaps
32 more concretely by providing opportunities to succeed early in training (Gist &
33 Mitchell, 1992; Kozlowski, Toney, Mullins, Weissbein, Brown & Bell, 2001b).

34 In contrast, SDT begins by focusing on learners' felt autonomy in doing a task,
35 that is, the extent they feel an internal perceived locus of causality for their own
36 behavior. According to Fig. 2, trainers who support learners' autonomy enhance
37 trainees' intrinsic and/or identified motivation to learn (i.e. their autonomous
38 work-motivation), thereby helping fulfill trainees psychological needs. As a
39 result, trainees better learn and retain the material. Indeed, the importance of
40 teacher autonomy-support has been confirmed by research on teacher behavior

1 in educational settings (see Ryan & Stiller, 1991; Sheldon & Biddle, 1998, for
2 reviews). Research suggests that autonomy supportive teachers listen carefully
3 to learners, allow them to learn in their own way, and continually work to engage
4 learners' interest (Reeve, Bolt & Cai, 1999).

5 The extent to which such behaviors describe trainers in corporate settings
6 is an open one, in large part because the focus of organizational research has
7 been on learner characteristics and work environment characteristics, rather than
8 on trainer characteristics and behaviors. As suggested by Towler and Dipboye
9 (2001), however, training effectiveness could be much improved by giving greater
10 attention to characteristics and behaviors of trainers. SDT provides a promising
11 framework for conducting such research. Notably, although the research reviewed
12 above focuses on autonomy need-satisfaction, similar positive effects should
13 be expected for satisfying competence and affiliation needs. Needs satisfaction
14 may help to explain the positive results found for certain training programs, such
15 as self-management (Frayne & Geringer, 2000, which may affect competence
16 need-satisfaction) and team training (Salas & Cannon-Bowers, 1997, which may
17 affect relatedness need-satisfaction). Thus, we suggest that the SDT model not
18 only offers new research directions, it also can help to organize what is already
19 known.

20 21 *Manager Effects on Learners*

22 In addition to shedding light on the nature of effective trainers, SDT can also help
23 illuminate the construct of *managerial support* for training and development.
24 Organizational research often suggests that managerial support for learning
25 predicts employees' motivation for and participation in learning experiences
26 (Baldwin & Magjuka, 1997; Fecteau, Dobbins, Russell, Ladd & Kudisch, 1995).
27 And indeed, management support for learning, as rated by subordinates, has been
28 found to be an important predictor of participation in developmental experiences
29 (Birdi, Allan & Warr, 1997; Noe & Wilk, 1993; Tharenou, 2001). Unfortunately,
30 the specific process by which managers promote (or fail to promote) learning by
31 their employees have been little studied. Again, SDT suggests that such managers
32 succeed by supporting their employees' autonomy needs, thus helping employees
33 to develop and pursue internalized goals related to learning and personal
34 growth.

35 In sum, SDT offers a perspective seldom employed by training and development
36 research, which has been dominated by the motivation to learn construct and
37 expectancy and self-efficacy theories. In particular, the theory suggests ways of
38 understanding what characteristics of learners, trainers, and managers promote
39 motivation to learn. To formalize the latter issue, the following proposition
40 is offered:

1 firm performance in part by influencing felt empowerment and motivation in the
2 company work force.

3 In addition to their indirect effect via internalized work-motivation (see Fig. 2),
4 we suggest that high-performance HR practices can also influence employee
5 need-satisfaction directly. To illustrate, we consider Pfeffer's (1998) list of
6 high-performance work practices that can give firms a competitive advantage:
7 selective hiring, self-managed teams, and decentralization of decision-making,
8 extensive training, compensation contingent upon organizational performance,
9 reduced status distinctions, and extensive sharing of financial and performance
10 information. From the SDT perspective, firms that utilize more selective hiring
11 and extensive training should have employees who better fit with the firm and have
12 more organizationally relevant knowledge; such employees are thus more likely to
13 have their competence needs satisfied. De-emphasized status differentials and the
14 use of teams should encourage employees to feel relatedness with other employees
15 in the firm. The use of self-managed teams, decentralized decision-making, and
16 extensive sharing of financial and performance information should help support
17 employees' feelings of autonomy. Taken together, then, this set of HR practices
18 should provide a context that allows employees to satisfy all of their psychological
19 needs, which in turn leads to greater effort and persistence at work, enabling the
20 firm to obtain higher individual and organizational performance.

