Educational Psychology Review, Vol. 15, No. 3, September 2003 (© 2003)

Book Review

Intrinsic Motivation, Extrinsic Rewards, and Divergent Views of Reality

Intrinsic and Extrinsic Motivation: The Search for Optimal Motivation and Performance. *Edited by Carol Sansone and Judith Harackiewicz.* Academic Press, San Diego, CA, 2000. (ISBN 0-12-619070-4), 489 pp.

The long-standing debate over whether extrinsic rewards undermine intrinsic motivation and the more recent debate regarding the costs and benefits of performance goals are central issues addressed in *Intrinsic and Extrinsic Motivation: The Search for Optimal Motivation and Performance*, edited by Carol Sansone and Judith Harackiewicz. The book contains chapters from a number of the most prominent scholars in the field and is an excellent volume despite the absence of a chapter representing the behaviorist tradition. This book review contains a summary of the debates and a description of three tensions that recur throughout the book: The empirical tension, the macro- vs. micro-analysis tension, and the idealism vs. realism tension.

As I was reading *Intrinsic and Extrinsic Motivation: The Search for Optimal Motivation and Performance*, I received a copy of *Parenting* magazine. On the cover were a variety of teaser headlines designed to motivate prospective readers to buy the magazine, including one that immediately caught my attention: "Never bribe your kids and 5 other rules you can break" (*Parenting*, September 2002). It seems that the 30-year debate developed in the academic community regarding the effects of extrinsic rewards on intrinsic motivation has moved beyond the walls of academia.

I offer this anecdote as a segue into what I perceive as the heart of Sansone and Harackiewicz book: its underlying tensions. Its chapters, many written by the finest scholars in the field, contain a wealth of information regarding the research conducted on intrinsic motivation (and goals) over the last three decades. The book includes the precise conditions under which

1040-726X/03/0900-0311/0 © 2003 Plenum Publishing Corporation

extrinsic rewards affect intrinsic motivation and various ways of defining intrinsic motivation and extrinsic rewards. This information alone makes the volume a valuable resource for anyone interested in the topic. But more interesting than the research results were a variety of tensions that recur throughout the book. These tensions include *empirical* tensions regarding the precise definitions of terms like extrinsic, intrinsic, and effects. There is also an ongoing tension between the *micro-analysts* and the *macro-analysts*. This tension divides researchers into those who study the effects of extrinsic rewards in carefully controlled laboratory experiments where only a few variables are manipulated vs. those who argue that to understand the effects of rewards on intrinsic motivation one must examine those effects over time, across contexts, and in "real world" settings. Finally, there is a tension in the book between the *realists* and the *idealists*. The realists argue that in the "real world" extrinsic rewards are common, expected, and needed to enhance or maintain motivation. Idealists, on the other hand, suggest that the "real world" is merely a human construction, one that might be reconstructed to de-emphasize extrinsic rewards.

In this review, I begin with a brief summary of research findings germane to the debates regarding extrinsic rewards and performance goals. The majority of the review focuses on the three tensions with a consideration of how these tensions have shaped the motivation field. The article concludes with a discussion of future directions research might take.

RESEARCH BACKGROUND

The Debate over Extrinsic Rewards

In their introductory chapter, Sansone and Harackiewicz (Chapter 1) present a concise and accurate history of the debate regarding the effects of extrinsic rewards on intrinsic motivation. They note that after decades of behaviorist explanations of motivation, in which behavior was presumed motivated by reinforcements such as rewards, cognitive explanations of motivation were offered to challenge the behaviorist view. Research conducted in the 1970s by Lepper, Deci, and their colleagues demonstrated that that when initial interest in a task is high and extrinsic rewards are (1) not contingent on task engagement or completion, (2) salient, (3) tangible, (4) expected, and (5) lacking in information about participants' competence, extrinsic rewards are likely to undermine subsequent intrinsic motivation for the task. This research presented a paradox that needed to be addressed: Why would

being rewarded for engaging in an enjoyable or interesting activity undermine one's subsequent interest in the activity?

