

Fostering Career Awareness in Elementary Schools: Evaluation of an Intervention Proposal

Renato Gomes Carvalho¹, Margarida Pocinho² and Débora Fernandes²

¹ *Secretaria Regional de Educação da Madeira (Portugal)*

² *Universidade da Madeira (Portugal)*

Abstract. Research literature has been increasingly focusing on children's career development, especially when school contexts are considered. In the present study, we evaluate the efficacy of a short-term intervention program designed to foster career awareness in elementary school. The sample consisted of 155 Portuguese fifth- and sixth-grade students, aged nine to fifteen years old ($M = 11$, $SD = 1$). With a quasi-experimental design, the sample was divided into two groups, namely, the participants in the program and the controls. We used the Career Awareness Scale for Children and a sociodemographic survey. Analyses of covariance indicated a moderate effect of the participation in the program in students' career awareness ($\eta_p^2 = .06$, $p = .003$). The results are discussed considering the school as a key context for career education aiming at promoting students' adaptability and involvement in the construction of their life pathways.

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The promotion of career development, within the framework of personal development and identity construction, is relevant throughout the entire life cycle and not only in career transition or decision-making situations (Carvalho, 2015a). International organizations such as the Organization for Economic Co-operation and Development (OECD) (2004) refer to the importance of career education in several countries across the globe and highlight that guidance policies should not only help individuals make the immediate choices that they face but also provide the fundamentals of learning and career development throughout life. This perspective is emphasized regarding childhood by the United Nations Convention on the Rights of the Child, which provides support for the development of the unique, authentic self of the child and for the role of vocational information and the provision of guidance for every child (Hart & Hart, 2014).

It is as early as in childhood, through the tasks and the developmental changes that characterize this period, that a first period of involvement with the world of work and of understanding of its features occurs (Hartung, Porfeli, & Vondracek, 2008). As Hartung and colleagues (2008) note, childhood experiences provide opportunities for the development of children's curiosity, fantasies, interests, and capacities; in their turn, these opportunities make possible for children

the construction of future possible selves, whether in terms of work or other social roles. Savickas (2002) notes that childhood can be described as a period of the first self-projections into the future, by an increasing capacity of self-control and, therefore, by the development of bases for career decision-making capacities.

Given that childhood is a significant career development period (Hartung, 2015; Oliveira, Taveira, & Porfeli, 2015), research in this domain has been increasingly prominent and systematized, as the recent publication of Watson and McMahon's *Career exploration and development in childhood: Perspectives from theory, practice and research* (2017) demonstrates.

The fact that almost all theories that conceptualize career development emphasize the formative importance of childhood for career development notwithstanding (Hartung et al., 2008), a need to better understand how this development occurs in different social contexts and what type of school-based interventions can be implemented to favor it remains. In this study, we present a contribution to this goal through the evaluation of the efficacy of a school-based career intervention, aiming at fostering the career awareness of Portuguese fifth and sixth graders. From this analysis, we also discuss the topic of the implementation of career intervention with children in school contexts.

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Correspondence concerning this article should be addressed to Renato Gomes Carvalho. EB23 Cónego João J.G. Andrade, Estrada da Lapa, 9350-079 Campanário . (Portugal).
 E-mail: renatoggc@gmail.com

Childhood as a Significant Period of Career Development

Career development corresponds to a process that occurs throughout the entire life cycle, involving change and adaptation, and begins in childhood (Hartung et al., 2008). From a developmental perspective, Super (1957, 1990) identifies childhood as the beginning of career development, expressed in the growth stage and in developmental tasks such as the construction of fantasy, interests, and capacities. Super emphasizes the importance of self-concept in career development; through environmental exploration, self-differentiation, identification with models and role performance, children construct their self-concepts (Super, 1990). The reformulation of the growth stage (Super, Savickas, & Super, 1996) withdraws attention to concerns about the future, control (feelings of mastery regarding personal life), confidence (believing in the personal ability to achieve goals), and competence (acquiring proficient attitudes and work habits) as relevant dimensions of career adaptability that begin to develop in childhood (Savickas, 2002). As Savickas remarks, the antecedents of career maturity and career adaptability, including autonomy, self-esteem and a future time perspective, develop in childhood and consolidate in adolescence.

