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Motivation and Relationship of the Student with the School as Factors Involved in the Perceived Learning

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Abstract

Motivation should be seen as a very important factor in the learning process. The motivated student has the inner strength to learn, to discover and capitalize on capabilities, to improve academic performance and to adapt to the demands of the school context. Contextual factors like the psychological sense of school membership may be also especially important to students' classroom engagement, their motivation and learning success. So with this study we intend to examine how the sense of school belonging and intrinsic motivation influences perceived learning.
A structural model reveals that the negative sense of school belonging has a negative impact on intrinsic motivation and on perceived learning. In turn, intrinsic motivation positively and significantly influences perceived learning in the course.

Keywords: Perceived learning; motivation; sense of school belonging

1. Introduction

Academic success leads to a better identification with the school and an increase in feelings of belonging and appreciation in relation to this, which in turn influences involvement in school activities reinforcing the cycle of success. Lack of involvement in school leads to failure, which in itself makes identification and student participation in school more difficult, resulting in physical and emotional detachment.

Belonging, according to Weiner (1990), may be a key influence on motivation. The motivation for learning has become a top issue in education, and its absence represents a decrease of quality in learning. Effort, the main indicator of motivation, is only used if the student believes in his ability to succeed. In order to motivate students it is essential to develop teaching strategies that depart from their current condition, placing them in the process as

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active agents. The students should feel encouraged to apply their cognitive schemes and to reflect on their own actions in the educational process, developing their knowledge and their ways of thinking.

Empirical studies stress the importance of intrinsic motivation in the quality of learning, based on self-determination theory (Deci & Ryan, 1985). In this theoretical framework, behaviour can be intrinsically motivated as defined by the person chosen in order to feel competent and self-determined in his relationship with the environment, necessities that lead the subject to seek and choose situations that allow them to make use of their abilities, even if it requires greater effort.

In this sense, student motivation and the sense of school belonging are considered essential to understanding the quality of perceived learning in the course. Thus, this study seeks to analyze the interaction between the negative sense of school belonging and intrinsic motivation, and the influence of these factors on perceived learning in the course.

2. Literature revision

2.1 Sense of school belonging

School is considered a very important institution in the lives of students and may be described in terms of the quality of their affective and social environments (Mok & Flynn, 2002). As the Finn model suggests, unless students identify with the school at least to a minimal extent; feeling that they belong as part of the school; and believing themselves to be welcomed, respected, and valued by others there, they may begin a gradual process of disengagement of which officially dropping out is only the final step (Finn, 1989).

The term school membership refers to a construct almost identical to Finn's belonging. The psychological sense of school membership relates to students' perceptions that others in the school, especially adults, are for them and that they count in the school (Wehlage *et al.,* 1990). This sense of membership heavily influences students' commitment to schooling and acceptance of educational values. Other ethnographic accounts have also revealed the ways in which students perceive (or often unfortunately often fail to perceive) the school as a personally supportive community (Kagan, 1990; Kramer-Schlosser, 1992).

Students' classroom engagement, academic effort, and subsequent school success or failure are influenced not only by individual differences in skills, abilities, and predispositions, but also by many situational and contextual factors, like the quality of school social relationships (Goodenow, 1993).

One aspect of the social context of special relevance to education is students' sense of belonging or psychological membership in the school or classroom, that is, the extent to which students feel personally accepted, respected, included and supported by others in the school environment (Goodenow, 1993, p. 80). Membership is achieved through reciprocal social relations between the student and others in the school (Goodenow, 1993).

This is an important psychological construct that could predict other outcomes such as educational achievement (Cueto, Guerrero, Sugimaru, & Zevallos, 2010). Students' subjective sense of school belonging has been identified as a potentially important influence on academic motivation, engagement, and participation, especially among students at risk of dropping out (Goodenow & Grady, 1993).