Two theories were offered to explain why extrinsic rewards undermine intrinsic motivation. Lepper and his colleagues (Lepper, Greene, and Nisbett, 1973; Lepper and Greene, 1975) argued that when both an extrinsic reward and intrinsic motivation are present for the same activity, the reason for engaging in the activity is overdetermined (which they called the "overjustification effect"). In such circumstances, the extrinsic reward may supplant intrinsic motivation as the perceived purpose for engaging in the activity because the extrinsic reward is the more salient of the two motivators. Deci and his colleagues (Deci, 1975; Deci, Cascio, and Krusell, 1975), using Cognitive Evaluation Theory (CET), also suggested that when individuals who are initially intrinsically motivated to perform an activity are confronted with an additional extrinsic reward, they eventually ask themselves why they are engaging in the activity. This evaluation of their purposes leads them to choose the more salient of the two reasons, extrinsic rewards, resulting in a reduction of intrinsic motivation. If the individual is later asked to engage in the same activity without the extrinsic reward, overall motivation decreases because intrinsic motivation for the activity was supplanted by extrinsic rewards. Shah and Kruglanski (Chapter 5) propose that activities can be associated with both extrinsic and intrinsic goals. If the extrinsic goal becomes dominant and breaks the association between the intrinsic goal and the activity, removing the extrinsic reward should produce a disinclination to engage in the activity because the activity is now "goal-less" (p. 113).

Behavioral psychologists sharply disagree that extrinsic rewards undermine intrinsic motivation. They argued that the evidence of negative effects of extrinsic rewards on intrinsic motivation were artifacts of "poor operationalizations of the reward as reinforcer, a focus on short-term effects without consideration of overall reinforcement history, and neglect for the enormous amount of research showing that reinforcement makes behavior more, not less, likely to occur" (Sansone and Harackiewicz, Chapter 1, p. 4). The results of two related meta-analysis, one by Cameron and Pierce (1994) and one by Eisenberger and Cameron (1996), formed the basis for a powerful recent response from the behaviorist tradition. These scholars found that rewards undermined behavior in rare and easily avoidable circumstances (i.e., when they are tangible, expected, and not contingent on performance), usually had no effect on intrinsic motivation, and could actually increase creativity. These conclusions and their underlying motives are questioned by Ryan and Deci (Chapter 2), as is the quality of the meta-analyses (Ryan and Deci, Chapter 2; Lepper and Henderlong, Chapter 10).

The Debate over Goals

A debate has also emerged in the motivation field regarding the effects of achievement goals. Recent research on achievement goals has separated performance-approach goals (i.e., the goal of appearing competent) from performance-avoidance goals (i.e., the goal of avoiding appearing incompetent). Although research typically finds negative effects associated with performance-avoidance goals, there is considerable debate over whether performance-approach goals undermine or enhance motivation and achievement (Harackiewicz, Barron, and Elliot, 1998; Midgley, Kaplan, and Middleton, 2001). At the crux of the debate is whether the desire to outperform others promotes interest in the activity or represents a threat to the esteem of individuals who may fail, as well as a distraction from the inherent value of the activity. Some research suggests that, among college students in particular, interest and performance are enhanced by performance-approach goals whereas other research indicates that these goals are associated with ego-protective behavior, surface learning, and lower valuing of the activity. Two of the chapters in this book, one by Molden and Dweck (Chapter 6) and one by Barron and Harackiewicz (Chapter 9) address this debate most directly.

Although the debate over the benefits and costs of performance-approach goals is certainly active and interesting, the four chapters on goals in *Intrinsic and Extrinsic Motivation* do not represent the full range of perspectives in the debate. None of the most vocal critics of performance-approach goals, such as Carol Midgley, Martin Maehr, or Carole Ames, contributes to the book. The focus of the book, as implied by the title, is intrinsic and extrinsic motivation, making the section on goals somewhat tangential. Although the goals chapters include a number of important ideas and insights, the focus of this review is primarily on the debate over the effects of extrinsic rewards on intrinsic motivation.

