Beyond the dichotomous model of achievement goals in sport and exercise psychology

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RESEARCHERS and theorists have sought to explain and predict motivated behaviour in achievement (i.e. competence-relevant) situations for over six decades. Many different constructs have been used in this conceptual and empirical work, and one construct of central interest in the achievement motivation literature is that of achievement goals. Achievement goals are commonly conceptualised as the purpose (Maehr, 1984) or aim (Elliot & Thrash, 2001) of competence-based action.

Achievement motivation in general, and achievement goals in particular, are important areas of inquiry, because the desire for competence is fundamental and basic to the human psyche (White, 1959). Competence-based pursuits are ubiquitous in daily life, and competence-relevant processes and outcomes have a profound effect on how people feel about themselves and their lives as a whole. The prototypic achievement contexts, and the contexts in which achievement goals have been studied most thoroughly, are the classroom, the playing field, and the workplace (i.e. school, sports and work).

The achievement goal construct has been employed at several different levels of analysis. Researchers have focused on states of goal involvement that describe an individual's focus at a specific moment in time (Nicholls, 1989) and on goal climates that describe situational influences on goal involvement (Ames, 1992; Nicholls, 1989). Researchers have also focused on goal orientations that describe relatively stable individual differences in individuals' states of goal involvement (Duda, 1989; Nicholls, 1984). Elliot and colleagues (Elliot, in press; Elliot

& Thrash, 2002) have called into question the explanatory value of the goal orientation level of analysis and, with Dweck (1999), have recommended a focus on other individual difference variables (e.g. achievement motives, temperaments, self theories) that predispose individuals toward certain states of goal involvement. This article overviews the conceptual and structural characteristics of achievement goals, and is concerned primarily with states of goal involvement. However, we believe that the ideas overviewed herein may also be profitably applied to the goal climate level of analysis.

The Dichotomous Achievement Goal Framework

In sport (and exercise) contexts, achievement goals have primarily been examined using a dichotomous model that distinguishes between ego or performance goals and task or learning goals (Dweck, 1986; Nicholls, 1984). In this dichotomous model, ego/performance goals are conceptualised as a focus on demonstrating normative ability (i.e. outperforming others), whereas task/learning goals are conceptualised as a focus on developing ability and task mastery (i.e. improving relative to one's previous performances). This distinction is sometimes framed in terms of the difference between competing against others (ego/performance goals), and competing with oneself (task/learning goals). Ego/performance goals are posited to lead to a negative, maladaptive set of outcomes in achievement settings, such as avoidance of challenge, low persistence and performance, and low intrinsic motivation; these negative out-

comes are viewed as particularly likely when perceptions of competence are low. Task/learning goals, on the other hand, are hypothesised to lead to a positive, adaptive set of outcomes in achievement settings, such as pursuit of optimal challenge, high persistence and performance, and high intrinsic motivation; these positive outcomes are anticipated across levels of perceived competence.

This dichotomous achievement goal framework has generated a vast amount of research that has clearly advanced our understanding of sport and exercise motivation in important and meaningful ways (for reviews, see Duda, 2001; Duda & Hall, 2001; Roberts, 2001). However, during the past decade, the sufficiency of this dichotomous model has been called into question on both empirical and conceptual grounds (see Elliot, 1999; in press). On the empirical front, the extant research seems to provide support for the hypothesis that task/learning goals promote positive outcomes, but it does not provide support for the proposition that ego/performance goals lead to unequivocally negative outcomes. Ego/performance goals sometimes produce negative outcomes, but at other times they produce null results or even positive outcomes. The perceived competence hypotheses mentioned earlier have received minimal support from the existing research.

On the conceptual front, the two goals that comprise the dichotomous framework have been characterised as 'two forms of approach motivation' (Nicholls, Patashnick, Cheung, & Thorkildsen, 1989, p.188). This exclusive focus on approach motivation ignores the fact that individuals may focus on avoiding incompetence in achievement situations as well as, or instead of, focusing on approaching competence. The approach-avoidance distinction has a long and important history in the psychological literature in general, and in the achievement motivation literature in particular (Elliot & Covington, 2001), and its exclusion from the analysis of achievement goals seems difficult to defend.