In a literature review, Watson and McMahon (2005) underline the association between childhood career development and ulterior career development. It is in childhood that the onset of the development of the core skills for ulterior career construction, which include career awareness, career exploration, vocational interests, and occupational expectations, occurs (Hartung, 2015). Hartung, Porfeli, and Vondracek (2005) add that research has been focusing more on what children know about the world of work than on the processes through which children can learn that information; the authors point to the need to better study how childhood career development occurs. The authors' conclusion underlines the role and the formative importance of significant developmental contexts in childhood, such as school, for the manner in which children's career development occurs.

Recently, several researchers have analyzed different dimensions that characterize and are relevant for understanding children's career development. These dimensions include knowledge about occupations (Ferrari et al., 2015), the influence of parents in children career aspirations and development (Liu, McMahon, & Watson, 2015a,b), the influence of age in the identification of the factors that influence career choices (Howard, Flanagan, Castine, & Walsh, 2015), or the need to integrate the role of emotions in children's career development (Oliveira et al., 2015). However, because

there are scarce studies regarding the efficacy evaluation of career interventions with children in the school context, especially compared to other developmental periods such as adolescence, our understanding of the initial career development stages remains limited (Skorikov & Patton, 2007). Because the roots of decision making lie in childhood and there are career decisions being made at precocious ages, the development of career exploration and planning skills consequently should have its beginning precociously (Magnuson & Starr, 2000).

School as a Context of Career Development

As children become older, they should become aware of the existence of a career pathway and understand the factors that influence it; they should also be increasingly capable of making decisions in the vocational domain (Howard et al., 2015; Magnuson & Starr, 2000). Through career awareness and career exploration, children know themselves, others, and the surrounding world. Therefore, experiences in the career domain allow children to accommodate and assimilate in their thinking and in the manner in which they perceive reality information about themselves and their world (Magnuson & Starr, 2000).

Beyond formal education, the role of the school is focused on students' overall development, including promoting students' ability to be aware of and address their own pathway. The experiences of career awareness and exploration that are provided to children in school contexts are thus of central importance for their adaptability. Children should be offered experiences that allow them to develop the capacity to place the future into perspective and to explore the self and the world of occupations, which, in their turn, will allow them to consider alternatives, make future decisions and shape their careers (Hartung et al., 2008; Magnuson & Starr, 2000).

One of the intervention strategies aiming at children's career development in the school context is career education (Hoyt, 1976, 1995). Career education involves experiences through which individuals acquire information and develop attitudes concerning the self and the world of work, in addition to the skills to prepare for the world of work (Araújo et al., 2012). In school contexts, especially in the Portuguese case, career education has been delivered through intervention programs whose characteristics of involving different professionals with the goal of reaching common goals and the possibility of participation by larger numbers of students have made their use popular among school psychology services (Pocinho, 2011). These programs allow children, starting very early in their schooling, to be aware of their careers and to have

opportunities for self-exploration and career exploration (Carvalho, 2015a; Pocinho, 2011); therefore, these intervention modalities are one of the courses of action that could be considered when the type of career intervention in childhood is considered.

Among the previous experiences of implementing career education programs in elementary schools, one can note the intervention program by McMahon and Carroll (1999), which was based on the Australian K-12 career education curriculum (Australian Education Council, 1992). The sessions of this program focused on topics such as the self in relation to work and to the world of work and learning how to make and implement plans and career decisions. For the implementation of such a program, dimensions such as teacher training, the commitment of the school, and a method of integration into the curriculum were valued by the authors.

In view of the importance of career development at the elementary school level for student graduation and career readiness (Knight, 2015), in the present study, we analyze the efficacy of a school-based career intervention that aimed to foster elementary school children's career awareness, which is considered to be a set of cognitions about the self and the world, underlying the construction of a personal life project and contributing to career decision making (Pocinho, 2011). The need to implement career education programs at the elementary school level is sustained by the role that these programs play in providing children with planned learning experiences that improve and promote knowledge, skills and attitudes; the opportunity for learning and skill development will support them in ulterior decision making.