Summary of Debates

It seems safe to conclude that there are conditions under which extrinsic rewards undermine intrinsic motivation and under which performance-approach goals enhance motivation and achievement. It is also safe to say that the disagreements between scholars studying the same phenomenon—intrinsic motivation, extrinsic rewards, goals—extend beyond the empirical evidence into such areas as theoretical allegiance and perhaps even to beliefs about human potential and contextual influences on it. Many of the tensions that have emerged in the debates regarding the effects of extrinsic rewards

on intrinsic motivation and the effects of performance goals are showcased in the book. The remainder of this article describes three of these tensions.

THE THREE TENSIONS

The three strong tensions found throughout the book are conceptually similar yet distinct in style and importance. First, there is the *empirical* tension that represents differences regarding how to operationally define and study extrinsic rewards, intrinsic motivation, and goals. This tension can be summarized with the question "Are extrinsic rewards (or performance goals) always bad?" In answering this question, the authors touch on two additional tensions: The tension between the *microanalysts* and the *macroanalysts* and the tension between the *realists* and the *idealists*.

Although I discuss each tension separately, they are interrelated. The micro-macro distinction is, in large part, an empirical tension. However, it also represents differences in the ways that researchers conceive of the associations between extrinsic and intrinsic motivation that extend beyond the research methods used to examine the phenomenon. In addition, the different sides of each tension are offered as heuristics rather than as absolutes. Some of the authors raised both micro- and macro-analysis issues or represented both idealistic and realistic perspectives. The purpose of discussing these tensions is to describe themes that emerged from the chapters that frame the debates regarding extrinsic rewards, intrinsic motivation, and goals.

The Empirical Tension

The question of whether extrinsic rewards undermine intrinsic motivation has two important sub-questions. First, do extrinsic rewards *always* undermine intrinsic motivation? Second, assuming the answer to the first question is "no," when or under what conditions do extrinsic rewards reduce intrinsic motivation? The answer to the first question is, and always has been, no. As Lepper and Henderlong (Chapter 10) note, even the earliest studies clearly established that some extrinsic rewards do not undermine intrinsic motivation, such as when the rewards are not expected, not tangible, and are perceived as informative rather than coercive. Ryan and Deci (Chapter 2) note that extrinsic rewards do not undermine intrinsic motivation when there is little intrinsic motivation to begin with. Indeed, when initial interest in an activity is low, extrinsic rewards may lead individuals to develop an internalized valuing of the activity that becomes virtually

autotelic in time. The answer to the question of whether performance goals are always detrimental or maladaptive is also no. Molden and Dweck (Chapter 6) note that even the earliest studies of achievement goals found that holding a performance goal orientation did not always undermine motivation or performance, a point articulated recently by Elliot, Harackiewicz, and their colleagues (see Barron and Harackiewicz, Chapter 9).

Now the primary controversies revolve around the question of *when* extrinsic rewards and performance goals undermine intrinsic motivation. Despite hundreds of studies on intrinsic motivation and achievement goals, the answer to this question is complex. Regarding extrinsic rewards and intrinsic motivation, Shah and Kruglanski summed up the complexity of the field thusly: "Indeed, one lesson of research in this area has been that no simple notions about reward will suffice and that our initial proposals need to be buttressed by an ever-expanding array of provisos" (Chapter 5, p. 106).