Elliot and colleagues have sought to address the limitations of the dichotomous achievement goal model by expanding it to include avoidance-based goal constructs. Initially, this effort resulted in the trichotomous achievement goal framework which was then followed by the 2 x 2 achievement goal framework. In addition to expanding the dichotomous model, Elliot and colleagues have sought to clarify and refine the achievement goal construct by explicitly embedding it in the concept of competence. The majority of research on the trichotomous and 2 x 2 achievement goal models has appeared in social-personality and educational psychology journals, and these frameworks appear to have been relatively underutilised in the sport and exercise domain to date. As such, the present article provides an overview of the trichotomous and 2 x 2 models, and concludes with some considerations regarding the applicability of these expanded models to the sport and exercise psychology domains.

The Trichotomous Achievement Goal Framework

By way of preface, it should be noted that Elliot and colleagues follow the recommendation of Ames and Archer (1987) that the labels 'performance' and 'mastery' be used to refer to ego/performance and task/learning goals, respectively. Ames and Archer offered this recommendation based on the considerable conceptual overlap evident between the ego and performance goal constructs and the task and learning goal constructs (as well as other, similar, constructs that had been introduced into the literature). Many readers of the sport and exercise psychology literature may be more familiar with Nicholls' (1984) ego-task terminology; these readers may substitute 'ego' for 'performance' and 'task' for 'mastery' in the following without doing violence to the conceptual issues that are discussed.

In their initial conceptual work, Elliot and colleagues (Elliot & Church, 1997; Elliot & Harackiewicz, 1996) overviewed the extant

research on performance goals and pointed out that some performance goal measures and manipulations focused on positive possibilities, some focused on negative possibilities, and some contained a mix of positive and negative foci. They also highlighted the fact that performance goals seemed to have different effects on processes and outcomes as a function of these different operationalisations, and that the negative implications of performance goals seemed limited to instances in which a negative focus (i.e. a focus on avoiding incompetence) was measured or manipulated. In light of the rich use and documented utility of the approach-avoidance distinction in the history of achievement motivation research (e.g. McClelland, Atkinson, Clark, & Lowell, 1953), these observations led Elliot and colleagues to propose that the performance goal of the conventional dichotomous model be bifurcated into conceptually independent approach and avoidance goals. The result was a trichotomous achievement goal framework comprising mastery goals (focused on the development of competence or the attainment of task mastery), performance-approach goals (focused on the attainment of normative competence), and performance-avoidance goals (focused on the avoidance of normative incompetence). Mastery and performance-approach goals were characterised as approach goals because they focused on a potential positive outcome (improvement/mastery and normative competence, respectively), whereas performance-avoidance goals were characterised as avoidance goals because they focused on a potential negative outcome (normative incompetence).

Instead of viewing perceived competence as a moderator of achievement goal effects (as in the dichotomous model), Elliot and colleagues characterised perceived competence as one of several antecedents of achievement goal adoption (Elliot & Church, 1997). High perceived competence was posited to orient persons to the possibility of success and to facilitate the adoption of

both forms of approach goal, mastery and performance-approach, whereas low perceived competence was posited to orient persons to the possibility of failure and to facilitate the adoption of performance-avoidance goals. Thus, competence perceptions were presumed to exert their influence on processes and outcomes indirectly through their effect on achievement goal adoption, rather than directly in interaction with achievement goals.

The focus on positive possibilities in both mastery and performance-approach goals was posited to lead to a similar set of positive processes and outcomes. However, some differences in the predictive profile of these forms of approach motivation were also posited, given their differential competence focus. For example, the external evaluative focus inherent in performance-approach goals was posited to limit the extent to which they, relative to mastery goals, produced positive phenomenological processes and outcomes. This same characteristic of performance-approach goals was thought to make them better facilitators of performance attainment than mastery goals, particularly in situations where such attainment depends on following externally-imposed criteria rather than inherently interesting aspects of the task itself (Elliot & Harackiewicz, 1996). The focus on negative possibilities in performance-avoidance goals was posited to lead to a broad range of negative processes and outcomes.