From the initial question of "What is the effect of a career education program on fifth and sixth graders' career awareness?", we hypothesize that participating in the program would lead to the participants' increased career awareness. From this experience, we also discuss the pertinence of translating into professional practice a consensual aspect in the literature, i.e., if children's career development is important, then how can it be expressed in school-based interventions, given that children spend most of their time outside home?

Method

Sample

The sample, which was a convenience sample consisting of 155 Portuguese elementary school students (fifth and sixth grades), aged between nine and fifteen years old ($M = 11$, $SD = 1$), and mostly females ($N = 80$, approximately 52% of the sample). In terms of ethnicity, most students were Caucasian ($N = 150$) and the

remaining Latin-American. The students were divided into two groups, the participants (PG, $N = 79$) and the controls (CG, $N = 76$), with the former being constituted by subgroups, each corresponding to a different class at the school. The distribution of participants by each group was performed by convenience, according to availability in the classes' respective weekly schedules and the interest in participation. The parents' highest education level of approximately two-thirds of the students ($N = 117$) was the second cycle of elementary school, which corresponds to six years of schooling. Therefore, we can consider the sample as being integrated in a background of low sociocultural status (SCS) (Carvalho & Novo, 2012). Forty-one students had previously participated in a career education program in the first cycle of elementary school (4th grade) in a different school.

Measures

Career Awareness. We used the Career Awareness Scale for Children (CASC) (Jorge, 2011), a self-report instrument that was developed and validated with a population similar to that participating in the program. The CASC was constructed within a developmental framework (Super, 1957, 1990), and consists of sixty items, which can be answered using a five-point Likert-type scale ranging from *Strongly disagree* to *Totally agree* (α for this sample = .84). Given the goal of the present study of fostering students' overall career awareness, we followed a one-dimensional approach by using the overall measure, which consists of the sample mean of all CASC items. The correlation coefficient of the overall measure between the pretest and posttest is $r = .537$, $p < .01$.

Sociodemographic Survey. We collected information regarding gender, age, participation in previous career education activities, and parental education. The latter variable consisted of three groups, namely, low ($N = 117$), medium-low ($N = 27$), and medium ($N = 11$), based on whether the highest parental education level was the second cycle (six years of schooling), the third cycle (nine years of schooling), or secondary education (twelve years of schooling).

Procedures

The Career Education Program (CEP) – Junior was inspired by a similar program that was designed for adolescents at the end of elementary school (Carvalho, 2015a). It consisted of a structured set of career education activities (Hoyt, 1976, 1995), distributed across nine 45-minute sessions that aimed at promoting children's career awareness. This goal was influenced by the school policy in which the program occurred, of students' being more aware of their pathway as a

means of promote their investment in school, especially when they had low SCS backgrounds. The sessions were organized according to three main dimensions, namely, self-knowledge, academic and professional exploration, and skills for career planning. The sessions involved an introduction to the program and exploring the notion of a personal unique pathway (sessions 1 to 3), self-knowledge and self-exploration (sessions 4 and 5), knowledge about the world of work and professions, including organizing a job fair (sessions 6 to 8), and the conclusion (session 9). From the perspective of school involvement in career education activities (McMahon & Carroll, 1999), the implementation of the program was granted by the school's executive board, authorized by the students' parents, and performed by one of the authors of the present study.

Following the frameworks of Watts (1999) and Maguire and Killens (2003), in the evaluation of the present study, we adopted an individual, short-term, quantitative approach to the program outcomes, afterwards discussing the social benefits of vocational interventions, especially with specific populations.

Data collection. After obtaining informed consent from the students and their legal guardians, the instruments were presented to the students in a classroom context on two occasions, namely, before the program started (T1; pretest) and after its conclusion (T2; posttest). Access to the classes and the booking of sessions were arranged in agreement with each school's directive board and with the teacher responsible for each class. The sessions occurred on a weekly basis, and each took approximately 45 minutes. In this study, the ethical aspects of research involving human beings were met: the informed consent of the students and their parents had been obtained, confidentiality in the data treatment and analysis was ensured, and a preliminary analysis of the study was conducted to determine its potential risks and benefits.