The need for belonging, social support, and acceptance takes on special prominence during adolescence, particularly during early adolescence when young people begin to consider seriously who they are and wish to be, with whom they belong, and where they intend to invest their energies and stake their future (Goodenow, 1993). Over the course of development, the sense of personal acceptance and of having a rightful and valued place in different social contexts tends to stabilize and takes on trait-like features (Sarason, Pierce, & Sarason, 1990).

Osterman (2000) has proposed that a sense of belonging to a community, such as a school, is a basic psychological need. Social acceptance and the sense of school belonging are important throughout life (Maslow, 1962). Their absence often leads to lowered interest and engagement in ordinary life activities (Weiss, 1973). Belonging can also influence the value that adolescents attribute to academic work. According to Maslow's (1962) theory of motivation, meeting the need for belonging is a necessary precondition to higher needs to bear on academic tasks.

Whatever the causes of a low or absent sense of psychological membership in the school, the result of a failure to attain a full and legitimate sense of membership in the school as a social system may be, for many students, lowered motivation, less active engagement, and ultimately diminished academic achievement (Goodenow, 1993; Goodenow & Grady, 1993).

Empirical research finds an association between students' psychological sense of membership and motivational outcomes. School belonging accounted for substantial proportions of the variance in attitudinal scales that measured general school motivation, expectation for academic success (Goodenow & Grady, 1993). Almost all people find school more enjoyable, worthwhile, and interesting when they believe that others in the environment like and value them. If students believe that others at school are rooting for them, are on their side and willing to help them if necessary, they have reason to believe that they have resources necessary to be successful (Goodenow & Grady, 1993).

Other reviews of the international literature suggest that children with low sense of belonging feel alienated in schools (Juvonen, 2006). This in turn may lead to other negative consequences such has poor achievement and eventually dropping out of school altogether. On the other hand, a high sense of belonging may lead to higher motivation and grades.

Thus we proposed that negative sense of school belonging negatively affects intrinsic motivation and also perceived learning.

H1 – A negative sense of school belonging leads to a decrease in the intrinsic motivation.

H2 – A negative sense of school belonging leads to a decrease in perceived learning.

2.2 Motivation

Motivation refers to a set of internal forces/impulses that guide the behaviour of an individual for a specific purpose. There are different types of motivation. Physiological reasons (primary, innate, basic or biogenic) are inherent to the biological structure of the organism, with the function of ensuring organic balance. Examples of physiological motivations include sleep, pain, hunger, thirst. Social motivations (acquired, learned, or secondary sociogenic) vary from person to person, from culture to culture, and are acquired through the socialization process resulting from the process of social learning. Among these motivations, social affiliation stands out, i.e. the desire for people to be accepted and appreciated by others and to relate to the life of human beings in groups (Boruchovith & Bzuneck, 2001).

Considering that motivation results from a continuous interaction between the person and environment, Vallerand and Blanchard (1998, p. 15) define motivation as "a hypothetical construct used to describe the internal and/or external forces which lead to the initiation, direction, intensity and persistence of behaviour." We can say that motivation is the force that drives us to carry out activities. We are motivated when we feel like doing something and we are able to sustain the effort required during the time required to achieve the objective we set ourselves. Motivation should be considered carefully by teachers, trying to mobilize the capabilities and potential of each student for academic success.

There is a growing consensus that academic motivation is not a purely individual, intrapsychic state; rather, it grows out of a complex web of social and personal relationships. As Weiner (1990, p. 621) stated, "School motivation cannot be understood apart from the social fabric in which it is embedded." Students' associations with cultural and ethnic groups, their families, and their friends (especially in adolescence) are fundamental aspects of this social fabric (Goodenow & Grady, 1993).

Cognitive motivation represents the needs of information and knowledge that are based on curiosity and exploratory activity (e.g. the need to know life in society, nature, etc.). It is conditioned by the history of the student's life and his past experience, including knowledge acquired since childhood, by what has been learned and facilitated in the context of socio-cultural opportunities and, finally, by knowledge acquired during the process of teaching/learning (Woolfolk, 2000). In the field of motivation, the study of stimuli and responses is to assess the type and causes of stimuli that could trigger an appropriate response to a variety of learning situations.