Research has revealed that the effects of extrinsic rewards (and performance goals) on intrinsic motivation depend on a number of personal, situational, and definitional variables. For example, the relatively recent attention given to the distinction between performance-approach and performance-avoidance goals has revealed that the effect of performance goals on intrinsic motivation depends on how one defines performance goals. Performance-avoidance goals generally have a negative effect, and performance-approach goals generally have a positive or null effect (Elliot, 1997). Similarly, the effect of extrinsic rewards on intrinsic motivation depends on how one defines extrinsic rewards. Tangible rewards, like money, generally have a more deleterious effect on intrinsic motivation than less tangible rewards, like verbal praise. As Hennessey notes in Chapter 3, the conflicting associations found between extrinsic rewards and creativity are at least partially explained by differences in the definition of creativity. "[T]he behaviorist and the social psychologist are concerned with different processes, different types of tasks, and, in some cases, different types of rewards as well. It is their unwillingness to acknowledge these differences that has caused Eisenberger and Cameron to come under fire." (p. 61).

In addition to differences in the definition of goals, creativity, extrinsic rewards, and intrinsic motivation, there are important individual difference variables that moderate the association between extrinsic rewards and intrinsic motivation. One of these variables is interest, or personal meaning. Hidi (Chapter 11) and Renninger (Chapter 13) both note that although the situational interest of individuals may be altered by extrinsic rewards, more deeply held personal interest is less likely to be affected by extrinsic rewards. As Hidi notes, "A tangible reward given to a chess player whose passion is solving chess puzzles, for example, may not be the same as that given to an individual who is working on an experimental task of solving puzzles and

for whom the puzzles hold no personal relevance or commitment." (p. 326). Similarly, Molden and Dweck (Chapter 6) argue that one cannot know the true association between goals and intrinsic motivation without understanding the personal relevance of the task to the individual. The prospect of failing at a task that is diagnostic of one's stable level of intelligence is quite different from the prospect of failing at a task that is less personally relevant, such as a lightly valued skill. Some researchers, including Renninger (Chapter 13) and Jacobson and Eccles (Chapter 14) note that such characteristics as age, gender, ethnicity, and peer group all play a role in determining what skills or characteristics individuals find interesting or personally relevant, thereby influencing the association between extrinsic rewards and intrinsic motivation.

Some researchers have noted that contextual variables also moderate the association between extrinsic rewards and intrinsic motivation. Sansone and Smith (Chapter 12) note that interest and intrinsic motivation are enhanced when there is congruence between the goals of the individual and the goals, affordances, or reward structures of the environment. Jacobs and Eccles (Chapter 14) describe a variety of socializing agents (e.g., parents, peers, schools) and their role in shaping a person's values and, therefore, intrinsic motivation. Situational demands and contextual goal structures also influence the association between goals and intrinsic motivation (e.g., Church, Elliot, and Gable, 2000; Urdan and Midgley, in press).

Research on individual differences and contextual influences has demonstrated that understanding the association among extrinsic rewards, intrinsic motivation, and goals depends on *how* the associations are examined. Perhaps the most interesting issue in the empirical tension is whether these moderating and mediating factors really matter. Cameron and Pierce (1996) essentially dismissed these factors when they wrote "The only negative effect of reward occurs under a highly restricted set of conditions that are easily avoided" (p. 39). The authors in this book vigorously disagree with this conclusion. Several of the chapters include sections directly attacking the methods used in the Cameron and Pierce (1994) and the Eisenberger and Cameron (1996) meta-analyses. Ryan and Deci (Chapter 2) criticized the selection of studies included in the Cameron and Pierce (1994) meta-analysis and offer their own meta-analysis as refutation. Hennessey (Chapter 3), as mentioned earlier, attacked the operational definition of creativity employed by behaviorists in the study of creativity and extrinsic rewards. Lepper and Henderlong (Chapter 10) argued that meta-analytic methods are ill suited for examining the association between extrinsic rewards and intrinsic motivation precisely because this association depends on, or is moderated by, a number of other variables. Although research has identified conditions under which extrinsic rewards undermine intrinsic motivation, Eisenberger,

Cameron, and Pierce raise a fundamental question: Should we care? The two remaining tensions speak to this issue.

