Social cognitive career theory, conscientiousness, and work performance: A meta-analytic path analysis ☆

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ABSTRACT

We performed a meta-analytic path analysis of an abbreviated version of social cognitive career theory's (SCCT) model of work performance (Lent, Brown, & Hackett, 1994). The model we tested included the central cognitive predictors of performance (ability, self-efficacy, performance goals), with the exception of outcome expectations. Results suggested that a slightly modified version of the model, incorporating a path between ability and goals, provided adequate fit to the data. In addition, we examined alternative pathways through which conscientiousness, a Big 5 personality variable, might operate in concert with the social cognitive variables in predicting work performance. Good fit was found for a model in which conscientiousness is linked to performance both directly and indirectly via self-efficacy and goals. The implications of these results for SCCT, future research, and practical efforts to facilitate work performance are discussed.

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Social cognitive career theory (SCCT; Lent, Brown, & Hackett, 1994) seeks to provide a unifying framework for understanding, explaining, and predicting the processes through which people develop educational and vocational interests, make academic and occupational choices, and achieve varying levels of success and stability in their educational and work pursuits. SCCT's interest and choice models have attracted sustained research attention, yielding numerous individual studies (see Lent, 2005) and several meta-analyses (e.g., Lent et al., 1994; Rottinghaus, Larson, & Borgen, 2003). Both kinds of studies (individual and meta-analytic) have largely supported SCCT's interest formation and choice making hypotheses. For instance, a recent, meta-analytic path analysis of the complete interest and choice models found that they fit the data well across Holland themes (Sheu et al., 2010).
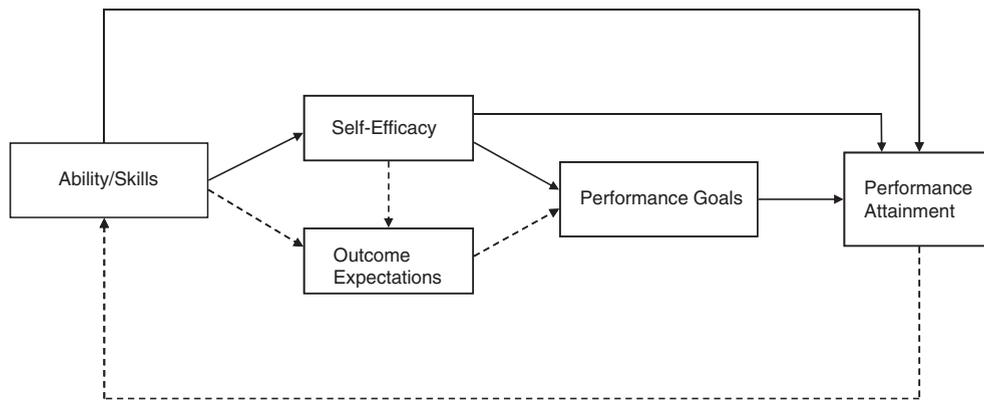
There has also been a good deal of research generated by, or relevant to, SCCT's performance model. This model, as illustrated in Fig. 1, suggests that academic and work performance is influenced by four interrelated cognitive and behavioral variables—general cognitive ability and specific skill sets, outcome expectations, self-efficacy beliefs, and goal mechanisms. More specifically, SCCT hypothesizes that general cognitive ability and academic or work skills that people develop through past direct and vicarious experiences influence academic and work performance both directly and indirectly via self-efficacy beliefs and outcome expectations. Self-efficacy beliefs refer to students' or workers' confidence in their abilities to accomplish important school or work-related tasks, while outcome expectations are beliefs about the consequences of engaging in these tasks (e.g., will task engagement lead to valued outcomes?).

SCCT also posits that self-efficacy and outcome expectations affect academic and work performance, at least in part, via their influence on the academic or work-related goals that people establish for themselves. Persons with more robust efficacy beliefs and more positive outcome expectations will set more challenging goals for themselves than students or workers with weaker

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Fig. 1. Social cognitive model of work performance (Model 1). *Note.* The abbreviated model tested paths among ability, self-efficacy, performance goals, and work performance indices. Omitted paths from the full SCCT performance model are shown as dashed lines.

efficacy beliefs or less positive outcome expectations. More challenging goals are then hypothesized to motivate people to work harder at goal attainment, leading to higher levels of work or academic performance.

