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Edu-Car for life and career: evaluation of a program

Edu-Car para a vida e carreira: avaliação de um programa

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Abstract

Considering the relevance of the development of socio-emotional and career skills to deal with educational and occupational transitions, this study aimed to evaluate the effectiveness of the Edu-Car Program, which purpose is the development of socio-emotional and career competence. From the quasi-experimental design with intervention and comparison groups, 116 high school students from the 10th year, of two public schools in the interior of the State of São Paulo, specifically 60 girls and 56 boys, with mean age of 15, participated. The Social and Emotional or Non-cognitive Nationwide Assessment, called Senna 1.0 and the Career Education Questionnaire, were used as pre and post-test instruments. For the inter and intra-group comparison the T-Test was used for independent and paired samples. The results show that the intervention had significant effects on career exploration, with more search for help and/or information from different people and sources.

Keywords: Emotional intelligence; High School; Professional competence; Program evaluation.

Resumo

Considerando a relevância do desenvolvimento das competências socioemocionais e de carreira para lidar com as transições educacionais e ocupacionais, este estudo objetivou avaliar a eficácia do Programa Edu-Car, visando o desenvolvimento de competências socioemocionais e de carreira. Do delineamento quasi-experimental com grupo de intervenção e de comparação, participaram 116 alunos do 1º ano do ensino médio regular de duas escolas públicas do interior de São

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Paulo, sendo 60 moças e 56 rapazes com idade média de 15 anos. Foram utilizados como medidas pré- e pós-teste o Social and Emotional or Non-cognitive Nationwide Assessment, denominado Senna 1.0, e o Questionário de Educação à Carreira. Para a comparação inter e intragrupos foi utilizado o Teste-T para amostras independentes e emparelhadas. Os resultados mostram que a intervenção apresentou efeitos significativos na exploração de carreira, com maior busca de ajuda e/ou informação de diferentes pessoas e fontes.

Palavras-chave: *Inteligência Emocional; Ensino Médio; Competência profissional; Avaliação de programa.*

School has a fundamental role in the development of the individual, both in relation to the propaedeutic education and the formation as citizen and guidance for work. However, in Brazil, educational and human development index data indicate poor results in student assessments and high school dropout rates (Organization for Economic Co-operation and Development, 2016; Programa das Nações Unidas para o Desenvolvimento, 2013). Considering the data that show low quality of high school and the high rates of school dropout and failure, the reform of high school aims to make school more attractive to students (Ferretti, 2018) by making the curriculum more flexible, supported by the *Base Nacional Comum Curricular* (BNCC, Common National Curriculum Base) (Ministério da Educação [MEC], 2017), that establishes 10 key competences for full student development. They include: (a) knowledge; (b) scientific, critical and creative thinking; (c) cultural repertoire; (d) communication; (e) digital culture; (f) work and life project; (g) argumentation; (h) self-knowledge and self-care; (i) empathy and cooperation; and (j) responsibility and citizenship.

Among these skills highlighted in the BNCC are the so-called socio-emotional skills or non-cognitive skills, understood as relatively stable thoughts, feelings and behaviors, used as characteristic responses to particular contexts and which can be classified into different domains. They include relationship issues, emotions, understanding and managing, setting goals, making decisions and facing obstacles in a creative and innovative way (Santos & Primi, 2014). Thus, the "socio-emotional competences" have been highlighted as educational demands for the 21st century, since they relate to personal development and success in the individual's life, in different sectors, acting as predictors of academic performance and professional performance, well-being and mental health. (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). Some interpersonal skills are listed as desirable in the development of Career Education programs; this has led to extensive research on the socio-emotional and career skills constructs as contributors to Career Education interventions, which are addressed hereafter.

