Stability or change? Effects of training length and time lag on achievement goal orientations and transfer of training

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ABSTRACT

Over the past 30 years, numerous studies have examined the differential influences of achievement goal orientations on transfer of training, with heterogeneous results. The present study used meta-analytic methods ($k = 17$ with 38 effect sizes, $N = 2917$) to correct the true score population correlation estimate between achievement goal orientations and transfer of training for sampling error and error of measurement. For this purpose, goal orientations were conceptualized in the following three dimensions: mastery goal orientation ($\rho = 0.40$), performance-approach goal orientation ($\rho = 0.02$), and performance-avoidance goal orientation ($\rho = -0.12$). A second aim was to examine stability and change by testing the effects of training length and time lag on these population correlation estimates. A weighted least squares multiple regression indicated no statistically significant effects; a nested effect of training length and time lag was also nonsignificant for all three goal orientations. These findings suggest stability in the achievement goal orientation–transfer of training relationships. Practical implications for job-related training programs and avenues for future research are discussed.

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1. Introduction

Achievement goal orientations are tendencies for which individuals engage in task-related behavior (Dweck & Leggett, 1988; Elliot, Murayama, & Pekrun, 2011; Gegenfurtner & Hagenauer, 2013; Midgley et al., 1998; Sideridis, 2003). Over the past 30 years, numerous studies have examined the differential influences of achievement goal orientations on transfer of training (Gegenfurtner, 2011b), largely because of the important implications achievement goal orientations have for attaining positive transfer. Brett and VandeWalle (1999), and Gegenfurtner, Festner, Gallenberger, Lehtinen, and Gruber (2009), Gegenfurtner, Veermans, Festner, and Gruber (2009) as well as Ford, Kraiger, and Merritt (2010), among others, have since developed conceptual models to synthesize the growing body of empirical evidence on how achievement goal orientations influence transfer of training. In the present study, transfer of training is defined as the productive use of knowledge and skills on the job (De Corte, 2003).

Examinations of the question to what extent achievement goal orientations predict transfer of training are closely linked with heterogeneity and disagreement in the literature. Some authors reported medium to large effect sizes (Chiaburu & Marinova, 2005; Tziner, Fisher, Senior, & Weisberg, 2007; Wilson, Strutton, & Farris, 2002). Other authors provided evidence that the size of the relationships between achievement goal orientations and transfer of training might be negligible (Maurer,

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Mitchell, & Barbeite, 2002; Orvis, Horn, & Belanich, 2009; Steele-Johnson, Narayan, Delgado, & Cole, 2010). Examinations of this question are also linked with a theoretical interest in stability or change in the achievement goal–transfer relationship as a function of time lag and training length (Aguinis & Kraiger, 2009; Gegenfurtner, 2011a; Laine & Gegenfurtner, 2012). Time lag is the temporal distance between the end of training and the transfer assessment. Training length is the period of time within which training programs unfold. Comparing single studies to assess whether the differential influences of achievement goal orientations on transfer of training are stable over time or change as a function of time lag and training length is compromised as human resource managers design training programs with different lengths and researchers assess transfer with different time lags after training.

The present study used meta-analytic methods to examine the extent to which different dimensions of achievement goal orientations, after controlling for sampling error and error of measurement, influence transfer of training. For this aim, achievement goal orientations were conceptualized in three dimensions reflecting a trichotomous theorization of achievement goal orientations (Bong, 2012; Dweck & Leggett, 1988; Elliot & Church, 1997; Middleton & Midgley, 1997; Midgley et al., 1998; Spinath & Steinmayr, 2012; VandeWalle, 1999). Despite the existence of frameworks that specify a higher number of goal orientations (e.g. Elliot & McGregor, 2001; Elliot et al., 2011; Gegenfurtner & Hagenauer, 2013; Niemivirta, 2002), the pragmatic choice on three goal orientations aimed at covering dimensions that are examined frequently enough in the transfer of training literature to allow meta-analytic synthesis (Hunter & Schmidt, 2004); this includes a mastery goal orientation, a performance-approach goal orientation, and a performance-avoidance goal orientation. A mastery goal (sometimes labeled a task goal, learning goal, or mastery-approach goal) refers to develop competence or to master tasks. A performance-approach goal (sometimes labeled an ability goal, ego goal, or performance goal) refers to demonstrate normative competence. A performance-avoidance goal (sometimes labeled an avoidance goal or ego-defensive goal) refers to avoid showing normative incompetence.[1] Examining these differential relationships is relevant because the findings can inform us on the motivational influences on transfer (De Corte, 2003; De Rijdt, Stes, Van der Vleuten, & Dochy, 2013; Gegenfurtner, in press; Gegenfurtner & Vauras, 2012; Gegenfurtner, Festner, et al., 2009; Gegenfurtner, Veermans, et al., 2009; Segers & Gegenfurtner, 2013). A second aim of the study was to estimate the extent to which moderator variables influence the achievement goal–transfer relationships. Arguably, decisions on how long a trained program should be and when to assess transfer after training are among critical decisions in any training research. Inquiring into these variables as boundary conditions is significant, because it enables accounting for artifactual variance in the total variance of a correlation, which, in turn, may contribute to the literature examining stability and change. As a contribution to the existing literature, therefore, the present study focused on time lag and training length as two moderators of the relationship between achievement goal orientations and transfer of training.

1.1. The relationship between achievement goal orientations and transfer of training

Past research suggested differential relationships of transfer of training with mastery, performance-approach, and performance-avoidance goal orientations. Trainees with mastery goal orientations are concerned with increasing their job-related competence. Trainees with performance-approach goal orientations are concerned with gaining positive judgments of their competence from others (clients, peers, supervisors). Trainees with performance-avoidance goal orientations are concerned with avoiding negative judgments of their job-related competence.

Previous evidence suggested that a mastery goal orientation exerts strong positive influences on attending work-related training (Kyndt & Baert, in press; Nitsche, Dickhäuser, Dresel, & Fasching, 2013) and on attaining transfer (Gegenfurtner, 2011b; VandeWalle, Cron, & Slocum, 2001). More specifically, a number of studies reported positive estimates of transfer across a range of professional settings, including sales (Wilson et al., 2002), customer service (Chiaburu, Van Dam, & Hutchins, 2010), truck driving (Bell & Ford, 2007), and the military (Orvis et al., 2009). Individuals with a mastery goal orientation have a strong desire toward developing their knowledge and skills. If a mastery goal orientation is associated with a striving for personal growth, then it follows that trainees with a mastery goal orientation will understand the challenge of training transfer as an opportunity to further improve their professional knowledge and skills, because they can productively use the training content to improve their practices (De Corte, 2003; Gegenfurtner, Vauras, Gruber, & Festner, 2010). We would therefore assume that a mastery goal orientation would be positively related to transfer of training.

Correlation Hypothesis 1. Mastery goal orientation will be positively related to transfer of training.

Past research on performance-approach goal orientation showed mixed influences on transfer of training. Specifically, Chiaburu and Tekleab (2006) reported a positive correlation estimate ($r = 0.16$), while Ford, Smith, Weissbein, Gully, and Salas (1998) reported a negative correlation estimate ($r = -0.22$) between performance-approach goal orientation and transfer of training. Trainees with a performance-approach goal orientation have a strong desire to do well in evaluations or to perform better than their colleagues. These tendencies would enhance levels of transfer if these training participants

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[1] Note that performance-avoidance goals in a trichotomous theorization are conceptually distinct from work avoidance goals (Niemivirta, 2002) or mastery-avoidance goals (Elliot & McGregor, 2001).