Over 70 experimental and field studies employing the trichotomous model of achievement goals have been published, and the accumulated data attests to the utility of separating the performance-approach and performance-avoidance goal constructs, and of conceptualising perceived competence as an antecedent of achievement goal adoption (for reviews, see Elliot, 1999; in press). This empirical yield includes a few studies that have either been published in sport and exercise psychology journals (Ommundsen, 2001b; 2004) or that have utilised sport or exercise contexts in the research reported

(Cury, Da Fonseca, Rufo, Peres, & Sarrazin, 2003; Cury, Elliot, Sarrazin, Da Fonseca, & Rufo, 2002; Halvari & Kjormo, 1999; Ommundsen, 2001a). To date, most (but not all) of these sport and exercise psychology-relevant studies have utilised single-session correlational designs, as is, unfortunately, the norm in this area of research (see Biddle, Wang, Kavussanu, & Spray, 2003).

The 2 x 2 Achievement Goal Framework

The trichotomous achievement goal framework incorporated the approach-avoidance distinction within performance goals, but left mastery goals intact. In subsequent work (Elliot, 1999), Elliot and colleagues proposed a 2 x 2 achievement goal framework that incorporated the approach-avoidance distinction within mastery goals as well as performance goals. In overviewing the extant research on mastery goals, Elliot and colleagues noted that mastery goal measures and manipulations focused exclusively on positive possibilities. As such, whereas the trichotomous achievement goal framework was created by separating a functionally omnibus performance goal construct into conceptually independent performance-approach and performance-avoidance goals, the 2 x 2 achievement goal framework added a mastery-avoidance goal construct to the mastery-approach goal construct already in place.

Mastery-avoidance goals were characterised in terms of a focus on avoiding self-referential or task-referential incompetence. Whereas mastery-approach goals entail striving to develop one's skills and abilities or to master a task, mastery-avoidance goals entail striving to avoid losing one's skills and abilities or leaving a task incomplete. These goals were conceptualised as mastery goals due to their focus on task- of self-referenced performance standards; they were conceptualised as avoidance goals due to their focus on a potential negative outcome (self- or task-referential incompetence).

Although presumed to be less prevalent than the other three goals in general, mastery-avoidance goals were proposed to be relevant in certain instances. For example, these goals were thought to become salient as a function of the aging process, as individuals' physical and mental skills begin to diminish, and they shift to a focus on 'not doing worse than before' or 'not losing important abilities'. Likewise, during rehabilitation, individuals of any age might focus on not injuring themselves further, and perfectionists may be particularly likely to pursue mastery-avoidance goals such as 'avoid making any mistakes'. Athletes may also be prime candidates for mastery-avoidance goal adoption. When athletes reach the peak of their potential, they may begin to focus on not doing worse then they have done in the past. Common practices such as focusing on personal bests in swimming or track and field might impel some athletes to focus on not performing much worse than their personal best, as opposed to trying to exceed their personal best. Thus, mastery-avoidance goals are construed as important forms of regulation in some instances, but the goals of the trichotomous model are presumed to suffice in other achievement contexts.

A predictive profile for mastery-avoidance goals was offered quite tentatively, given that the mastery component of the goal was viewed as facilitating positive processes and outcomes, whereas the avoidance component of the goal was viewed as producing negative processes and outcomes. Nothing was known about the precise way in which these two components would function together in mastery-avoidance goal pursuit; however, mastery-avoidance goals were expected to produce less positive consequences than mastery-approach goals, but less negative consequences than performance-avoidance goals (Elliot, 1999; Elliot & McGregor, 2001). Perceived competence was posited to be an antecedent of mastery-avoidance goals – low perceived competence was expected to orient individuals to the possibility of task- or self-referential incompetence and, therefore, to prompt mastery-avoidance goal adoption.

The 2 x 2 model is of quite recent origin, but a growing number of studies have been published in the past few years, and they clearly support the validity and utility of the expanded framework (see Moller & Elliot, in press, for a review). A few of these studies have either been published in a sport and exercise psychology journal (Conroy, 2004; Conroy, Elliot, & Hofer, 2003) or have utilised sport or exercise contexts in the research reported (Conroy & Elliot, 2004). Although the value of the expanded 2 x 2 model in sport and exercise contexts remains a relatively open empirical question, we are optimistic about its potential for enhancing our understanding of achievement motivation in these contexts and eagerly await further investigations.