Socio-emotional skills

Socio-emotional skills originated from the attempt to expand the traditional intelligence concept. Thorndike, an American psychologist, was one of the forerunners in this field of study, calling social intelligence the ability to perceive and act effectively against one's own and others' emotions, motivations and behaviors (Thorndike, 1936). In the 1990s, this line of investigation was named emotional intelligence, and was defined by Salovey and Mayer (1990) as a subform of social intelligence, related to the processing of emotional information, i.e., the way to evaluate or express emotions, in order to generate feelings to facilitate thinking and control of emotions. However, only in the mid-nineties, with Goleman (1996), who added in his definition elements of motivation, was the term emotional intelligence popularized. However, it is noteworthy that the literature in the area presents different terminologies, subcomponents of emotional intelligence, called factors, competencies and skills. Thus, from an integrative point of view, Gondim, Morais, and Brantes (2014) understand that all these elements can be encompassed by the term socio-emotional competences, a broad construct that encompasses emotional intelligence, emotional regulation, emotional creativity and social skills. In our study, we adopt the definition of socio-emotional skills described below.

> "Socio-emotional skills can best be defined as individual characteristics that (a) originate from the reciprocal interaction between biological predispositions and environmental factors; (b) are manifested in consistent patterns of thoughts, feelings, and behaviors; (c) continue to develop through formal and informal learning experiences; and (d) influence important socioeconomic outcomes throughout an individual's life" (De Fruyt, Wille, & John, 2015, p.279).

It is noteworthy that, regardless of the terminology adopted, research in different areas has pointed out the advantages of variables included in the socio-emotional scope, in different spheres of life. In the school context, meta-analysis studies (Durlak & Weissberg, 2007; Durlak et al., 2011) show positive effects of socio-emotional programs in improving students' feelings and attitudes, skills, adjusted behaviors, and school performance. Teacher-led programs are more effective, and the structuring and use of active learning tools, allowing sufficient time for skill development, have significant intervention effects.

Thus, socio-emotional programs are developed with the purpose of assisting students in their personal, social and work development by promoting skills that are important for success in life and school, such as self-awareness, self-management, social awareness, relationship skills and a responsible decision making (Taylor, Oberle, Durlak, & Weissberg, 2017). Multipurpose interventions have been developed in several countries such as Canada (Crooks et al., 2015), Denmark (Nielsen, Meilstrup, Nelausen, Koushede, & Holstein, 2015), Portugal (Coelho, Marchante, & Sousa, 2015), Spain (Garaigordobil & Sarrionandia, 2015; Sarrionandia & Garaigordobil, 2017), Switzerland (Averdijk, Zirk-Sadowski, Ribeaud, & Eisner, 2016) and Japan (Nakamura & Koshikawa, 2014). Given the effectiveness of socio-emotional programs for the healthy development of individuals, the US-based Collaborative for Academic, Social, and Emotional Learning, which aims to integrate evidence-based socio-emotional learning into school curricula, has outlined valid and replicable programs, for audiences from the early years of schooling to the last stages of basic schooling. Durlak et al. (2011) point out that these actions are less intensified in the final stage, the high school, phase characterized by changes that favor social and emotional development and which have fundamental importance in matters related to career readiness and prevention of school dropout (Collaborative for Academic, Social, and Emotional Learning, 2015).

In the Brazilian context, literature review surveys, such as those by Ambiel, Pereira, and Moreira (2015) and Santos, Silva, Spadari, and Nakano (2018), point out that research in this area focuses on the development of empirical studies, a fact that emphasizes the need to build strategies and programs for the development of those competencies, with a view at helping individuals cope with the contemporary demands of uncertainty and mutability, as those observed in the work market. Experts point out that in addition to technical skills, each professional should be able to learn continuously and throughout life, and possess socio-emotional skills related to attitudes towards work and interpersonal relationships.

According to Gondim et al. (2014), socio-emotional skills are considered basic for the development and expression of skills for work. According to the authors, socio-emotional competences favor the development of self-knowledge, personal valuation, the perception of mastery over the environment, providing development of new learning and means to deal with global demands, labor relations, whether technical or interpersonal.