21 To consider the issues more concretely, we focus below on one HR practice,
22 compensation. Compensation policies have been shown to have a significant effect
23 on firm performance (Gerhart & Milkovich, 1990). However, there is a bit of a
24 paradox here: classic SDT points out the potential motivation-undermining effects
25 of extrinsic rewards. Furthermore, some contemporary SDT research into terminal
26 values indicates that placing greater relative importance upon money negatively
27 predicts subjective well-being (Kasser & Ryan, 1993, 1996). Does this mean that
28 compensation issues are bound to undermine and subvert individual, team, and
29 corporate morale?

30 Not necessarily. It appears that *why* money is valued and pursued makes a
31 difference. For example, Srivastava, Locke and Bartol (2001) showed that the
32 effect of financial motivation depends on the person's motives for making money.
33 Financial motives involving insecurity, status-seeking, and failure-avoidance
34 were associated with negative well-being, whereas financial motives involving
35 *meaning* (supporting a family, gaining a sense of justice, or contributing to
36 a group effort) were positively related to subjective well-being. From an HR
37 perspective, this suggests that company policies that promote meaning, morality,
38 and/or team-cohesion (i.e. compensation based on organization performance) will
39 help defuse the potentially divisive effects of compensation differences between
40 employees.

1 Although the above example focuses on the role of HR practices for promoting
2 acceptance of a firm's compensation policies, there are many other issues besides
3 compensation that could be more thoroughly examined, such as self-managed
4 teams and decentralization of decision making and reduced status differentials,
5 to name a few. In general, we postulate that firm performance will be maximized
6 when *every* HR practice contributes to internalized work-motivation and employee
7 need-satisfaction, or when HR practices are "internally consistent" with each other
8 (Delery & Shaw, 2001). Such consistency in practices should lead employees to see
9 themselves and their colleagues as owners of their tasks and duties, thus taking full
10 responsibility for the results. To formalize and summarize, we offer the following
11 proposition:

12
13 **Proposition 5.** High performance HR practices result in greater firm perfor-
14 mance because such practices promote greater employee internalization of work
15 tasks, thereby promoting employee need-satisfaction.

16 17 18 DISCUSSION

19
20 The purpose of this paper has been to explicate contemporary self-determination
21 theory (SDT), and show how it might be applied to substantive research domains
22 within organizational behavior and human resource management. Research on
23 SDT has increased rapidly over the last decade, and the theory is now quite
24 sophisticated and well supported. As we have argued here, SDT provides an
25 alternative, yet complementary, approach to the dominant motivation theories
26 in the management literature, because of its somewhat different assumptions
27 about human nature. In this concluding section we will briefly reiterate the key
28 propositions of SDT, describe the few existing studies that have specifically
29 applied SDT in work domains, and then briefly consider the limitations, boundary
30 conditions, and promises of the theory.

31 Again, SDT is an organismic theory of human motivation, which assumes
32 people have an inherent need to grow and develop, although both contextual
33 and interpersonal factors can inhibit that inherent need. A key aspect of SDT is
34 the internalization process, by which people come to identify with and "own"
35 less-than-enjoyable tasks. As shown in Fig. 2, both contextual and personal
36 factors are theorized to influence the internalization of such tasks, which subse-
37 quently results in greater satisfaction of the three innate psychological needs of
38 autonomy, competence, and relatedness, which positively impacts outcomes such
39 as persistence, well-being, creativity, and performance. Although this general
40 model has been well supported in the domains of health, educational, and social

1 psychology, there is as yet limited empirical support for it in work domains. In
2 the following section, we summarize the empirical organizational research that
3 does support the various components of the model described in Fig. 2. Including
4 in this brief review are suggestions for future research that may serve to refine the
5 application of SDT to the study of work-related phenomena.