Micro-analysis vs. Macro-analysis

In the social and physical sciences there has always been a tension between reductionism and interactionism. Research examining isolated building blocks of matter or behavior is contrasted with research examining the real-world conditions that produce behavior. It is the battle between genotype and phenotype. This tension between reductionism and interactionism also is found throughout *Intrinsic and extrinsic motivation*. Although the search for building blocks and the quest to understand how these building blocks interact are not necessarily conflicting endeavors, in the debate about the effects of extrinsic rewards on intrinsic motivation these two different approaches to the question are sometimes thrown into conflict.

One of the recurring micro-analysis vs. macro-analysis issues centers on the repeated calls for external validity in research. In several of the chapters, the results of carefully controlled laboratory experiments were reported. For example, Harachiewicz and Sansone (Chapter 4) described laboratory experiments conducted to examine the specific effects of performance-contingent rewards (i.e., rewards are only given when a certain level, or quality, of performance is achieved) on intrinsic motivation and performance. The authors examined one specific type of reward structure, performance-contingent rewards, in detail. Other chapters that focused primarily on describing the results of laboratory research included those by Barron and Harackiewicz (Chapter 9) and Sansone and Smith (Chapter 12).

In a number of other chapters, however, researchers noted that ecologically valid research regarding the effects of extrinsic rewards on intrinsic motivation must be conducted outside of the laboratory, and that there is a dearth of such research (e.g., Ryan and Deci, Chapter 2). Hidi (Chapter 11) warned that the methods used in laboratory research may produce results that do not generalize well in real-life educational settings.

Perhaps the more important distinction between the micro and macro perspectives is not *where* the research was conducted (i.e., laboratory or in the field), but what variables were included and what research questions were examined. In a number of chapters, the authors placed careful limits on the conditions for examining or explaining the effects of extrinsic rewards on intrinsic motivation. Ryan and Deci (Chapter 2), for example, suggested that tangible rewards affect motivation differently depending on the initial level of interest among participants in the experimental task. Combining studies that include both interesting and boring tasks into the same meta-analysis

masks the undermining effects of extrinsic rewards on intrinsic motivation. Some researchers have tried to eliminate the confound of low intrinsic motivation by having participants engage in fun or pleasing tasks, such as playing pinball machine games (Harackiewicz and Sansone, Chapter 4; Barron and Harackiewicz, Chapter 9), but doing so limits the generalizability of this research to less fun or interesting tasks. In several chapters, authors noted other limitations in research on effects of extrinsic rewards on intrinsic motivation. These included having only success, and no failure, conditions in experiments (e.g., Harackiewicz and Sansone, Chapter 4; Molden and Dweck, Chapter 6), failing to determine the personal significance, or interest, of participants in the experimental task (Hidi, Chapter 11; Molden and Dweck, Chapter 6), and not examining effects of extrinsic rewards on intrinsic motivation over an extended period of time. Attempts to isolate the effects of one or two features of extrinsic rewards (e.g., the salience, the contingency), rather than considering the interplay among several of these features, represents another potential limitation on the applicability of results from the micro-analytic approach.

A number of authors in this book raised questions about the micro-analysis approach and suggested that many macro-level questions require attention. Hidi (Chapter 11) argued that one underexplored question is whether rewards undermine or enhance motivation for engaging in activities that are *not* fun or interesting. "[T]he literature on intrinsic motivation focused on children who were engaged in interesting activities and does not speak to the most significant problem facing educators of how to motivate children who are distracted or uninterested" (p. 329). Interest researchers also note that intrinsic motivation researchers should look beyond situational interest (i.e., whether the task is engaging) to the broader issue of whether the activity taps into *individual* interest (i.e., whether the task is personally meaningful) (Hidi, Chapter 11; Renninger, Chapter 13). Similarly, Jacobs and Eccles (Chapter 14) note that personal values should be included in examinations of extrinsic rewards and intrinsic motivation.