International documents guiding vocational interventions, such as the Australian Blueprint for Career Development (Ministerial Council for Education, Early Childhood Development and Youth Affairs, 2010), for example, highlight the close relationship between socio-emotional and career skills. This document emphasizes that they are not separate elements, but parts of a process that addresses these issues in an integrated manner. However, the relationship between the two variables, socio-emotional and career, still shows a gap in research and practices in the field of career education.

Career skills and the career education model

Besides curriculum flexibility, with the BNCC, the reform of the Brazilian high school education system also provides formative roadmaps focused on specific areas of knowledge and technical and professional formation; it is the school's responsibility to guide the students in choosing the areas of knowledge and formation. This policy allows us to think about the need for vocational development to be addressed at school since the early years, as literature has pointed out and many countries practice. In this sense, it is considered that Career Education, as a systematic modality of intervention in the vocational area, in the school context, aiming to connect education and work (Herr, 2001), constitutes a useful strategy to achieve the goal of giving meaning to studies and work.

Consolidated in several countries for its recognized effectiveness among the different Career Intervention models (Oliver & Spokane, 1988), Career Education has recently been introduced to the research and practice agenda in the Brazilian scenario (Munhoz & Melo-Silva, 2011; Munhoz, Melo-Silva, & Audibert, 2016). This type of intervention assists in the development of self-management attitudes, career planning and decision-making skills and is based on a broad view of the work concept, curriculum infusion through the dissemination of career content in the curriculum, work habits and attitudes acquired in the school context and in the concept of collaboration, comprised between the school's partnership and the professional community. Career Education emphasizes education as a means of preparing for work, available to all people, to begin in the early school years and to extend throughout life.

In view of the foregoing, it is considered that the articulation of socio-emotional and career variables in a Career Education program can contribute to the production of theoretical and practical knowledge, constituting an added value for the full development of the career individual and a contribution of Psychology to Education, as pointed out by Herr (2001) in the international framework, and Munhoz and Melo-Silva (2011) in the Brazilian context. Thus, this study aims to review the effectiveness of the Edu-Car program, designed for the development of socio-emotional and career skills in Brazilian basic education.

Method

Outline, rationale and objectives of the Edu-Car Program

This is a quasi-experimental design study using pretest and posttest, and a non-equivalent comparison group. This program is based on the Career Education model and is based on the assumptions of career developmental theories in which vocational development is conceived as a lifelong process that can be activated during schooling. It is also considered that the development of socio-emotional skills is fundamental during this process, as it helps in the establishment and pursuit of study/work/life goals. Thus, it is assumed that Career Intervention should cover guidance for school and work choices in an integrated way to the development of socio-emotional skills. The competences addressed in the program were selected based on the literature, the needs assessment carried out with the teachers and the emerging content during the intervention, expressed by the participating students.

Edu-Car was organized in 12 sessions and structured into two modules. The first module focused on socio-emotional skills and the second on career skills. This framework was adopted because it considers that skillful socio-emotional behaviors provide the basis for healthy life management and, consequently, for career-building throughout life. The activities aimed to arouse reflexivity about the topics covered and the development of strategies to deal with life-career situations. The sessions were held weekly and lasted one hour and forty minutes. They were coordinated by the investigator who was the first author of this article,

supervised by the advisor, the second author, with the help of members of the research group for data collection and treatment, as well as for recording observations in each session.