8 *Existing Organizational Research and Theory Refinement*

10 Again, contextual autonomy-support is an important “front end” factor within
11 Fig. 2, that helps to determine whether individuals take ownership of externally
12 requested tasks and goals. Deci et al. (1989) investigated the extent to which
13 managers’ self-reported autonomy-support of employees (measured as “encour-
14 aging employee choice, providing non-controlling feedback, and acknowledging
15 employees’ perspective”) was related to employees’ job attitudes. Although the
16 sample size was quite small ($N = 23$ managers, where the unit of analysis was the
17 23 teams), managers’ support for self-determination was indeed positively related
18 to subordinates’ felt autonomy and satisfaction. Future research in this area could
19 go even “further back” in the Fig. 2 model, to investigate which higher-order
20 contextual factors influence whether managers are autonomy-supportive of
21 employees (i.e. whether the company administration is autonomy-supportive of
22 managers themselves, or whether the organizational culture supports managerial
23 initiative). Future research might also investigate the efficacy of interventions
24 designed to *increase* managers’ willingness and ability to support employee
25 autonomy.

26 Also at the front end of Fig. 2, personality may influence peoples’ internaliza-
27 tion of goals and tasks. As discussed in the first part of this paper, Deci and Ryan
28 (1985b) have focused primarily on the personality factor of “causality orienta-
29 tions.” However, it seems likely that other stable individual difference variables
30 besides causality orientation influence the extent to which individuals internalize
31 extrinsic tasks in the work place. For example, one might suspect that individuals
32 who are more *proactive* (Bateman & Crant, 1993; Crant, 2000) better internalize
33 work tasks, perhaps through the process of “job-crafting” (Wrzesniewski &
34 Dutton, 2001; discussed further below). This remains for future research to test.

35 The Five Factor Model of personality provides yet another way of considering
36 the role of individual differences in optimal worker performance. Indeed,
37 organizational research has shown that the several of the Big Five traits influence
38 work-performance (Barrick, Mount & Judge, 2001) and overall job-satisfaction
39 (Judge & Ilies, 2002). But how does this occur? In terms of Fig. 2, we suggest that
40 certain traits can provide paths to need-satisfaction that bypass internalized work

1 motivation altogether. For example, extraversion (sociable, assertive, dominant)
2 and agreeableness (cooperative, trusting, kind) may influence relatedness need
3 satisfaction by promoting positive relations with others. Conscientiousness
4 (dependable, responsible, persistent) and emotional stability (confident, relaxed,
5 secure) may influence competence need satisfaction by promoting disciplined
6 effort. Openness to experience (imaginative, cultured, creative) may influence au-
7 tonomy need-satisfaction by promoting search for new choices and opportunities.
8 Notably, the linkage between personality trait variables and dynamic motivational
9 variables has received little empirical attention to date within *any* literature (but
10 see Sheldon, Ryan, Rawsthorne & Iardi, 1997). We suggest that organizational
11 research could help with the important theoretical goal of linking trait and
12 motive constructs (McAdams, 1996), thus expanding the range of personality
13 variables considered within SDT research while at the same time adducing new
14 understanding of work motivation and performance.

15 Another important proposition of SDT, as shown in at the “back end” of Fig. 2,
16 is that satisfaction of the three innate needs results in greater job satisfaction
17 and performance (Deci et al., 2001; Iardi, Leone, Kasser & Ryan, 1993). Some
18 organizational research supports this, for example, Iardi et al. (1993) studied
19 workers in a shoe factory and showed that employees’ feelings of autonomy, com-
20 petence, and relatedness were related to employee satisfaction and psychological
21 health. Similarly, Deci et al. (2001) studied workers in Bulgaria and the U.S. and
22 found that greater need satisfaction was associated with greater task engagement,
23 self-esteem, and reduced anxiety (although the strength of the relationships varied
24 somewhat across the two countries; notably, this study also found support for
25 the front end of the Fig. 2 model, as the most satisfied workers in both Bulgaria
26 and America were ones who felt that their managers supported their autonomy).
27 Future research should seek to establish which performance outcomes are most
28 affected by which types of need-satisfaction, and also try to uncover situations
29 and jobs in which autonomy, competence, and/or relatedness need-satisfaction
30 may be especially important. Again, such research would provide contributions
31 to both SDT and research on job performance.