Molden and Dweck (Chapter 6) raise similar issues about achievement goal theory. They note that much of the research examining the link between performance goals and intrinsic motivation was conducted in laboratories with participants engaged in relatively small-stakes tasks (e.g., playing games, solving puzzles, etc.). Under these conditions it is difficult to know whether task performance was personally relevant for participants. Of particular importance is whether participants thought the tasks were diagnostic of a personally relevant trait (i.e., intelligence) and whether they defined that trait in a stable or malleable way. Molden and Dweck argue that some people tend to perceive achievement tasks as diagnostic of their intelligence and, for these people, performance on the task is more personally relevant

than for others. Without taking personal relevance of the task into account it is impossible to understand the motivational processes at work.

Molden and Dweck (Chapter 6) also argue that research must include both success and failure conditions to uncover the effects of goals and performance feedback on intrinsic motivation. Although a performance goal orientation may enhance intrinsic motivation as long as the individual is successful (thereby fueling approach tendencies), when she encounters difficulty she may adopt a more defensive posture by adopting performance-avoidance goals that undermine intrinsic motivation. This is particularly likely if she perceives that performance on the task reflects something personally meaningful, like stable intelligence. Molden and Dweck argue that previous research, that attempted to isolate the effects of ability-centered feedback on motivation and achievement, may not reveal the true effects of such feedback because other important factors, such as whether the individual succeeded or failed and the personal relevance of the task, were not considered.

To summarize, the tension between micro-analysis and macro-analysis is evident when comparing laboratory-based research focused on particular factors and field-based research aimed at understanding how multiple factors combine to affect motivation in externally valid situations. Whereas the micro analyst may ask a question like "How tangible must a reward be to undermine intrinsic motivation?" the macro analyst is more inclined to ask "How do extrinsic rewards affect intrinsic motivation over a long period of time under conditions typically found in the real world, such as when personal relevance and chances for failure are high?" When one considers that in many situations (e.g., school, work), extrinsic rewards are an inherent part of the process and fully expected by participants (Ryan and Deci, Chapter 2; Hidi, Chapter 11), the complexity of macro questions becomes evident.

As with the debate over the relative benefits of intrinsic and extrinsic rewards itself, the separation of micro and macro questions is a somewhat artificial one. Some researchers who focused on relatively narrow issues in their chapters also discussed larger, more macro-level issues. For example, Ryan and Deci (Chapter 2) devoted much of their chapter to noting important but particular distinctions between their meta-analysis and those of Cameron and Pierce (1994) and Eisenberger and Cameron (1996), yet they also discussed such broad issues as the globalization of reward systems and the deeper meaning of these systems for society. Similarly, Barron and Harackiewicz (Chapter 9) and Linnenbrink and Pintrich (Chapter 8) discussed research examining the effects of individual achievement goals. However, they also noted that outside of the laboratory individuals often pursue multiple goals simultaneously. Consequently, they presented research examining the effects of multiple goals. In other chapters, researchers described

carefully controlled experimental research but also considered macro issues, such as how the interplay between personal and contextual variables influence the effects of extrinsic rewards on intrinsic motivation (e.g., Harackiewicz and Sansone, Chapter 4; Sansone and Smith, Chapter 12).

Clearly, examining both micro- and macro-analysis questions contributes to understanding the interplay of rewards, goals, and intrinsic motivation. The aim of this section was to note that research in this book and in the larger literature is often divided along these questions. The majority of research in this area has been devoted to understanding the particular conditions under which rewards undermine or enhance intrinsic motivation. Lepper and Henderlong (Chapter 10) argue that there is a good understanding of these conditions. More research is needed that examines how extrinsic rewards and goals affect intrinsic motivation over time, when tasks are either interesting or boring, under both success and failure conditions, and with a consideration of the personal meaning of both task and performance.