In summary, SCCT incorporates the intuitive notion that workers or students with higher levels of cognitive abilities and more fully developed skill sets tend to perform better at work and school than those with lower cognitive abilities or less well developed skill sets. However, as a social cognitive theory, SCCT is concerned with the specific pathways through which abilities affect performance. In particular, it hypothesizes that the effects of ability and skill on academic and work performance are partly mediated by students' and workers' self-efficacy beliefs and outcome expectations. More capable students and workers tend to develop stronger self-efficacy beliefs and more positive outcome expectations. These, in turn, facilitate better school and work performance both directly (e.g., by helping people to organize and orchestrate skill use) and indirectly through their influence on the level of performance goals that students and workers set for themselves.

A number of individual and meta-analytic studies have examined bivariate relations among sets of variables within the SCCT performance model. Some of the studies were generated directly by the performance model; others were not specifically designed to test the model's hypotheses but do provide data that could be used for this purpose. For example, there is now ample evidence that general cognitive ability is positively related both to self-efficacy beliefs (e.g., Chen, Casper, & Cortina, 2001; Robbins, Lauver, Le, Davis, & Langley, 2004) and to work and educational performance outcomes (e.g., Bobko, Roth, & Potosky, 1999; Robbins et al., 2004; Schmidt & Hunter, 2004). In addition, self-efficacy beliefs have been found to be potent predictors of academic and work performance (e.g., Multon, Brown, & Lent, 1991; Stajkovic & Luthans, 1998) and goals (e.g., Bandura & Locke, 2003; Locke & Latham, 2002; Wofford, Goodwin, & Premack, 1992; Wright, 1990). The relation of goals to performance has also been substantiated (e.g., Locke & Latham, 2002; Robbins et al., 2004; Wright, 1990).

A recent meta-analytic path analysis tested SCCT's performance model relative to educational performance outcomes (i.e., college grades and retention; Brown et al., 2008). This study used a relatively novel methodology, pioneered by Viswesvaran and Ones (1995), combining meta-analytic and path-analytic procedures. Specifically, meta-analytically-derived correlations that had been corrected for the attenuating effects of sampling and measurement error were used to provide unbiased estimates of the relations hypothesized by SCCT. These unbiased correlations were then used to create the input correlation matrices for four subsequent path-analytic tests of SCCT's performance model. Two of the path analyses modeled academic performance (college GPA) and two modeled academic persistence (retention). One version of each of the performance and persistence analyses employed general cognitive ability (i.e., SAT and ACT scores) as a predictor, while the other used past high school performance (high school GPA). The fit of the SCCT model in all four analyses ranged from adequate (when past high school performance was modeled) to excellent (when general cognitive ability was used as a predictor). The lone theory-discrepant finding was that academic goals showed near null relations with college GPA when controlling for the other predictors in the model.

One purpose of the present study is to test, using the combined meta-analytic and path-analytic approach, SCCT's ability to explain and predict work (as opposed to educational) performance outcomes. A second purpose is to explore whether the trait of conscientiousness adds to SCCT's ability to predict work performance and, if so, how it may interrelate with the social cognitive predictors.

This focus on conscientiousness in connection with SCCT was based on several conceptual and empirical considerations. In particular, at a conceptual level, there is a growing consensus that conscientiousness, as one of the Big 5 personality traits, is defined by personal characteristics that are valued in most organizational settings (e.g., persistence, responsibility, dependability, achievement-orientation) and should, therefore, facilitate work performance. Empirically, there is substantial evidence, including three meta-analytic studies (Barrick & Mount, 1991; Chen et al., 2001; Judge & Ilies, 2002), showing that conscientiousness is positively related to a variety of work performance indices, such as job and training performance ratings, productivity measures (e.g., sales volume), salary, job tenure, and goal setting motivation. In most cases, the correlations of conscientiousness with performance indices have exceeded correlations of the other Big 5 personality traits with the same performance indices (e.g., Barrick & Mount, 1991). Some findings also indicate that conscientiousness rivals (and under some circumstances exceeds) self-efficacy as a predictor of work performance (Chen et al., 2001).