32 Turning away from Fig. 2, we suggest SDT may also provide some insight
33 into some more complex constructs and processes currently being studied by
34 organizational researchers. For example, Wrzesniewski and Dutton (2001, p. 179)
35 presented a model of job crafting, defined as “the physical and cognitive changes
36 individuals make in the task or relational boundaries of their work” that included
37 antecedents, outcomes, and moderators of the job crafting process. Of particular
38 relevance for our paper, Wrzesniewski and Dutton (2001) argued that people
39 craft their jobs in order to assert some control over their jobs, to create a positive
40 self-image for themselves at work, and to connect with others. Perhaps not

1 surprisingly, these objectives seem quite similar to the three posited SDT needs
2 of autonomy, competence, and relatedness, although [Wrzesniewski and Dutton](#)
3 [\(2001\)](#) do not discuss SDT in their article. Clearly, further research is needed to
4 test whether job crafting results in greater internalization of work tasks and thence
5 greater satisfaction of autonomy, competence, and relatedness needs.

6 7 8 *Limitations, Boundary Conditions, and Opportunities* 9

10 A major limitation of much SDT research for organizational scholars has been
11 SDT's focus on well-being as the primary outcome of interest. Although employee
12 well-being is an important variable, in part because of its relationship with job
13 satisfaction ([Judge, Thoresen, Bono & Patton, 2001](#)), organizational scholars are
14 also interested in productivity and performance measures, which are not as often
15 measured by SDT researchers (notably, however, another major outcome focused
16 on by SDT is behavioral persistence, which is likely to be of interest to managers).
17 Other methodological limitations of prior SDT research include cross-sectional
18 designs, limited samples (mostly college students), and self-report measures. Of
19 course, one might also view these limitations as opportunities – opportunities for
20 organizational researchers to contribute to the further testing and shaping of an
21 important theory of human motivation.

22 It is also important to consider some possible boundary conditions that may
23 limit the *conceptual* applicability of SDT to organizational contexts. One such
24 boundary condition may be individual differences in employees' needs for growth
25 or self-actualization. Does everyone want to grow and develop? A related bound-
26 ary condition may be individual differences in employees' needs for autonomy,
27 competence, and relatedness. Does everyone want to feel effective, connected, and
28 free? In other words, would it do any good to support the growth needs of someone
29 who prefers stability and stasis, or to support the autonomy needs of someone who
30 prefers controls and constraints, or to support the relatedness needs of someone
31 who prefers to be a loner?

32 Although [Deci and Ryan \(2000\)](#) noted that such differences may exist, they
33 do not think that examining individual differences in need strength “is the most
34 fruitful place to focus empirical attention” ([Deci & Ryan, 2000](#), p. 328). In part,
35 this is due to the fact that past SDT research has not found personality/situation
36 interactions (i.e. as discussed earlier, there is no empirical support for a matching
37 hypothesis, according to which control-oriented participants do better when treated
38 controllingly). Other motivation scholars, however, have argued that examining
39 individual differences in psychological needs may help us better understand many
40 motivational processes ([Vallerand, 2000](#)). For example, the job characteristics

1 model proposes that individuals vary in their growth need strength and that
2 this variability moderates the effects of job characteristics on work outcomes
3 (Hackman & Oldham, 1976). Indeed, meta-analyses support this proposition for
4 the outcomes of job satisfaction (Loher, Noe, Moeller & Fitzgerald, 1985) and job
5 performance (Fried & Ferris, 1987). Such results suggest that Deci and Ryan's
6 assumption of invariant psychological needs and growth processes may need
7 further scrutiny.

8 Another conceptual boundary condition that may limit the applicability of SDT
9 to organizations is the inevitably tedious or aversive nature of some jobs, such as
10 peeling shrimp, making cold telemarketing calls, or working on assembly lines.
11 Can humanistic management practices really make a difference in such cases?

12 Again, SDT assumes that the answer is YES, because autonomy support helps
13 people to internalize the doing of boring or tedious tasks (Deci et al., 1994). To
14 show how this can happen, consider a woman with the job of assembling simple
15 rheostats, a job which requires her to produce hundreds of the items every day.
16 This person is not growth-oriented on the job, and she usually prefers the security
17 of being told exactly what she is supposed to do. Also, she has firm expectations
18 that work will always be boring and aversive, an activity that she only does for
19 the money. Still, according to SDT, if this person's immediate supervisor began
20 to talk to her and take her perspective, offer her choices about when and how to
21 do her work, and offer explanatory rationales when making non-ordinary requests
22 (i.e. if the supervisor supported the woman's autonomy, rather than commanding,
23 coercing, or controlling her), then the woman might eventually feel better respected
24 and appreciated, and might also learn to take more interest and pride in aspects
25 of the job (i.e. striving for a reduced error rate or increased productivity). Indeed,
26 given autonomy supportive management, the woman might eventually realize that
27 she has potentials that go beyond her current job, and thus move on to more
28 challenging work. In other words, the support of a caring manager might help this
29 woman to re-connect with the growth impulse that SDT assumes is present all
30 people, even though they may be temporarily "stalled" in a limited way of being.
31 Obviously, more research is required to document these rather optimistic ideas.