Data analysis. We performed analyses of covariance (ANCOVAs) to identify the differences between the participant and the control groups at T2, controlling as a covariate the results obtained at T1. Gender was also considered in the model to identify potential interaction effects. A Bonferroni adjustment was performed for multiple comparisons. In a preliminary analysis, we performed Student's *t*-tests and analyses of variance (ANOVAs) to verify the potential effects of the school and sociodemographic variables on career awareness. Tukey's post hoc test was used in the analyses, with the independent variable being composed of more than two groups, which occurred in the case of age and parental education. To obtain reliability indicators of the CASC, we calculated the Pearson correlation coefficient of the results of the overall measure at T1 and T2.

Results

The results of the preliminary analysis of the potential influences of the school and sociodemographic variables on career awareness at T1 show no significant effects of the school level (fifth vs. sixth), $t_{(153)} = -.147$, $p = .883$, or of parental education, $F(2, 154) = .71$, $p = .495$. (See Table 1). On the other hand, a small effect of gender on career awareness occurs, $t_{(153)} = -2.08$, $p < .05$, $\eta^2 = .03$, in which females present higher results, thus revealing a greater capacity for reflecting on career development and attributing importance to planning for future success. We also observe a moderate effect of age on career awareness, $F(3, 154) = 3.82$, $p = .011$, $\eta^2 = .07$. However, the Tukey test shows that the difference occurs between eleven- and twelve-year-olds (mean difference of .216, $p = .009$).

Because some of the participants had reported involvement in a career education program in the first years of elementary school, we analyzed the potential effects of this participation on career awareness. The results reveal small significant differences, $t_{(153)} = 2.36$, $p < .05$, $\eta^2 = .04$, but in a manner opposite to what would be expected, given that those who did not participate in these activities had higher results.

Regarding the effects of participation in the current program on career awareness, the ANCOVA shows a moderate effect at T2, controlling for the results at T1, $F(1, 155) = 9.09$, $p = .003$, $\eta_p^2 = .06$. At T2, the participants' results ($M = 3.18$, $SD = 0.29$) are significantly superior to those of the control group ($M = 3.04$, $SD = 0.28$), which reveals that participating in the program was effective in promoting children's career awareness (Figure 1). No interaction effects of Group \times Gender were identified at posttest, $F(1, 155) = 3.30$, $p = .071$.

Table 1. Effects of Sociodemographic and School Variables on Career Awareness

Variable		N	M (SD)
School Level	Fifth	79	3.09 (.26)
	Sixth	76	3.09 (.30)
Gender	Female	80	3.13 (.28)
	Male	75	3.04 (.28)
Age (years)	9–10	49	3.08 (.30)
	11	59	3.17 (.26)
	12	23	2.95 (.28)
	13+	24	3.04 (.26)
Parental Education	Low	117	3.08 (.27)
	Medium-Low	27	3.10 (.32)
	Medium	11	3.18 (.23)
Previous CE	Yes	41	3.00 (.26)
	No	114	3.12 (.28)

Note: CE – Participation in career education activities in the 1st cycle of elementary school.

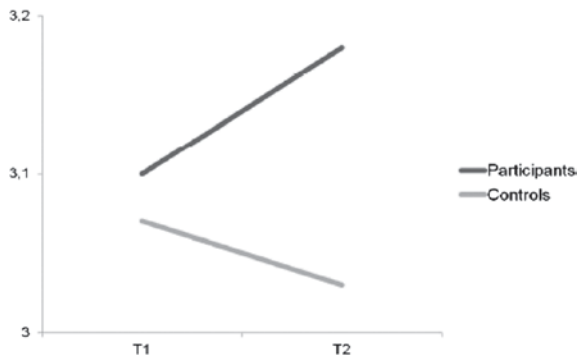


Figure 1. Comparison between the PG and the CG in Career Awareness before (T1) and after (T2) the Program.

