Teachers' inferences about students' self-concepts — the role of dimensional comparison

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Abstract

Research on dimensional comparison processes has shown that comparing one's own verbal achievements with poorer results in math leads to a higher self-concept of verbal ability. It has been argued that when observers make inferences about a student's academic self-concept, they do not usually have access to dimensional information. In the present study, 160 participants received a qualitative school report on a student with good achievement in German and either good or poor achievement in arithmetic. As predicted, participants' evaluation of German achievement was equal in both conditions, but inferred German self-concepts and evaluations of the student's verbal ability were higher when good achievement in German was presented together with poor achievement in arithmetic, as opposed to good achievement in arithmetic. © 2005 Elsevier Ltd. All rights reserved.

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A large body of research in the field of Educational Psychology has pointed out that students' self-concepts affect their learning in various ways. Most investigations in this field have focused on ability-related perceptions (academic self-concepts), as these have been demonstrated to be closely connected to achievement-related

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behaviour (for a summary, see Wigfield & Karpathian, 1991). For example, academic self-concept influences choice of school-subjects (e.g. Dickhäuser & Stiensmeier-Pelster, 2003) and subsequent academic performance (Guay, Marsh, & Boivin, 2003).

Self-concept can be defined as an individual's representation of his or her self-knowledge (see Wigfield & Karpathian, 1991). As the self-concept model of Shavelson, Hubner, and Stanton (1976) shows, perceptions of the self are assumed to be multidimensional (e.g. perceptions of one's own academic and physical abilities, appearance, and particular emotional states). According to the model of achievement-related choices (see Wigfield & Eccles, 2000), academic self-concepts are of particular importance in shaping students' behaviour, as they affect expectations of success. Expectations have been demonstrated to influence a wide range of behaviour in the classroom, such as persistence, achievement and coursework selection (Wigfield & Eccles, 2000).

Consequently, one key area of educational research explores how individuals form their self-concept of ability from previous achievement. Ability is a theoretical construct that cannot be observed directly. Individuals must therefore infer ability from important clues, such as previous achievement. According to the internal/external frame of reference model (I/E-model, Marsh, 1986), individuals use two different frames of reference when inferring their own ability (self-concept of ability) from achievement. Within the external frame of reference, a student compares his/her own achievement in a certain subject (e.g. English) with the achievement of his/her classmates. Getting better grades in English than most of one's peers can lead to the inference of high English ability. Thus, the assumption of an external frame of reference postulates that in the absence of objective criteria, individuals use social comparison to evaluate their own ability (see Festinger, 1954).

Within the internal frame of reference, a student compares his/her own achievement in a certain subject (e.g. English) with his/her own achievement in another subject (e.g. arithmetic). Möller and Köller (2001) refer to this process as dimensional comparison to distinguish it from temporal comparison, which is also internal. In its original form, the I/E-model linked achievement and self-concepts from the verbal and the math domains (Marsh, 1986). For example, where mathematics achievement is lower than English achievement, dimensional downward comparison can lead to the inference of relatively high English ability. However, recent research has shown that under certain conditions the effects of dimensional comparisons can also be observed within the verbal domain (e.g. Marsh, Kong, & Hau, 2001 for English vs. Chinese but Dickhäuser, 2003 for German vs. English).

The I/E-model can be incorporated into models of comparison processes which assume that comparisons play an important role in nearly every domain of human judgement. When we evaluate a given target (e.g. a specific ability), we always do so in relation to a specific context (Mussweiler, 2003). The outcome of the evaluation depends to a large extent on the comparison it involves. The I/E-model assumes that academic self-concepts result from comparisons of one's own achievements with dissimilar achievements in other subjects (internal comparison) or the dissimilar