Educational research has long recognized two basic types of motivational orientations, intrinsic and extrinsic, that have potentially different consequences on learning (Standage, Duda, & Ntoumanis, 2005). These are based on self-determination theory that considers humans to actively seek optimal challenges and new experiences to master and integrate (Deci & Ryan, 1985). The most self-determined type of motivation is intrinsic motivation. Intrinsic motivation refers to engagement in activities for their own sake, namely for the feelings of pleasure, interest, and satisfaction that derive directly from participation (Deci & Ryan, 1985). When intrinsically motivated, individuals are fully self-regulated, engage in activities out of interest, experience a sense of volition, and function without the aid of external rewards and/or constraints (Deci & Ryan, 1985).

Although intrinsic motivation is marked by participation for the inherent interest and pleasure induced by an activity, extrinsic motivation refers to a variety of behaviours that are undertaken for reasons other than the activity itself, such as external rewards, benefits, punishments, or obligations (Deci & Ryan, 1985). Intrinsically motivated students are thought to seek out challenges, to extend and exercise their capabilities, and to explore and learn, compared with extrinsically motivated students who seek rewards such as grades, ego enhancement and social recognition (Ryan & Deci, 2000).

Students' motivated behaviours regarding choice of tasks as well as their effort and persistence in academic tasks have been directly related to their level of intrinsic motivation (Ferrer-Caja & Weiss, 2000, 2002). Besides, there is a strong relationship between intrinsic motivation and the use of self-regulated strategies; in particular, students who had high intrinsic motivation were more likely to use metacognitive strategies (Pintrich & Garcia, 1991).

Ryan and Deci (2000) reported that intrinsic motivation has been strongly linked to the satisfaction of needs for autonomy and competence. Autonomy is characterized by an internal locus of control and the perception that behaviors' are freely chosen. Increasing perceived autonomy, by giving students some control over their learning experiences, tends to increase intrinsic motivation (Van Voorhis, 1995). The perception of being effective in the things we do and the feeling of mastery characterizes competence.

Classroom environments that enhance perceived autonomy by providing students with choices and opportunities for self-direction have been associated with increased intrinsic motivation, while extrinsic rewards were found to undermine intrinsic motivation (Young, 2005). Research provided examples of designing classroom environments specifically to enhance student autonomy, leading to greater intrinsic motivation and participation (Lilly & Tippins, 2002; Young, 2005). Building an active learning environment, as compared to the traditional classroom, has been linked to higher student motivation (Garcia & Pontrich, 1996; Stipek, Salmon, & Givven, 1998) and enhanced intellectual development (McKeachie, 1990). That allows us to formulate the following hypothesis.

H3- A higher level of intrinsic motivation leads to a higher level of perceived learning.

3. Model development

Building on previous research, the conceptual model presents the major determinants of perceived learning (see Fig. 1). To sum up the model briefly, the negative sense of school belonging negatively influences perceived learning and intrinsic motivation, which in turn positively affects students' perceived learning.