The Tension Between the Realists and the Idealists

The empiricism that guides the examination of extrinsic rewards, intrinsic motivation, and goals is often accompanied by an undercurrent of the researcher's philosophy, or worldview. Differences in worldviews have fanned the passionate arguments on either side of the debates regarding both performance goals and extrinsic rewards. These debates often pit the "realists" against the "idealists." The realists seem to say "This is how the world works, so we should do our best to understand the association between variables within the given reality." In contrast, the idealists seem to say "We understand how the world works but we question whether it must be this way." Nicholls (1989) provided an excellent example of the idealist position on performance goals (which he referred to as ego goals) when he wrote that he advocates the endorsement of mastery goals rather than performance goals as a matter of ethics. He wrote that although performance goals may be positively associated with academic achievement, this association reflects problems with the educational system rather than genuine learning advantages created by performance goals. Other researchers have echoed this position (Covington, 1992; Midgley, et al., 2001). Rather than simply identifying the associations among goals, intrinsic motivation, and achievement, the idealist advocates changing educational and work systems to alter the nature of associations.

In contrast to the idealist angst that sometimes accompanies explanations of disturbing findings (like a positive association between performance goals and achievement), the realist tends to present results with a sort of

"This is just the way it is" tone. Barron and Harackiewicz (Chapter 9) offered a straightforward perception of reality when they wrote "We live in a competitive culture that often defines success in terms of how well a person performs relative to others" (p. 230). In a similar vein, they explained the positive association between performance goals and academic achievement by suggesting that large, introductory psychology classes, such as the type used in their research, represent a performance goal-oriented environment, and that in such environments performance goals represent an adaptive motivational orientation. This explanation was offered without any apparent feelings of happiness or despair—it was simply a matter-of-fact explanation.

One of the most interesting aspects of the division between the realists and the idealists is that the different worldviews sometimes spill beyond the data into commentary about society. In Chapter 2, Ryan and Deci extended their discussion to a consideration of the benefits and costs of market economies. They suggested that the American Dream, at least as it is presented in popular literature, is steeped in materialism and gaining extrinsic rewards. They also cite research indicating that the pursuit of the American Dream may not enhance quality of life, intimating that the pursuit of extrinsic rewards undermines life satisfaction and happiness. Similarly, Ryan and Deci point to many of the staples of capitalistic, market economies—advertising, large salaries, consumerism—as the source of an increasing reward orientation in our society and globally.

The sentiments reflected in these arguments extend beyond a value-free description of how societal factors influence individuals' goals and orientation toward seeking extrinsic rewards. They contain an inherent questioning of whether the state of affairs is as it must be. When discussing the effects of grades on intrinsic motivation in schools, Ryan and Deci (Chapter 2) state that grades can be highly controlling and, therefore, often undermine motivation and learning. They suggest training teachers and administrators to use grades in a more informational, less controlling way, but argue that such efforts are difficult to implement and may even fail to reduce students' perceptions of grades as controlling. Ryan's and Deci's comments regarding the effects of grades on intrinsic motivation in school provide an example both of the idealist's dissatisfaction with the current state of affairs as well as some reasoned dreaming about a better alternative.

The position of the realists is in stark contrast to that of the idealists. Whereas Ryan and Deci (Chapter 2) suggest that grades are often used in controlling rather than informational ways, with detrimental effects on intrinsic motivation, Barron and Harackiewicz (Chapter 9) offer the realist perspective that grades simply are what they are, and most of us accept them and use them to our benefit.

"Along with other authors in this book, we believe that developing intrinsic motivation in learning is critical to education, and indeed, most of our own research has focused on factors that increase or undermine intrinsic motivation. *However, to consider students' interest as the only indicator of success may be idealistic or nave*. In reality, grades are frequently used as our best indicator of learning, and we are all probably guilty of rewarding and placing greater value on students' academic performance" (p. 230, emphasis added).