32 Another potential limitation of self-determination theory may be its assumption
33 of a motivational continuum, and its emphasis on creating an aggregate self-
34 determination measure that locates participants upon this continuum. Specifically,
35 SDT researchers often create a single measure of self-determined motivation by
36 adding identified and intrinsic motivation, and subtracting external and introjected
37 motivation. As noted earlier, however, some evidence suggests that it is important
38 to differentiate among the different types of motivation (Sansone & Smith, 2000).
39 By keeping the different forms separate one can examine the independent effects
40 of extrinsic and intrinsic motivation, potentially demonstrating that the two types

1 of motivation sometimes have additive or complementary effects (Amabile, 1996;
2 Hennessey, 2000; Osterloh & Frey, 2000).

3 Finally, as implied above, SDT has primarily focused on how autonomy-
4 supportive contexts enhance workers' internalized or intrinsic motivation. We
5 believe, however, that other processes can also lead to more internal motivation.
6 For example, some evidence suggests that individuals who have a strong inter-
7 personal orientation will find boring tasks more interesting when they work with
8 another person, perhaps because their relatedness needs are being met (Sansone
9 & Smith, 2000). In addition, it seems likely that individuals' interest in a task may
10 be influenced by co-workers and supervisor perceptions of the task, as indicated
11 by the social information processing approach (Salancik & Pfeffer, 1978). From
12 this perspective, it may be important to help workers see the value of every work
13 task, not just their own. It is also possible that internal self-regulatory processes
14 can serve to enhance internal motivation. For example, Sansone and Smith
15 (2000) argued that individuals may change a task through real or psychological
16 transformation of the task, and that these transformations can result in increased
17 interest in and identification with the task. In summary, although SDT provides
18 some promising places to start, we believe organizational researchers can extend
19 the theory by examining other factors that influence the extent to which workers
20 develop internalized motivation.

21 22 23 CONCLUSION

24
25 In this paper we have derived both a general model describing the process through
26 which self-determination influences positive outcomes of interest in organizations,
27 and a specific set of propositions describing how self-determination theory (SDT)
28 can advance contemporary work motivation research. We have tried to show how
29 SDT can be fruitfully applied to understanding constructs used in organizational
30 research, such as goal commitment and motivation to learn, and broader phenom-
31 ena such as transformational leadership and the strategic management of human
32 resources. Although some concepts within SDT are doubtless similar to concepts
33 found in contemporary work motivation theories, we suggest that SDT provides a
34 way of integrating these various strands of thought under a comprehensive meta-
35 theory. Indeed, precisely because of such inclusive properties, SDT is playing a
36 prominent role in the new "positive psychology" movement, led by Seligman and
37 Csikszentmihalyi (2000). Thus, we hope that the thoughts expressed here will
38 inspire organizational researchers to give greater consideration to employees'
39 holistic strivings for growth, integration, and connection (Sheldon & Schmuck,
40 2001).

NOTES

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1. As evidence of this misunderstanding, [Ambrose and Kulik \(1999\)](#) used the term Cognitive Evaluation Theory in their literature review on work motivation. This theory represents only one part of the SDT theoretical framework. Despite their narrow focus, [Ambrose and Kulik \(1999, p. 257\)](#) encouraged further organizational research in this area.

2. Notably, happiness and well-being may be somewhat unfamiliar outcomes for organizational researchers. In contemporary social psychology, well-being is typically defined in terms of high positive mood, high life-satisfaction, and low negative mood ([Diener, 1984, 1994; Sheldon & Elliot, 1999](#); but see [Ryff, 1995](#), for a different view of well-being). We believe that enhancing employee well-being is a worthy goal for managers, given the many positive cognitive, performance, and coping benefits that accrue from positive well-being (for a review, see [Lyubomirsky, King & Diener, 2003](#)).

3. Consistent with other researchers (e.g. [House & Shamir, 1993](#)), we use the terms transformational and charismatic leadership interchangeably.

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