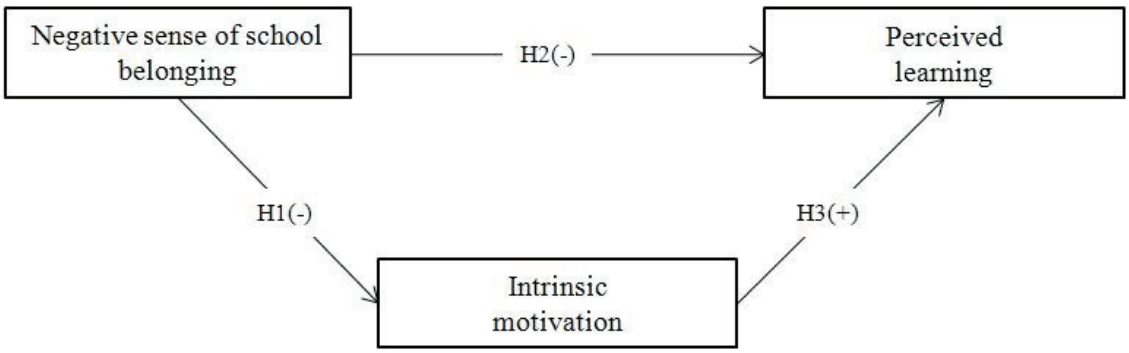

Fig. 1 - Conceptual framework

4. Method

4.1 Data collection and sample

Data were gathered from a representative sample of 1986 high school students from eighteen schools from the centre region of Portugal. The largest school provided 375 completed questionnaires, and the smallest completed 28. The average mean of respondents per school was 110. Of the total number of respondents, 38.5% were male, and 61.5% were female, aged between 14 and 22 years, at different levels of secondary education; 21.2% of the students were held back in the same grade at least once, 36% study less than an hour a day, whereas 45% study one to two hours, and 8% study between three and five hours.

Regarding the type of study support, not provided by the teachers of the subjects, we found that, at school, 33.8% of respondents never receive any support, 30.1% are supported occasionally and 4.2% say they are always supported; as for support outside of school, 36.8% said they were never supported, 26.9% receive occasional support; those reporting constant support (always) 4.6%. In response to the same question, but regarding family support, 34.5% of students are never supported, 29.2% are supported from time to time and 4.0% always, whereas outside of the family, the responses indicate 46.5% of students never receive support, 23.8%; respond they are supported from time to time and only 2.0% said always.

4.2 Survey instrument

The study included measures used in prior research to develop an initial version of the instrument. People knowledgeable of the nature of the concepts of the measures then discussed these in order to provide revisions to the instrument. After that, a pretest was done with a small sample of high school students to verify the reliability of the factors through Cronbach's alpha. The pretest results helped further refine the questionnaire. Teachers of eighteen different schools then handed final questionnaires out to the students to complete in class at the end of the 2010 school year.

The constructs addressed are measured through existing scales, which have been shown to exhibit sound psychometric properties. The items were designed to be answered using a 5-point Likert-type scale, with 1 indicating strongly agree and 5 indicating strongly disagree.

- Negative sense of school belonging is composed by two (reversed) items ("It is hard for people like me to be accepted in this school;" "Sometimes I feel that I don't belong in this school") adapted from the "The Psychological Sense of School Membership (PSSM) Scale" (Goodenow, 1993, p. 84)
- Intrinsic motivation was operationalized using four items adapted from Young (2005) ("Having satisfaction of improving my personal knowledge and skills;" "Having a sense of personal accomplishment;" "Completing exciting and challenging class activities;" "Enjoying learning about interesting subjects"). This scale is based on the research and instrument developed by Vallerand *et al.,* 1992.

Perceived learning is one of the factors in the five-factor "*Student Evaluation Model"* developed by Marks (2000), and is measured by two items ("I am learning a lot in this course;" "As a result of taking this course, I have more positive feelings toward this field of study").

5. Results

A confirmatory factor analysis assessed the validity of the measures, using full-information maximum likelihood estimation procedures in LISREL 8.54 software. Although the chi-square for this model is significant (χ^2=92.65, *df*=17, $p<0.00$), the fit indexes reveal a good model. The other generic adequacy measures are NFI=0.99, PNFI=0.60, CFI=0.99, IFI=0.99 and RMSEA=0.047. The large and significant standardized loadings of each item on its intended construct provide evidence of convergent validity (average loading is 0.75). All possible pairs of constructs passed the discriminant validity test (Fornell & Larcker, 1981).

