0044

'Intelligence is more complicated than that!' The Implicit Theories of Intelligence of English Adolescents Identified as Gifted and Talented

Stuart Cadwallader, Steve Strand
University of Warwick, Warwickshire, United Kingdom

Background

An implicit theory of intelligence is a belief about the stability of intelligence - whether it is fixed and innate trait or a malleable one that can be manipulated through behaviour. Dweck (2000) suggests that 85% of students hold one of two internally-valid belief systems about intelligence: a) that intelligence is a fixed and stable trait (an entity theory), or b) that intelligence is malleable and dependent on effort (an incremental theory). According to Dweck & Leggett's (1988) framework the theory which an individual holds can have a profound influence on their intrinsic motivation, academic achievement goals and academic performance. Entity theorists are more likely to hold 'performance goals' meaning that their main aim is to succeed comprehensively on any task they are asked to perform. For such students the purpose of completing a task is to demonstrate their aptitude and intelligence and so they aspire to complete work quickly and easily. In contrast incremental theorists tend to have 'learning' goals and tasks are seen as an opportunity to develop new or existing skills or knowledge. According to the literature (e.g. Dweck & Reppucci, 1973; Licht & Dweck, 1984) an entity belief can be problematic for some students because the belief that intelligence is unchangeable means that failing indicates inadequacy. Repeated failure can lead to a 'helpless' reaction and significant declines in academic performance (Dweck, 2000).

Theory of intelligence and achievement goal research may be particularly pertinent with regard to the gifted and talented, a group who could achieve very highly should they reach their potential. Dweck (2000) suggests that gifted students may be more likely to hold an entity theory because they are usually at the top of their class and able to complete tasks aimed at their age group with relative ease. They are also likely to receive more praise for their intelligence which may inadvertently validate their belief system further. This potentially makes gifted and talented students vulnerable to the negative consequences of failure because when they eventually encounter a challenging level of work (perhaps at university) they may respond helplessly, believing that the set-backs they face indicate a fundamental lack of intelligence. Research with gifted students in the USA (Ablard, 2002) and Germany (Ziegler, Heller & Stachl, 1998; Ziegler & Stoeger, 2004) has questioned this theory but the issue remains unclear.

Research Questions

This study aims to explore the relationship between implicit theories of intelligence, academic achievement goals and actual achievement in gifted and talented students. The following research questions are addressed:

1. Does Dweck & Leggett's (1988) framework apply to English gifted and talented adolescents?

2. How do English gifted and talented adolescents explicitly describe their theories of intelligence and how does this compare to the theoretical framework?

Methods

A total of 165 16-17 year old gifted & talented students responded to a postal survey that contained measures of 'Theory of Intelligence' (Dweck, 2000) and 'Academic Achievement Goals' (Grant & Dweck, 2003). The survey also gathered demographic information about the participants along with their self-reported GCSE grades. To follow this up four students engaged in an online email interview designed to explore the trends found in the survey data in more detail.

Frame

This is an empirical study that employs hybrid methods. The survey is used to explore the statistical relationship between the participants' intelligence beliefs, achievement goals and GCSE performance and embeds the findings within the context of the existing literature. The email interviews explore the emerging trends in greater depth and contextualize them, allowing theories about the underlying processes to be drawn out.

Research findings

Results suggest that the sample were more likely to hold an incremental theory of intelligence (53%) than an entity theory (22%) with the remainder falling into neither category (25%). There was a statistically significant relationship between theory of intelligence score and learning goal endorsement, such that as intelligence beliefs become increasingly incremental learning goals became more popular, $r = -.21$, $p<.05$, however performance goals appeared to be unrelated to theory of intelligence. Counter to expectation there was a positive correlation between GCSE grades and theory of intelligence, suggesting that individuals with an entity theory are likely to achieve better GCSE grades, $r = .18$, $p<.05$. Performance goal endorsement and GCSE grades were also positively correlated, $r = .20$, $p<.05$. It is apparent that Dweck's (2000) framework does not apply to the gifted and talented adolescents that were sampled.

These findings, their limitations and possible directions for future research are discussed. This discussion is in part informed by data from the online interviews with representative extracts used to illustrate key points. Overall the data suggests that gifted students generally focus on both performance and learning goals and may adapt their goals and attributions dependent on the context. In addition their implicit theories cannot be divided into either an entity or an incremental category. Their explicit beliefs tend to blend elements of both types of theory and are dependent on different domains of intellectual and school life.