Considering that the program sessions occurred in a classroom context, (i.e., in four groups that were already defined at the school, with each corresponding to a class), we analyzed separately four participant subgroups (PG1 to PG2) in comparison with the CG. The ANCOVA results show a strong effect of participating in the program, $F(4, 155) = 7.77, p < .001, \eta_p^2 = .17$, although distinct effects according to the subgroup are observed (Table 2). Hence, comparing the participant subgroups and these with the control group, only PG1 and PG3 differ from the CG (with mean differences of .267, $p < .001$, and .162, $p < .05$, respectively). This result indicates that, considering this subdivision of the participant sample, only in two classes was the program effective.

Discussion

In this study, within the framework of the importance of career development at the elementary level, we analyzed the efficacy of a school-based, short-term career intervention aiming at fostering children’s career awareness. Although it corresponded to an exploratory approach, in the sense that it involved a first experience of implementation of such a program for children in a rural school, the results revealed that children’s involvement in career education activities,

even in early developmental periods, globally promoted their career awareness. In our view, the experience of implementing this intervention with fifth and sixth graders allows us to identify discussion topics regarding the importance and the type of career intervention in elementary schools.

In the Portuguese schooling system, students frequently become aware of the need to think and make decisions regarding their future only at the end of basic education (nine years of schooling), which corresponds to a situation in which they are confronted with the transition to high school or to vocational education (Pocinho, 2011; Pocinho, Correia, Carvalho, & Silva, 2010). Therefore, the present study withdraws attention to the perspective that, though the elementary school may still be an early period for specific career decision making, it is nevertheless a fundamental period for developing adaptive career skills and for students’ involvement with their careers (Hartung, 2015; Hartung et al., 2008).

Thus, the results encourage career interventions before decision-making moments as relevant means for promoting students’ career adaptability. As noted above, this perspective is assumed at the international level, for instance, through the recommendations of the OECD (2004) regarding the need to implement guidance policies throughout the life cycle and to promote the development of skills such as career management. In fact, the literature shows that frequently before actual career decisions are made, children identify information sources about occupations, understand the relation between school and work, and develop interests, values and attitudes that influence their career awareness and decision making, whether in a declared or undeclared manner (Carvalho, 2015a; Gillies, McMahon, & Carroll, 1998; Hartung et al., 2008; Liu et al., 2015b). Additionally, because individuals from less privileged backgrounds present contextual disadvantages in addressing vocational development tasks (Blustein, Kenna, Gill, & DeVoy, 2008) and given the sociocultural characteristics of the present sample, career interventions can also promote the social integration of children from backgrounds with low access to social and cultural resources (Carvalho, 2015b).

Because of the pertinence of career interventions for children and being a goal that assumes an international dimension, we consider that further research replicating in other contexts the effects obtained in this study would be advantageous and would correspond to a relevant input for a wider discussion regarding career intervention at the elementary school level.

School contexts play a fundamental role in childhood development. It is in schools where opportunities should be created for children to be involved in experiences of exploration and knowledge that can

Table 2. Comparison between the Participant and Control Groups in Career Awareness (T2)

Group	N	M (SD)	Model Estimates	
			M (SE)	C.I. (95%)
Control	79	3.04 (.29)	3.04 (.03)	[2.99, 3.10]
Participants	76	3.18 (.28)	3.16 (.03)	[3.11, 3.22]
PG ₁	21	3.33 (.18)	3.31 (.05)	[3.22, 3.41]
PG ₂	19	3.01 (.28)	2.99 (.05)	[2.89, 3.10]
PG ₃	21	3.21 (.25)	3.21 (.05)	[3.11, 3.31]
PG ₄	18	3.13 (.31)	3.11 (.05)	[3.00, 3.21]

prepare them for the challenges of the world of work (Hartung et al., 2008; Magnuson & Starr, 2000), of which career education programs are an example (Knight, 2015; Pocinho, 2011). Moreover, although career education has been frequently provided in the format of extracurricular activities, which are organized by school psychologists and with students' voluntary participation, career education strategies should be considered within the curriculum, since they promote the learning of academic contents, making them more significant and motivating for students (Araújo et al., 2012; McMahon & Carroll, 1999). Consequently, higher cooperation between psychologists and teachers is necessary so that the conditions that promote children's career development can be strengthened. This goal also requires adequate teacher training in the career domain (Araújo et al., 2012), not only regarding valuing career-related dimensions when teachers manage the curriculum but also by defining the type of involvement that they should have in the manner by which career interventions are delivered in schools. Beyond corresponding to an important challenge for school administrators and policy makers, this topic is especially relevant within the framework of the recommendations for the training of different professionals provided by international institutions and networks addressing the issues of career guidance and counseling, such as the Network for Innovation in Career Guidance and Counseling in Europe (Schiersmann et al., 2012).

