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Vocational choices in adolescence: The role of gender, school achievement, self-concepts, and vocational interests

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ABSTRACT

The present study examines the role of gender, school achievement tests, school grades, self-concepts, and vocational interests in predicting the transition from school to different fields of vocational education and training in a German sample of 10th-grade students ($N = 900$) attending intermediate secondary school. All sets of constructs were assessed with respect to multiple domains related to school subjects and the salient characteristics of occupations. Results showed that the sets of predictor variables had large proportions of variance in common (18% to 87%). On average, the profiles of students' construct scores resembled the characteristics of the different groups of occupations. Multinomial logistic regression analyses based on three alternative classification systems of occupations revealed that all variables were related to students' vocational choices, but that vocational interests were the most powerful predictors, and that the remaining variables only had small incremental effects once interests were controlled for. Implications for theory and practice are discussed.

1. Introduction

The transition from secondary school to postschool education marks an important developmental step in the occupational careers of young people. The choice of a specific vocation, which is connected to this step, is a developmental task which must be tackled during adolescence—a particularly sensitive period for young people. The completion of this task has implications for an individual's life path because the certificates acquired in postschool education determine subsequent career options (Graf, 2015). In many countries, such as the United States, Canada, and Great Britain, occupations that do not require a university or college degree are, in principle, open to all individuals who have completed high school. In many other countries (e.g., Germany, Austria, Denmark), however, entry into these occupations requires individuals to have finished vocational education and training (VET). In Germany, decisions regarding VET are usually made in Grade 10, when students are 16 years old. The majority of students who choose VET attend nonacademic school tracks, with the attendance of an intermediate secondary school being most typical for this population (Graf, 2015).

The study of the individual characteristics that underlie early career decisions has a long tradition. However, most studies so far have either focused on a small number of explanatory constructs (e.g., Päßler & Hell, 2012; also see Sheu et al., 2010 for an overview), or on specific career options (e.g., the choice of tertiary education in the field of science, technology, engineering, and mathematics (STEM) versus in the non-STEM domains; Garriott, Flores, & Martens, 2013; Lent, Sheu, Gloster, & Wilkins,

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2010; Parker et al., 2012). This practice offers a limited perspective for identifying the most proximal predictors of adolescents' career decisions.

In this article, we aim to overcome that limitation by considering a broad array of explanatory constructs included in prominent theories of vocational and educational choices, such as the Social Cognitive Career Theory (SCCT; Lent, Brown, & Hackett, 1994), and the Expectancy-Value Theory (EVT; Eccles, 2009; Eccles & Wigfield, 2002), and known to be related to adolescents' postschool transitions, namely, gender (Sells, 1980), school achievement tests (e.g., Schoon, Ross, & Martin, 2007), school grades (Nagy, Trautwein, & Maaz, 2012; Patrick, Care, & Ainley, 2011), self-concepts (Marsh & Yeung, 1997), and vocational interests (Päßler & Hell, 2012; Tracey & Hopkins, 2001). The variables were assessed with respect to multiple domains; students' profiles of knowledge (test scores and grades), self-perceived abilities (self-concepts), and interests were represented with respect to various school subjects and fields of work. These variables were used to predict students' vocational choices, coded by three different occupation classification systems. Drawing on a large and representative sample of German intermediate secondary school students facing a normative transition to VET, our study provides important information about the constructs most closely linked to the vocational choices of adolescents.

This article was guided by several research aims. First, we investigated the strengths of the multivariate relationships between the domain-specific measures of school achievement tests, school grades, self-concepts, and interests. More specifically, we evaluated whether the empirically determined relationships corresponded to the predictions drawn from the SCCT (Lent et al., 1994) and the EVT (Eccles, 2009). Second, we evaluated the strengths of the relationships between each group of constructs and students' vocational choices and compared the corresponding results with the importance of each group of constructs for predicting postschool decisions as assumed by the SCCT and the EVT. Third, we investigated the relative utility of each group of constructs for predicting students' vocational choices when all constructs were simultaneously considered in light of the SCCT and EVT.