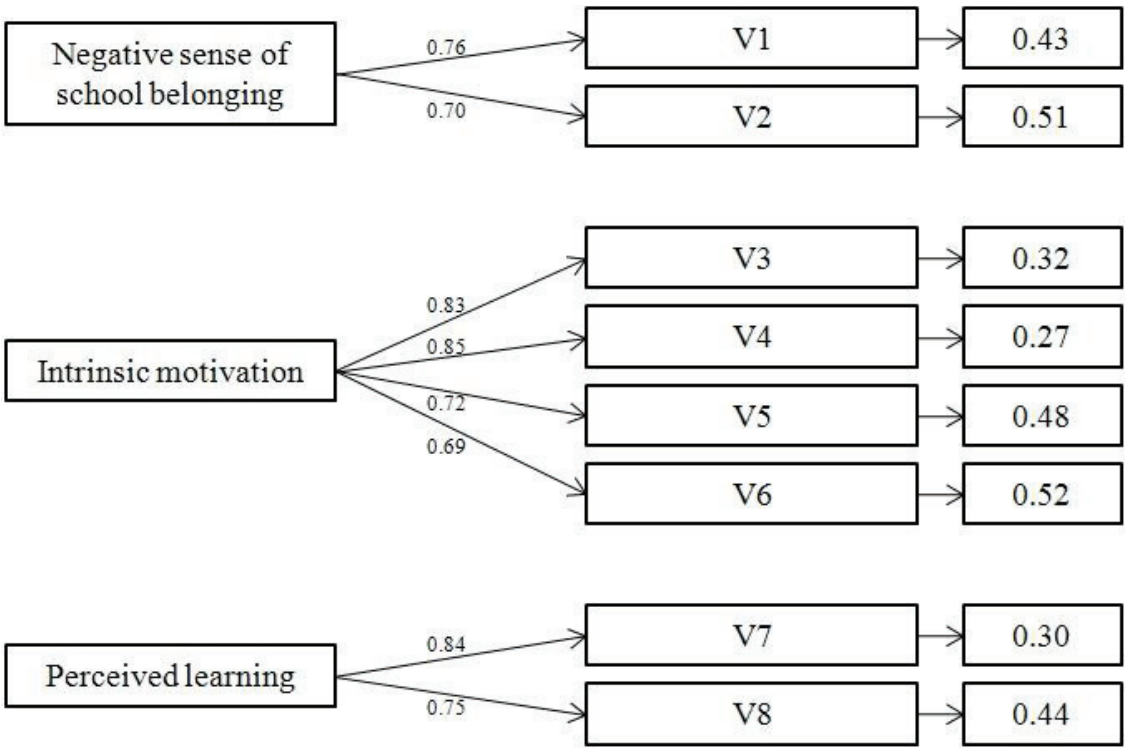

Fig. 2 - Confirmatory factor analysis

The final structural model has a chi-square of 92.65 (df=17, p<0.00), and the fit indexes suggest a good fit of the model to the data (NFI=0.99, PNFI=0.60, CFI=0.99, IFI=0.99 and RMSEA=0.047). The estimation results for the structural paths appear in Fig. 3. The results confirm all 3 hypotheses.

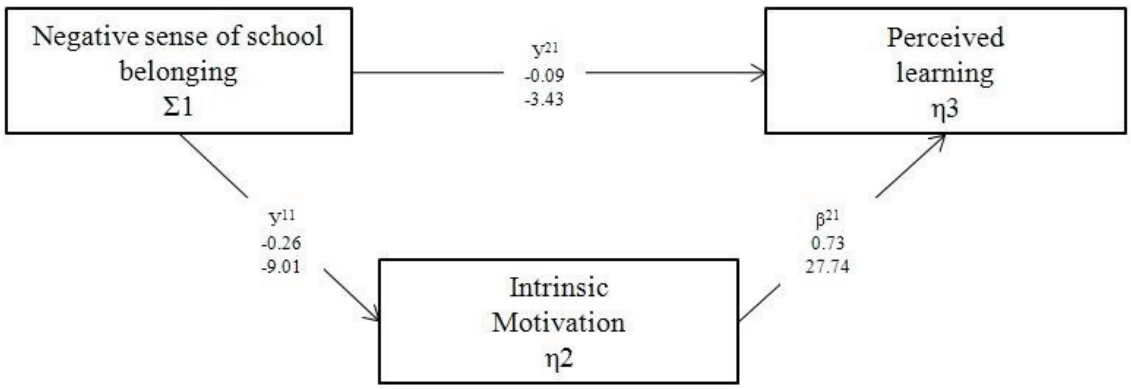

Fig. 3 - Summary of significant relationships

Values in upper rows are completely standardized estimates. Values in lower rows are t-values.