Beyond showing the effectiveness of participating in the career education program, this study's results also revealed a gender effect on career awareness at T1, which indicates that females are more aware of the importance of planning for professional success and present a higher capacity for thinking about the themes inherent to career development. This effect supports those obtained in other studies that identified a pattern of females' higher career maturity, expressed in the awareness of the importance of study for future success, and in higher planning and decision-making capacities (Jorge, 2011; Pocinho, 2011; Pocinho et al., 2010). Interestingly, when controlling for gender in the results at T2, no significant effects were obtained, which suggests the importance of interventions in the attenuation of the influence of sociodemographic variables. Also relevant is the result, contrary to what was expected, in which children who had participated in a previous career education program in 4th grade in another school presented lower career awareness. Beyond the potential influence of other variables that were not controlled in the present study, such as classroom variables or the type of activities and implementation of the previous program, these results alert us

to the importance of considering the medium- and long-term effects of career education activities.

Within a framework of scarce references to the experience of implementing school-based career interventions with children – despite their valorization by different agents worldwide (Hart & Hart, 2014; OECD, 2004) – the results of the present study are encouraging. However, some limitations should be considered; these limitations simultaneously provide incentives for future research. Although we focused exclusively on career awareness, to capture the complexity of children's career development, it would be important to use both diversified, specific measures and not only a one-dimensional measure tested with a self-report instrument. We also consider it pertinent to create conditions for experimental designs in which participant selection is random, so that it is ensured that potential evolutions are not influenced by uncontrolled or unknown effects due to the convenience sample, such as class effects (e.g., classroom climate, the sociodemographic and academic characteristics of the students composing each class, the teachers' guidance during activities). This proposal is especially relevant considering that, controlling for classes in the present study, the results of only two groups of participants at post-test were significantly higher than those of the controls. Moreover, creating more heterogeneous samples would be useful to better analyze the potential effects of social or contextual variables in the results. For instance, since SCS effects on career-related dimensions such as a future time perspective are known (Carvalho, 2015b), one can discuss whether the fact that these effects were not observed in the present study is due to either their real absence or sample homogeneity regarding SCS. Finally, it would also be pertinent to perform distinct activities for each group, within the framework of the same program, to prove whether the observed evolutions are due to the specific activities that were implemented or merely to the fact that the students were together engaged in career activities.

In a recent paper on the future agenda in the field of children's career development, Watson, Nota, and McMahon (2015) identify several relevant topics to be addressed; these topics include the need to theoretically expand the conceptualization of children's career development, to study practice and assessment in this field, to understand children's career development in different contexts and to identify implications for public policies. Indeed, an improved understanding of the manner in which children's career development occurs involves different domains, which is a significant challenge for researchers, practitioners, and public decision makers. Within this framework of challenges to theory and practice regarding career development at

the elementary school level, we discussed in this study the possibility of performing career interventions in school contexts. Acknowledging its limitations, we consider that this study corresponds to a contribution to a valorization of and reflection concerning the promotion of career development in school contexts. In fact, if children worldwide have the right to construct their self and to be provided with career education and school psychologists are the primary child development experts in the school context (Hart & Hart, 2014, p. 7), then the career domain should be considered one of the most noteworthy domains of psychological intervention in schools worldwide. As Savickas (2002) suggests, counselors should work on strengthening clients' involvement in new experiences provided in their environments, promote decision-making abilities and their capacity to establish educational and career goals, increase vocational knowledge, and encourage a sense of self-efficacy, agency and persistence behaviors. Because low SCS students present contextual disadvantages in addressing career development tasks and due to the potential shortcomings in perceiving the connection between the present and the future (Blustein et al., 2008), this concern in regard to presenting students with opportunities for personal development and for understanding the world of work and careers will be particularly relevant.

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