1.1. Key theories of educational and occupational choices

Research on career-related postschool transitions has a longstanding tradition (e.g., Sells, 1980). Most research in this field can be categorized as either focusing on the hierarchical or on the content-related aspects of career options. The former type of studies refers to the social and economic status associated with different occupations. Most studies conducted in this tradition focus on sociological characteristics (e.g., Hauser, 2010; Hillmert & Jacob, 2010), or on general cognitive capacities (e.g., Schmidt & Hunter, 2004) as predictor variables. In contrast, investigations of the latter type focus on content differences between occupations. Occupational and educational options are described with respect to the prototypical profiles of activities, opportunities, and demands (e.g., Flores, Robitschek, Celebi, Andersen, & Hoang, 2010; Parker et al., 2012). Therefore, explanatory constructs are typically considered to be content-specific, such as mathematical self-efficacy beliefs as opposed to general self-efficacy beliefs (e.g., Fouad & Smith, 1996; Garriott et al., 2013). In this article, we focus on the content aspect of vocational options.

According to recent theories of vocational and educational choices (e.g., Eccles, 2009; Eccles & Wigfield, 2002; Lent et al., 1994), commonly employed constructs refer to ability indicators, such as standardized test scores and school grades (e.g., Nagy et al., 2012; Schoon et al., 2007), self-perceptions of abilities or self-efficacy beliefs (Lent et al., 1994; Marsh & Yeung, 1997), as well as indicators of domain-specific value ascriptions, including domain-specific interests (Eccles, 2009; Lent et al., 1994; Nagy, Trautwein, Baumert, Köller, & Garrett, 2006). Up until now, the most widely known theories considering these constructs are the SCCT, which is rooted in vocational psychology, and the EVT, which was developed in educational research.

Lent et al. (1994) argued that the SCCT integrates constructs that different career theories have in common. The SCCT includes four different parts: the interest model, the choice model, the performance model, and the satisfaction model. The choice model outlines the relationships between explanatory constructs and vocational choices. According to the SCCT's choice model (Lent et al., 1994), individuals develop their goals to pursue academic and career-relevant activities that are consistent with their interests. Although interests are regarded as the most important variables shaping individuals' career-relevant preferences and decisions, individuals' self-efficacy beliefs (i.e., their beliefs about their capabilities to achieve particular levels of performance) and outcome expectations (i.e., their beliefs about the consequences of certain behaviors) are assumed to have additional effects on their decisions. However, as described in the SCCT's interest model, self-efficacy beliefs and outcome expectations are assumed to be most important for shaping individuals' interest development (Lent et al., 1994). More specifically, in the SCCT, it is assumed that the (learning) experiences acquired during childhood and adolescence affect interests mainly indirectly by shaping individuals' self-efficacy beliefs and outcome expectations (Lent et al., 1994; Schaub & Tokar, 2005). As a consequence, the abilities and skills developed in earlier years are assumed to manifest themselves in specific patterns of likes and dislikes (i.e., interests) by shaping individuals' patterns of domain-specific self-efficacy beliefs and outcome expectations (Lent & Brown, 2006; Sheu et al., 2010). As such, it might be argued that an important aspect of the SCCT is the domain-specific nature of the explanatory constructs considered (Lent & Brown, 2006).

Today, a large number of studies provides support for the main assumptions of the SCCT, with most results indicating that interests and self-efficacy beliefs are the most powerful predictors of career-relevant choices (e.g., Garriott et al., 2013; Patrick et al., 2011). With regard to outcome expectations, findings on their relationship with educational and vocational choices are rather inconsistent (Lent, Lopez, Sheu, & Lopez, 2011). However, up until today, most applications of the SCCT have focused on only one domain (e.g., mathematics or science; Garriott et al., 2013; Navarro, Flores, & Worthington, 2007). This might be seen as a major shortcoming because individuals come into contact with learning experiences in different domains (e.g., school subjects) and are therefore likely to differ in their within-person patterns of domain-specific self-efficacy beliefs and outcome expectations, which—in turn—results in different individual patterns of likes and dislikes (i.e., interest profiles). Indeed, many researchers have argued