Theoretical Advantages of the 2 x 2 Achievement Goal Framework

Two primary theoretical advantages of the 2 x 2 model warrant attention. First, in constructing the 2 x 2 achievement goal framework, Elliot and colleagues not only sought to integrate the performance-mastery and approach-avoidance distinctions within the achievement goal construct, but also sought to explicitly establish competence as the conceptual core of the achievement goal construct. Competence has always been an important part of the achievement goal construct, but other motivational concepts such as self-presentation, self-assessment, and impression management have also been present in the conceptualisation and operationalisation of achievement goals. In contrast, in the 2 x 2 framework, the achievement goal construct was explicitly delineated in terms of competence alone. Self-presentation, self-assessment, impression management, etc., were viewed as motivational concerns that often become associated with competence-based goals, but these other concerns were portrayed as antecedents or consequences of competence-based goal adoption, rather than as part of the actual achievement goal construct itself (Elliot & Thrash, 2001). This establishment of competence as the core of the achievement goal construct set the conceptual foundation for the 2 x 2 model.

Second, establishing competence as the conceptual centerpiece of the achievement goal construct and identifying definition and valence as central aspects of competence helps provide guidelines for further theoretical development in the achievement goal literature. In the 2 x 2 model, Elliot and colleagues proposed that competence and, therefore, achievement goals, could be differentiated in two basic ways: according to how it is defined and according to how it is valenced (Elliot, 1999). With regard to the definition of competence, competence is defined by the standard in which it is evaluated, and three different evaluative standards may be identified: an absolute standard (i.e. relative to the requirements of the task itself), an intrapersonal standard (i.e. relative to one's past or potential attainment), and a normative standard (i.e. relative to others' performance). Absolute and intrapersonal competence share many conceptual and empirical similarities and, at least at present, may be considered together rather than independently. Thus, competence may be defined in absolute/intrapersonal terms or in interpersonal terms, and two types of achievement goals may be identified according to the type of competence that an individual commits to in an achievement situation. This definition aspect of competence has been an important focus of the dichotomous achievement goal model. Mastery goals are typically defined, at least to some extent, in terms of an absolute/intrapersonal standard, and performance goals are typically defined, at least to some extent, in terms of an intrapersonal standard (Dweck & Elliott, 1983; Nicholls, 1989).

With regard to the valence of competence, competence may be conceptualised with a positive valence in terms of competence or success or it may be conceptualised with a negative valence in terms of incompetence or failure. A great deal of research has documented that positively construed

objects/events/possibilities are associated with approach motivational tendencies, whereas negatively construed objects/events/possibilities are associated with avoidance motivational tendencies (see Elliot & Covington, 2001). As such, competence goals may be differentiated by whether they focus on a positive competence-relevant possibility to approach or a negative competence-relevant possibility to avoid. The definition and valence aspects of competence are both of fundamental significance in conceptualising achievement goals. These two core aspects of competence are fully crossed to form the four goals of the 2 x 2 framework. By incorporating the valence of competence in addition to the definition of competence, this model more fully accounts for achievement behaviour than the dichotomous framework.

For any additional goal to be considered for inclusion as an achievement goal it must either extend one of the two central aspects of competence already identified (i.e. definition, valence), or it must be grounded in a third aspect of competence that has yet to be identified. Elliot and colleagues have suggested that extending the definition aspect of competence by separating the absolute and intrapersonal definitions seems a reasonable next step; this extension would result in a 3 x 2 achievement goal framework. This 3 x 2 model would seem a likely stopping point, as the goals delineated in this model would appear to comprehensively cover the general (i.e. nomothetic) types of competence-based goals that individuals adopt and pursue in achievement settings. This is not to say that these are the only types of goals that are focused on in achievement settings, as social, extrinsic, and many other types of strivings are also pertinent in such contexts (Allen, 2003; Vallerand, 2001). However, with regard to goals that specifically focus on competence, the 3 x 2 model would appear to fully cover the conceptual space under consideration.

Summary and Applicability Considerations

In this article, we have overviewed the trichotomous and 2 x 2 achievement goal models that represent expansions of the originally conceived dichotomous model. These expanded models have become commonplace in the social-personality, educational, and industrial/organisational psychology literatures, but at present they remain quite underutilised in the sport and exercise psychology literature. The research that has been conducted in sport and exercise contexts with these models has yielded important and unique insights, and we believe that these advances represent the tip of the iceberg.