*p<0.05, **p<0.01 (two tailed tests)

The findings reveal that a negative sense of school belonging has a negative impact on intrinsic motivation, and also on perceived learning in the course. As previous empirical research suggests that a low full and legitimate sense of school membership may decrease their motivation and academic achievement (Goodenow, 1993; Goodenow & Grady, 1993). If students believe they are not accepted and valued in their school, and do not feel like integrated

members of their school, they have few reasons to believe they have the necessary resources to learn more and be successful in the course.

On the other hand, intrinsic motivation positively affects perceived learning. Intrinsic motivation is closely related to the pleasure and satisfaction experienced while learning and exploring, and to the individual needs of becoming competent (Deci & Ryan, 1985). These factors in turn are related to academic performance (Jaramillho & Spector, 2004). Thus, students with a higher level of intrinsic motivation are more likely to evaluate themselves as learning a great deal in the course and having more positive feelings toward this field of study as a result of taking the course, indicators that characterize overall perceived learning.

6. Conclusion

In studying the determinants of academic success we should consider as relevant factors negative sense of school belonging, intrinsic motivation and perceived learning, above all if one wishes to make the student to want to learn. In the process of teaching and learning, the cognitive, affective, social, and motivational variables have a potentiating effect on student learning.

The findings of this research provide useful information for teachers and school managers, revealing the importance of high schools in developing institutional and pedagogical strategies that might improve the students' sense of school belonging, leading them to believe they are accepted and valued in their school. A positive sense of school belonging may improve students' academic motivation, and their engagement and participation in learning activities, especially among students who are at risk of dropping out.

Teachers should also create an active learning environment that enhances students' perceived autonomy and competence, providing students with choices and opportunities for self-directed learning, and planning learning activities that might increase their feeling of mastery. In fact, intrinsic motivation was shown to be a factor of great importance that can lead to higher perceived learning in the course.

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8. References

Abrantes, J. L., Seabra, C., & Lages, L. F. (2007). Pedagogical affect, student interest, and learning performance. *Journal of Business Research, 60*, 960-964.

Bagozzi, R. P. (1980). *Causal models in marketing.* New York: Wiley.

Boruchovitch, E., & Bzuneck, J. A. (2001). *A motivação do aluno: Contribuições da Psicologia contemporânea.* Petrópolis: Vozes.

Cronbach, L. (1951). Coefficient Alpha and the internal structure of tests. *Psychometrika, 16*, 297-334.

Cueto, S., Guerrero, G., Sugimaru, C., & Zevallos, A. (2010). Sense of belonging and transition to high schools in Peru. *International Journal of Educational Development, 30*, 277-287.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behaviour.* New York: Plenum.

Ferrer-Caja, E., & Weiss, M. R. (2002). Cross-validation of a model of intrinsic motivation with students enrolled in high school elective courses. *Journal of Experimental Education, 71* (1), 41-66.

Ferrer-Caja, E., & Weiss, M. R. (2000). Predictors of intrinsic motivation among adolescent students in physical education. *Research Quarterly for Exercise and Sport, 71*, 267-279.

Finn, J. (1989). Withdrawing from school. *Review of Educational Research, 59*, 117-142.

Fornell, C., & Larcker, D. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18* (1), 39-50.

Garcia, T., & Pontrich, P. R. (1996). The effects of autonomy on motivation and performance in the college classroom. *Contemporary Educational Psychology, 21* (4), 477-486.

Goodenow, C. (1993). The psychological sense of school membership among adolescents: Scale development and educational correlates. *Psychology in the Schools, 30*, 79-90.

Goodenow, C., & Grady, K. E. (1993). The relationship of school belonging and friends' values to academic motivation among urban adolescents students. *Journal of Experimental Education, 62* (1), 60-71.

