Theoretical Analysis

Dimensional comparison theory: an extension of the internal/external frame of reference effect on academic self-concept formation

Herbert W. Marsh a,b,c,*, Hans Kuypers d, Marjorie Seaton a, Philip D. Parker a, Alexandre J.S. Morina a, Jens Möller e, Adel S. Abduljabbar b

a Institute for Positive Psychology and Education, Australian Catholic University, Strathfield, NSW, Australia
b King Saud University, Saudi Arabia
c University of Oxford, Oxford, UK
d University of Groningen
e University of Kiel, Germany

ABSTRACT
In a comprehensive study (15,356 Dutch 9th grade students from 651 classes in 95 schools) we empirically tested the dimensional comparison theory (DCT) propositions formulated by Möller & Marsh (2013) as an extension of I/E theory, exploring methodological, theoretical, and substantive insights. According to DCT, academic self-concepts (ASC) are formed in relation to dimensional comparisons in different school subjects, as well as to social and temporal comparisons. In support of DCT predictions, paths from achievement to ASC in matching domains were substantially positive, but paths to non-matching domains (e.g., math achievement to verbal self-concept) were significantly negative. Extending DCT, we show that the more dissimilar the subjects, the more negative the cross paths (far comparisons), whereas cross paths relating more similar subjects (near comparisons) are much less negative and sometimes positive. Extending previous self-concept research and its integration with DCT, we found that positive paths for matching domains and negative paths for non-matching domains were larger for class marks based on classroom performance than for standardized test scores. Controlling for direct measures of social comparison (meVclass ratings of how each student compares to classmates) substantially reduced positive paths from achievement to ASC in matching domains, but also reduced the size of the negative paths from non-matching domains. Supplemental analyses suggest that dimensional comparison processes in both subjective rankings and actual class marks are consistent with those found in ASCs.

1. Dimensional comparison theory: an extension of the internal/external frame of reference effect on academic self-concept formation

Self-concept is one of the oldest constructs in psychology, a major focus in many disciplines, and an important mediating factor that facilitates the attainment of various desirable outcomes aside from positive self-concept itself (Marsh, 2007). In educational settings, a positive academic self-concept (ASC) is both a highly desirable goal and a means of facilitating subsequent academic achievement, academic accomplishments, and educational choice behaviors such as subject choice, coursework selection, academic persistence, and long-term educational attainment (e.g., Chen, Yeh, Hwang, & Lin, 2013; Guay, Larose, & Boivin, 2004; Marsh, 1991; Pinxten, De Frainne, Van Damme, & D’Haenens, 2010; Parker, Marsh, Carrochio, Marshall, & Abduljabbar, 2013). Theoretical models of ASC formation underscore the importance of frames of reference (Marsh, 2007); The same objective achievements can lead to highly different self-concepts, depending on the standards of comparison or frames of reference that individuals use to evaluate themselves, and can have important implications for future choices, performance, and behaviors.

In the broader psychological literature, the two most frequently posited frames of reference are social and temporal comparisons (Albert, 1977; Festinger, 1954; Möller, 2005; Möller, Pohlmann, Köller, & Marsh, 2009; Möller, Retelsdorff, Köller, & Marsh, 2011); self-perceptions are based in part on how current accomplishments compare with past performances (temporal comparisons) and how they compare with the accomplishments of others in one’s immediate context (social comparisons; e.g., classmates in one’s school or class). However, in their theoretical founding of dimensional comparison theory (DCT), Möller and Marsh (2013) emphasize that: “Although social comparison (Festinger, 1954) and temporal...
comparison (Albert, 1977) theories are well established, dimensional comparison is a largely neglected yet influential process in self-evaluation" (p. 544). DCT (Marsh et al., 2014; Möller & Marsh, 2013) incorporates the extensive body of educational psychology research based on the I/E model, placing dimensional comparisons into a broader theoretical foundation in relation to more general psychological models of self-evaluation, person perception, frames of reference, and social comparison. In one of the first empirical studies based on the newly expanded DCT, the objectives of the present investigation are to provide:

1. empirical research specifically designed to test new theoretical predictions based on DCT and its extension of the classic I/E model;
2. the integration into DCT of existing self-concept research and new theoretical predictions about the distinct predictive effects of class marks (i.e., school grades on report cards) and standardized test scores on ASC; and
3. new applications of meVclass ratings (how my achievement compares with those of others in my class, globally and in specific school subjects), proposed by Huguet et al. (2009) as pure measures of social comparison into DCT, thereby more clearly separating the social and dimensional comparison predictive effects that are central to DCT.

2. Dimensional comparison theory (DCT): extension of the internal/external frame of reference (I/E) model

2.1. Theoretical basis of the original I/E model

The I/E model (Marsh, 1986) was originally developed to provide a theoretical basis to explain why math and verbal ASCs (MSC and VSC) are almost uncorrelated, even though academic achievements in the corresponding areas are substantially correlated (for further discussion, see Marsh, 2007). The theoretical processes posited in the I/E model are that ASC in a particular school subject is formed in relation to an external (social comparison) reference in which students compare their perceptions of their own performances in a particular school subject with the performances of other students in the same school subject, and an internal (dimensional, ipsative comparison) reference in which students compare their own performance in one school subject with their own performances in other school subjects. Thus, students may have a favorable MSC if math is their best subject, even though they are not particularly good at math relative to other students. The joint operation of these theoretical processes, depending on the relative weight given to each, is consistent with the near-zero correlation between MSC and VSC, which led to the revision of the I/E model into his control-value theory of achievement emotions. Similarly, Eccles and colleagues (Eccles, Vida, & Barber, 2004; Nagy et al., 2008; Parker et al., 2012) integrated support for I/E predictions into expectancy-value theory for the prediction of gender differences in academic and career choice.

2.2. Dimensional comparison theory (DCT)

The current investigation is the first empirical test of a recently published theoretical account of DCT (Möller & Marsh, 2013; see also Marsh et al., 2013) and places the I/E model in a much broader, more general framework. Here we focus on three new theoretical contributions.

2.2.1. Near vs. far comparisons

Empirical support for the classic I/E model (Fig. 1A) is based mainly on math and verbal domains, so that there are only “horizontal” paths between matching domains and “cross” paths between non-matching domains. Although several I/E studies have considered additional domains (e.g., Dong, 1998; Marsh, Kong, & Hau, 2001; Marsh & Yeung, 2001; Möller, Streblov, Pohlmann, & Köller, 2006; Xu et al., 2013), none of these was based on the new theoretical DCT framework, which incorporates domains other than the math and verbal domains emphasized in the classic I/E model (Fig. 1B). Hence, a critically important theoretical contribution of DCT is its expansion of the scope of the theoretical perspective to include a...
دریافت فوری متن کامل مقاله

امکان دانلود نسخه تمام متن مقالات انگلیسی
امکان دانلود نسخه ترجمه شده مقالات
پذیرش سفارش ترجمه تخصصی
امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
امکان دانلود رایگان ۲ صفحه اول هر مقاله
امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
دانلود فوری مقاله پس از پرداخت آنلاین
پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات