

Conceptualising and measuring academic motivation

Dave Putwain

There is an almost bewildering array of different ways in which practitioners and researchers can conceptualise and measure academic motivation, and how academic motivation may overlap with and relate to adjacent constructs such as interest, engagement and enjoyment in learning. Conceptual clarity is required to clearly delineate between different constructs, develop precision in measurement tools and to advance theory. The purpose of this article is to describe one popular and contemporary approach to academic motivation – achievement goals – and how it can be measured.

ACHIEVEMENT GOALS are defined as future-orientated, cognitive representations of competence-related aims that serve to guide behaviour (Elliot, 2005; Hulleman et al., 2010). This rather obtuse and concise definition contains three important elements which are worth highlighting. First, goals are an end-point, something which a student works towards. Second, the goals in question are related to the standards by which students evaluate their competence: against an objective task criterion, against a personal standard or aspiration or in comparison to others (Elliot, 2005). When students judge their competence against task criterion or personal standards they are said to hold a mastery-orientated goal and when they judge competence against others they are said to hold a performance goal. Perhaps the term 'performance goal' is a little misleading here, as it is not a concern with performance *per se*, but performance relative to others. Thus, a student who wishes to perform well on an exam may wish to do so because they are motivated to improve on their past performance (a mastery goal) or to show that they are better than others (a performance goal). Third, goals guide particular behaviours towards that end state, such as interest, effort, help-seeking behaviour, learning strategy and so on.

Achievement goal theory

An important development in achievement goal theory was the incorporation of an approach and avoidance valence. Initially, this was incorporated into performance goals (Elliot & Church, 1997), so that a student could be motivated to outperform others, such as peers or classmates (a performance-approach goal) or to avoid performing worse than others (a performance-avoidance goal). The trichotomous framework of achievement goals distinguished between mastery goals, performance-approach goals and performance-avoidance goals. Although the valence of mastery goals was not salient in this framework, the construct and items used in its measurement correspond to an approach valence.

Later the approach-avoidance distinction was incorporated into mastery goals (Elliot & McGregor, 2001; Elliot & Murayama, 2008), so that a student may be motivated to approach the development of task or intrapersonal competence (a mastery-approach goal) or avoid task or intrapersonal competence (a mastery-avoidance goal). The 2x2 framework differentiates between four goals: performance and mastery goals along approach-avoidance dimensions. More recently a 3x2 framework has been proposed (Elliot, Murayama & Pekrun, 2011) in which the separate task and interpersonal

components of mastery goals are considered separately: task, self and performance goals along approach-avoidance dimensions.

Achievement goals are adopted on the basis of personal and situational antecedents. The hierarchical model proposed by Elliot and colleagues (Elliot & Church, 1997; Elliot & McGregor, 2001) locates goal orientation in personal temperament (approach/avoidance temperament) and motivational (fear of failure/need for achievement) dispositions. Situational antecedents include the classroom environment in which personal goal adoption is, in part, influenced by the goals held by the teacher or promoted in a particular class (Urduan & Schoenfelder, 2006) and the messages conveyed by teachers about important tests and examinations (Putwain & Symes, 2011).

Achievement goal measurement

The two most commonly used instruments are the Patterns of Adaptive Learning Scales (PALS; Midgley et al., 2000) or Achievement Goals Questionnaire (AGQ; Elliot et al., 2011). The PALS manual contains scales corresponding to the trichotomous framework for achievement goals (mastery, performance-approach and performance-avoidance goals) along with a variety of other measures pertaining to students. There are versions of the AGQ corresponding to the trichotomous framework (Elliot & Church, 1997) and the 2x2 framework (Elliot & McGregor, 2001). There is also a revised version for the 2x2 framework in which items contain common stems intended to emphasise a goal focus (goal, aim, strive) and which contain no affective content (Elliot & Murayama, 2008). A questionnaire incorporating these elements has been developed to correspond to the 3x2 framework with differentiated mastery goals (Elliot et al., 2011). The differences between the PALS and AGQ items are relatively subtle and small where AGQ performance items have a greater emphasis on comparing competence to others whereas PALS performance items have a greater emphasis on appearing competent to others. Achievement goals are typically measured at a domain-specific level, in relation to a specific class, subject and assessment, but can also be measured at a general domain (Hulleman et al., 2010).

Validity and reliability of measures

The factor structure and reliability of PALS and AGQ have been well-documented. In particular, factor-analytic models suggest that measurement models which differentiate between different goals along approach/avoidance dimensions are superior to those which ignore goal valence or collapse different goals into approach-avoidance dimensions. In terms of predictive validity, mastery-approach goals are generally considered as adaptive and are associated with positive educational and motivational outcomes, including interest, enjoyment and achievement whereas mastery-avoidance and performance-avoidance goals are associated with reduced interest, motivation and achievement (see Huang, 2012; Hulleman et al., 2010; Senko, Hulleman & Harackiewicz, 2011). The status of performance-approach goals as facilitating or debilitating has been hotly debated as equivocal findings have been reported in the research literature. Positive, negative and null findings have been reported with salient educational and achievement outcomes (Harackiewicz et al., 2002; Mägi et al., 2010). Some recent work which helps untangle the reason for these discrepancies, has examined how the performance-approach goal construct has not been uniformly operationalized in the literature. When scales are operationalised using normative item content (e.g. AGQ) rather than appearance/evaluative items (e.g. PALS), positive relationships are reported with achievement (Hulleman et al., 2010).

Conclusion

There is a vast body of research on the measurement, antecedents and outcomes of achievement goals. This short article has only touched on some of the major issues concerning definition and conceptualisation of achievement goals; however, the literature has reached a sufficient state of maturity that a number of integrative reviews and meta-analyses which have been published recently bring a great deal of order and clarity to the field. I would recommend the interested reader to Huang (2012), Hulleman et al. (2010); Senko et al. (2011) and to Elliot (2005) for a general introduction. When practitioners and researchers are considering work in the field of achievement motivation I would recommend considering the following three points.

First, achievement goals are exactly that; goals. If you are interested in examining what guides behaviours towards certain forms of achievement-related behaviours (both good and bad) and not others, then goals might be the right construct. Second, goals are overarching which might consist of many different reasons. Furthermore, a particular reason may contribute to different goals. If your interest is reasons rather than goals, this may not be the right construct. Third, make sure that the goals are properly matched to the context. Wording of the instructions and items may require adjustment to ensure that the goal is being measured in relation to the level of specificity required, a specific test, exam or assessment, a particular subject domain, or the general orientation towards school, university or learning.

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The author

Dave Putwain is a Reader in Psychology at Edge Hill University. He is interested in the psychological predictors of learning and achievement including motivation, emotion, competence beliefs and classroom environment.



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