Jaramillho, F., & Spector, P. E. (2004). The effect of action orientation on the academic performance of undergraduate marketing majors. *Journal of Marketing Education, 26* (3), 250-260.

Juvonen, J. (2006). Sense of belonging, social bonds, and school functioning. In P. Alexander, & P. Winne (Eds.), *Handbook of Educational Psychology* (pp. 655-674). New York: Macmillan.

Kagan, D. (1990). How schools alienate students at risk: A model for examining proximal classroom variables. *Educational Psychologist, 25*, 105-125.

Kramer-Schlosser, L. (1992). Teacher distance and student disengagement: School lives on the margin. *Journal of Teacher Education, 43*, 128-140.

Lilly, B., & Tippins, M. J. (2002). Enhancing student motivation in marketing classes: Using students' management groups. *Journal of Marketing Education, 24* (3), 253-264.

Marks, R. B. (2000). Determinants of student evaluation of global measures of instructor and course value. *Journal of Marketing Education, 22* (2), 108-119.

Maslow, A. (1962). *Toward a psychology of being.* Princeton, NJ: Van Nostrand.

McKeachie, W. J. (1990). Research on college teaching: The historical background. *Journal of Educational Psychology, 82*, 189-200.

Mok, M. M., & Flynn, M. (2002). Determinants of students' quality of school life: A path model. *Learning Environments Research, 5,* 275-300.

Osterman, K. F. (2000). Students' need for belonging in the school community. *Review of Educational Research, 70* (3), 327-367.

Pintrich, P. R., & Garcia, T. (1991). Student goal orientation and self-regulation in the college classroom. In M. I. Macht, & P. R. Pintrich (Eds.), *Advances in motivation and achievement* (Vol. 7, pp. 374-402). Greenwich, CT: JAL.

Ryan, R. M., & Deci, E. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55* (1), 68-78.

Sarason, B., Pierce, G., & Sarason, I. (1990). Social support: The sense of acceptance and the role of relationships. In B. Sarason, I. Sarason, & G. Pierce, *Social support: An interactional view.* New York: Wiley.

Standage, M., Duda, J. L., & Ntoumanis, N. (2005). A test of self-determination theory in school physical education. *British Journal of Educational Psychology, 75*, 411-433.

Stipek, D. J., Salmon, J. S., & Givven, K. B. (1998). The value of practices suggested by motivation research and promoted by mathematics education reformers. *Journal of Research in Mathematics Education, 29* (4), 465-488.

Vallerand, R. J., & Blanchard, C. (1998). Education permanente et motivation: Contribution du modèle hiérarchique de la motivation intrinsèque et extrinsèque. *Education Permanente, 136*, 15-35.

Vallerand, R. J., Pelletier, M. R., Blais, M. R., Briere, N. M., Senecal, C., & Vallieres, E. F. (1992). The academic motivation scale: A measure of intrinsic, extrinsic and amotivation in education. *Educational and Psychological Measurement, 52*, 1003-1017.

Van Voorhis, J. I. (1995). Implementing cooperative structures to increase motivation and learning in the college classroom. Paper presented at the *Lilly Conference on College Teaching.* Columbia, SC.

Wehlage, G., Rutter, R. S., & Fernandez, R. (1990). Dropping out: Can schools be expected to prevent it? In L. Weiss, E. Farrar, & A. Petrie (Eds.), *Dropouts from school* (pp. 1-19). Albany, NY: State University of New York Press.

Weiner, B. (1990). The history of motivation research in education. *Journal of Educational Psychology, 82*, 616-622.

Weiss, R. (1973). *Loneliness: The experience of emotional and social isolation.* Cambridge, MA: MIT Press.

Woolfolk, A. E. (2000). *Psicologia da Educação.* Porto Alegre: Artmed Editora.

Young, M. R. (2005). The motivational effects of the classroom environment in facilitating self-regulated learning. *Journal of Marketing Education, 27* (1), 25-40.