Other authors also entertain the idealistic premise that it would be nice if all people were intrinsically motivated and mastery goal oriented but ultimately reach the realist perspective, often pointing to logistical or practical reasons why the ideal cannot be achieved. For example, much of what society wants and requires students and workers to do is simply not inherently interesting or pleasing and would not get done without a heavy dose of extrinsic rewards. Hidi (Chapter 11) argued that even when noble suggestions for increasing intrinsic motivation are offered, the practical difficulties of implementing them preclude their widespread adoption. She notes that no matter how much time and money educators have, they will never be able to make all academic work into play, recreation, or otherwise intrinsically pleasing activity. Hidi then suggests that *not* rewarding people who have come to expect rewards may produce negative reactions from those people, resulting in a workforce and student body that is less motivated. She notes that little research has examined the effects of withholding rewards that have become expected.

Hidi's suggestion that people become less productive if they do not receive the rewards they expect and deserve is essentially a capitalistic argument, one that was repeated often as an repudiation to communism. The idea that individuals often must receive rewards because they have come to expect them and have attached feelings of entitlement to them raises several interesting questions: Is the receipt of tangible, extrinsic rewards a necessary condition for optimal motivation and performance of some activities? Or are heightened motivation and performance merely conditioned responses to rewards that can be unlearned, or never learned in the first place, if the rewards simply are never offered?

Clearly, the division I have drawn between realists and idealists is an overly stark one, as are all of the tensions described in this article. Ryan and Deci (Chapter 2) were primarily referring to the effects of extrinsic rewards on intrinsically interesting activities whereas a number of the realists were alluding to activities with few if any inherently motivating properties. Indeed, Self Determination Theory (SDT) describes a process whereby extrinsic rewards are effective in helping individuals internalize and identify with the

value of tasks that were once considered boring or unpleasant (Deci and Ryan, 1985). Similarly, a number of the authors cast in the realist camp have devoted much of their energies to considering (and providing evidence for) ways to improve existing conditions in school and workplaces to make them more intrinsically motivating. However, a reading of the achievement goals literature, including the current debate between those who generally view performance-approach goals in a negative light (e.g., Midgley et al., 2001) or a positive light (Harackiewicz, Barron, Tauer, Carter, and Elliot, 2000) suggests that there is a difference between researchers in worldview that extends beyond the empirical evidence. A similar divide appears to exist between those who generally view extrinsic rewards as harmless or beneficial (e.g., Cameron, Eisenberger, Pierce) and those who generally view extrinsic rewards more suspiciously (e.g., Deci, Ryan, Lepper). It is this difference of perspective that makes these debates over the effects of extrinsic rewards and performance goals so interesting.

CONCLUDING COMMENTS

Carole Sansone and Judith Harackiewicz have edited a collection of chapters that contain some of the most current and important information regarding intrinsic motivation, extrinsic rewards, and goals. The empirical evidence provided in several of the chapters, by leading scholars in the field, is top quality. When such a volume is produced, it raises an important question for those involved in the field: Is there anything left to say? The answer to this question mirrors the three tensions found throughout the book.

In a field as complicated as motivation, with such important implications and applications, additional research always can yield new information. Developing more precise definitions of goals, intrinsic motivation, and extrinsic rewards is a constant task, as is identifying the precise conditions under which extrinsic rewards and performance goals affect intrinsic motivation (the empirical tension). But can isolating specific variables provide more useful information of consequence to teachers, parents, and employers? Or, as Lepper and Henderlong (Chapter 10) ask, do researchers already know most of the important factors involved? Should they turn their attention to applications of this knowledge? Perhaps the field would progress most fruitfully with additional attention paid to the macro-level questions. What happens to intrinsic motivation over time, under realistic conditions involving interesting *and* boring tasks, success *and* failure, with a variety of people engaging in personally meaningful activities? The answers to these questions, provided by both the idealists and the dreamers, will no doubt be of lasting interest and use.

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