



The moderating influence of perceived competence in learning on mentored students' school performance



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ABSTRACT

Our aim is to examine whether mentored students' Perceived Competence in Learning (PCL) moderates school performance outcomes in school-based mentoring (SBM) programs delivered by teachers. A three-stage longitudinal study was conducted in order to compare mentored ($n = 157$) and non-mentored students ($n = 160$) enrolled in formal basic education (5th to 8th grades). Multivariate Analyses of Covariance (MANCOVA) revealed that mentoring was moderately effective in improving mentees' Portuguese grades and Grade Point Average (GPA) and reducing the number of unexcused absences compared to equivalent non-mentored students. The study also demonstrated that the mentees' PCL had a significant moderating effect on improvement in their Math grades. The different patterns of change in PCL during SBM also contributed to a variation in school performance outcomes. These results suggest that SBM delivered by experienced educators may enhance PCL as well as school performance in formal learning contexts.

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1. Introduction

School-based mentoring (SBM) is an educational process in which an adult (the mentor) helps one or more students (the mentees) to fulfill their academic or nonacademic goals (Nuñez, Rosário, Vallejo, & González-Pienda, 2013). Some SBM programs involve supporting mentored students to develop their needs of competence, relatedness and autonomy (blind for review), but most of them tend to focus on school performance issues (DuBois, Portillo, Rhodes, Silverthorn, & Valentine, 2011).

The impact of SBM is variable. Some meta-analyses found that SBM impact ranged from un-existent (Wood & Mayo-Wilson, 2012) to modest, but significant (DuBois et al., 2011). There is accumulated evidence that SBM effectiveness is influenced by a wide array of factors such as: the mentees' gender (Darling, Bogat, Cavell, Murphy, & Sanchez, 2006) or level of relational risk (Schwartz, Rhodes, Chan, & Herrera, 2011); the mentor's profile, including his/her background in caring and educational roles (DuBois et al., 2011); or the specific implementation of the SBM program (DuBois et al., 2011), such as the existence of appropriate activities (Karcher, 2008) or the duration of SBM relationships (Grossman, Chan, Schwartz, & Rhodes, 2012).

In the mentoring research field mentees' motivational characteristics have mostly been examined as a product of SBM (e.g. Herrera, Grossman, Kauh, & McMaken, 2011) rather than a process that may

influence the effectiveness of SBM itself. The context for our research is the requirement, emerging from basic research, for new approaches that will elucidate the relationship between students' academic self-perceptions and specific educational interventions, such as SBM, and how this determines academic results (Schunk & Pajares, 2005; Wigfield & Eccles, 2002). Understanding this interaction is of greater importance in the case of the most vulnerable students. Frequently, vulnerable students have not mastered basic academic skills and this negatively influences their perceptions of competence in learning (Schüler, Sheldon, & Fröhlich, 2009; Schunk & Pajares, 2005). Given that SBM is provided to vulnerable students with the intention of compensating for their previous academic deficits/failures (DuBois et al., 2011), our overriding objective is to understand the role of perceived competence in learning (PCL) on mentees' school performance when SBM is delivered by teachers.

1.1. PCL and school performance

PCL is generally defined as the current perceived level of skill (Kaplan & Midgley, 1997). It is commonly considered as the motivational dimension of self-regulated learning, which also includes metacognition and strategic planning (Boekaerts & Corno, 2005; Wolters, 2003). Some authors (e.g. Friedrich, Jonkmann, Nagengast, Schmitz, & Trautwein, 2013) view PCL as part of the self-concept, owing to its subjective nature. However, there is no consensus definition of perceived competence. Most of the theoretical controversy stems from conceptual similarities between perceived competence, self-efficacy beliefs and outcome expectations. Although all of these notions enable

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the measurement of competence perceptions, there are some important differences between them.

Perceived competence and self-efficacy beliefs are perceptions about one's ability to perform with success (Schunk & Pajares, 2005). However, perceived competence has been defined as a general self-perception of competence across different fields or tasks, while self-efficacy beliefs are subjective perspectives about personal competence in a specific domain (Ryan & Deci, 2009). Furthermore, while the measurement of perceived competence may involve self–other comparisons (for instance between a student and his/her peers), the examination of self-efficacy does not usually integrate social comparisons in horizontal relationships (Schunk & Pajares, 2002). Moreover, perceived competence and self-efficacy beliefs are both distinct from outcome expectations. Perceived competence and self-efficacy beliefs may help to determine the outcomes an individual expects (Schunk & Pajares, 2005), but outcome expectations are judgments about the likely consequences of a certain behavior (Bandura, 1977).

A positive PCL has been associated with better academic results (Obach, 2003) even after controlling for previous school performance (Schunk & Pajares, 2005). More positive PCL tends to have a stronger positive influence on Math grades than on other subjects (Kaplan & Midgley, 1997; Schunk & Pajares, 2005). Improvement in PCL also acts as a mediator between more complex strategies of self-regulated learning and better school grades (Schunk & Pajares, 2005). Conversely, lower PCL mediates between lower psychological involvement in school and lower school grades (Stephan, Caudroit, Boiché, & Sarrazin, 2011).