Indeed, in many respects, the sport and exercise psychology literature seems ideally suited for utilisation of the trichotomous and 2 x 2 achievement goal frameworks. Sport contexts, in particular, are often rife with competition, and normative evaluation is an inherent, inextricable component of many sporting events. In the dichotomous model, normative evaluation is typically considered a component of the ego/performance goal construct, but most theorists include other components as well, and some seem to relegate normative evaluation to the periphery (see Ames, 1992; Dweck, 1999; Nicholls, 1989). In the trichotomous and 2 x 2 models, on the other hand, normative evaluation is considered the core of the performance goal construct. Furthermore, these expanded models offer a more nuanced analysis of ego/performance goals than that afforded by the dichotomous model. In the expanded models, some performance goals (i.e. performance-approach goals) can have a positive effect on achievement-relevant processes and outcomes, whereas ego/performance goals are nearly exclusively cast in a negative light in the dichotomous model. For many athletes or ex-athletes, we suspect the notion that performance-approach goals can facilitate achievement-relevant processes and outcomes rings true.

The proposition that performance-

approach goals can have positive effects has proven controversial in the educational psychology literature (Harackiewicz, Barron, Pintrich, Elliot, & Thrash, 2002; Midgely, Kaplan & Middleton, 2001), and is worthy of additional comment herein with regard to sport contexts. Sport contexts would seem to provide an excellent setting in which to rigorously examine the effects of performance-approach goals, because such contexts often involve explicit and even face to face normative evaluation. On one hand, it is possible to imagine performance-approach goals having a particularly strong and extensive positive influence in these explicitly normative contexts. In fact, one might consider a context-goal match hypothesis whereby explicitly competitive contexts actually require sustained attention to and striving for positive normative outcomes to be successful. On the other hand, it is also possible to imagine the opposite prediction – that performance-approach goals have a null or even negative influence in explicitly normative sport contexts. Normative cues may be so prevalent and salient in such contexts that they distract individuals from focusing on and carrying out their own task performance in an optimal manner. Mastery-approach, not performance-approach goals, may facilitate performance in such contexts.

Another interesting issue to consider is whether performance-avoidance goals exert a negative influence on processes and outcomes in sport and exercise contexts to the same extent that they do in educational and industrial/organisational contexts. On one hand, it is possible to argue that the negative focus of performance-avoidance goals has a deleterious effect on any sort of task that requires sustained concentration and/or mental operations. Regulation using a negative focus has been shown to evoke worry, distraction, and self-concerns, all of which debilitate task performance. Most sports entail some form of cognitive load, and it seems that performance-avoidance goals would produce negative effects in these instances. However, it is possible to imagine some events or situations in which performance-avoidance goals might not be inimical or might even facilitate performance. For example, simple and short tasks such as a clean and jerk in weightlifting may not be negatively affected by a performance-avoidance focus, and the goal of not getting beaten by others may have encouraged Jean Van de Velde to play it safe on the 18th hole of the 1999 Open golf championship, rather than taking the unnecessary (and infamous) gamble that cost him the championship. Likewise, in an exercise setting, the goal of not wanting to be worse than others may lead to greater speed or persistence in order to keep up with one's workout partner. Importantly, even if performance-avoidance goals are benign or adaptive for performance in some cases, we strongly suspect that they would remain deleterious for experience and enjoyment, regardless of any performance benefits obtained. Avoiding a negative outcome is an inherently aversive form of regulation that undoubtedly undermines affect and intrinsic motivation in the short run, and performance and continued involvement in the long run. In addition, performance-avoidance goals may impel individuals to push themselves beyond their limits, resulting in an increased risk for injury.

This consideration of performance-approach and performance-avoidance goals in sport contexts illustrates the fact that the trichotomous and 2 x 2 achievement goal models are applicable to and hold promise for the sport and exercise psychology literatures. The dichotomous achievement goal model has laid a solid foundation for research in this area, but we believe the time has come to move beyond this initial framework to an expanded analysis that takes into consideration the approach-avoidance distinction. The achievement goal approach to achievement motivation has been remarkably generative over the past 25 years, and we believe that with continued theoretical development, this generativity can continue for another quarter century and beyond.

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