The quality, intensity and accuracy of students' PCL are determined by multiple factors. Female students (Obach, 2003; Wigfield & Eccles, 2002; Zisimopoulos & Galanaki, 2009) and younger students (Guillet, Vallerand, & Lefrenière, 2012; Wigfield & Eccles, 2002) who have more positive academic experiences (Schüler et al., 2009; Schunk & Pajares, 2005), tend to report a more positive perception of their learning skills. Higher levels of interest in a certain task (Ryan & Deci, 2009), providing opportunities to choose learning materials and activities (Ryan & Deci, 2009) and greater salience of mastery goals rather than performance goals (Kaplan & Midgley, 1997) seem to lead to more positive PCL as well. In addition, vicarious experiences (Bandura, 1977), social comparisons and social persuasion (Schunk & Pajares, 2005) also affect the development of PCL.

1.2. SBM and PCL

A number of studies have analyzed the impact of SBM on mentees' PCL. Herrera et al. (2011) found that after being mentored for one school year mentored students had more positive perceptions of their academic skills than an equivalent control group. Nuñez et al. (2013) demonstrated that SBM contributes to an improvement in mentees' perceived self-efficacy. In addition, Zand et al. (2009) reported that mentees who have more positive perceptions of their own competence also have more favorable opinions about their mentoring relationship.

Although and improvement of PCL may be an important outcome of SBM, it is relevant to understand how mentoring and PCL may interact in order to influence school performance. In fact, mentoring is intended to provide care, structure, limits and feedback in a context in which the mentors and mentees continuously affect each other perceptions (DuBois et al., 2011). These characteristics transform SBM into a privileged relational context in which to tackle the negative or weak PCL of vulnerable students, which may ultimately result in positive school performance becoming integrated into the mentee's personal value set. Such a structural change in the case of mentored students' core beliefs may be more appropriately stimulated when mentors have a background in educational roles (DuBois et al., 2011, Simões & Alarcão, 2014). Such mentors can more easily adjust their strategies to the mentee's level of perceived competence (Friedrich et al., 2013) while focusing on school-related goals (Karcher, 2008). However as

mentoring interventions with objectives defined in terms of academic outcomes become increasingly widespread, agencies have continued to rely on volunteer mentors who lack the necessary expertise in educational roles, (DuBois et al., 2011).

1.3. The current study

Our aim was to investigate the potential influence of SBM on school achievement and mentored students' self-perceptions of their PCL, when SBM combines mentoring and teaching roles. In this study we sought answers for the following three questions: (a) do SBM and PCL have independent effects on mentored students' school performance? (b) is there an interaction between SBM and PCL that affects the mentees' school performance? and (c) do different patterns of evolution of PCL during delivery of SBM have a distinct influence on school performance?

We focused on the influence of PCL on school performance indicators for three main reasons. Firstly, the effect of PCL on academic performance in educational interventions is often undetected as it is integrated into general measures of self-regulation of learning (Wolters, 2003). Secondly, the use of a general indicator of individuals' perceptions of learning competence may help to counteract the previously reported deterioration of perceived self-efficacy in school performance during early adolescence (Wigfield & Eccles, 2002). Thirdly, the PCL construct has been developed in the context of the Self-Determination Theory, which is the main theoretical inspiration for the mentoring program we investigated, *Metodologia TITAL*.

Metodologia TITAL is a Portuguese SBM program developed by public and private organizations under a grant from the European Social Fund (EQUAL Communitarian Initiative). The program defines SBM as the support and orientation offered by an experienced adult (the mentor) to children/adolescents (the mentees), through the satisfaction of their basic psychological needs (Ryan & Deci, 2009).

The mentees are students referred to the program by the school boards because of low school attendance rates, an indication for supplementary classes, disciplinary problems and/or underachievement. The mentors are teachers who volunteer to mentor their own students, as long as they meet two criteria: (a) they must have had some experience in informal mentoring; and (b) preferably, they should be members of the permanent staff of their respective school.

The mentors are enrolled in a 16-hour training program prior to the beginning of the official school year. The training includes: (a) basic information about SBM and the *Metodologia TITAL*; (b) practicing communication and motivational skills to enable the satisfaction of the mentees' basic psychological needs; and (c) preparing activities in the context of group and one-on-one mentoring sessions. Ongoing supervision of the program includes monthly meetings and informal contact by phone and e-mail with a coordinator from a non-governmental organization responsible for the program.

The mentoring lasts approximately 9 months. Ninety-minute weekly group mentoring sessions delivered by the mentors start at the beginning of the school year; the sessions focus on the schoolwork orientation of the mentees and promote their social integration. The group mentoring sessions precede one-on-one sessions to facilitate mentor–mentee matching. One month later, the mentees and mentors start exploratory one-on-one discussions on their goals for the mentoring relationship. Dyadic mentoring relationships are established two weeks later, according to mutual objectives and interests. Weekly one-on-one SBM meetings occur during the school day and last an average of 30 minutes. The meetings do not involve removing the mentees from their classes. Mentors are taught the importance of delivering balanced support to the different basic psychological needs. However, they are intentionally given the opportunity to regulate the amount of the support given to the mentees during SBM sessions.

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