Pretest measures were applied before the start of the program. Then, in the first session, the team was introduced and the intervention rules were established. The second and third sessions aimed to work on the theme emotional stability (competence: self-control), considered essential as a starting point for reflections in the group and as a basis for conversations that make it possible to hear the other, both in and out of the school environment. The fourth session focused on the theme extroversion (competence: communication), in order to provide situations of more fluid communications, besides listening to the other, becoming empathic. In the fifth session, the theme of agreeableness (competence: collaboration) was developed in order to improve relationships in different contexts of personal and school life. The sixth session focused on the conscientiousness dimension (competence: responsibility), fostering reflections on attitudes towards school activities and tasks, as well as personal care for their objects. The seventh session aimed to open the door to new experiences, focusing also on the exploration of the professions. The last session of the socio-emotional skills module was designed with a view to establishing connections with the second module, career skills. Openness to the new is an essential competence in both modules, especially for our living in the 21st century, a volatile, uncertain, complex and ambiguous world. In the eighth session, the focus was on self-knowledge and future perspectives. With previous sessions focusing on socio-emotional skills, deepening self-awareness has been facilitated. Subsequently, the ninth session focused on the exploration of educational opportunities and the world of work, an essential process for career decisions based on reliable information on technical, technological and college courses. In the tenth session, the theme of self-knowledge was resumed. A session in which the recognition of the other participants of the group was stimulated, that is, an in-depth look at themselves and an empathic look at the others, resuming and reaffirming the starting point of the group. In turn, the eleventh session addressed professional interests and the factors that influence choice. The last session was dedicated to the closing of the process, resuming the topics covered and assessing the progress achieved, also taking care of the finalization of activities and parting of the members. It should be noted that at the end of the intervention of the Edu-Car Program, post-test measures were applied.

Participants

The sample was for convenience regarding school selection. The investigation participants were students from two public schools from *Ribeirão Preto*, a large city in the interior of the State of *São Paulo*, who in 2015 were attending the first year of high school. One of the schools, called school A (Ideb 5.4)[3] (Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira [INEP], 2016), had three classes in the first year of high school at the time of the investigation. The school is characterized as having a heterogeneous population, resulting from its location near the central region, where students from different areas of the city converge. It is a school that adopts innovative and dynamic practices in the school curriculum. The investigators sought this school in order to propose to conduct the survey. The other institution, school B (Ideb 4.1) (INEP, 2016), had two first-year high school classes and is characterized as having a peripheral and underprivileged population in terms of education complementary services. This school's coordinators asked for a psycho-educational intervention of the Psychology course and were, on the other hand, willing to collaborate with this investigation because they understood that the intervention would meet a relevant demand for the school, which in fact was observed during the process. Participants from both schools (A and B) made up the total sample of this study.

[3] IDEB: Basic Education Development index. Used to asses quality of Brazilian education through pass and learning rates of school students. The scale ranges from zero to ten.

In the pre-test phase of the survey, 165 participants answered the Social and Emotional or Non-cognitive Nationwide Assessment (SENNA) (potential sample), 92 (55.8%) girls and 73 (44.2%) boys and 163 students answered the Career Education Questionnaire (QEC) (potential sample). In this case 86 (47.2%) were girls and 77 (52.8%) boys. To verify the effectiveness of the intervention, only the students who answered both instruments in the pretest and posttest sessions were considered. Thus, the final sample of this study comprised 116 adolescents, 79 of them from school A (68.1%) and 37 (31.9%) from school B; 44 were in the intervention group, 20 girls and 24 boys, and 72 in the comparison group, being 40 girls and 32 boys, aged 14 to 17 years (M = 15.04; SD = 0.71). The sample loss was 29.70% for SENNA and 28.84% for the QEC, mainly due to transfers and new school enrollments.

Instruments

To evaluate the effectiveness of the program, the following instruments were used as pre and post-test: Social and Emotional or Non-cognitive Nationwide Assessment (SENNA 1.0) for the measurement of socio-emotional skills, and the Career Education Questionnaire for measurement of career skills. SENNA (1.0), used in this study, is a Brazilian instrument, developed by Santos and Primi (2014), which aims to measure large-scale socio-emotional skills in the school setting. In SENNA (1.0) these competences are organized into six domains, five based on the Big Five model and used in this study, namely: (a) Conscientiousness, regarding responsible attitudes, persistence and resilience (17 items; α = 0.88); (b) Openness to New Experiences; regarding creativity and curiosity (17 items, α = 0.80); (c) Agreeableness, which includes cooperative behaviors (15 items; α = 0.76); (d) Emotional Stability, which refers to self-control ability (14 items; α = 0.82); and (e) Extroversion, which refers to sociability behaviors (14 items; α = 0.79). The sixth domain inserted by the authors is the Control *Locus*, which refers to the way the individual attributes his performance – internal or external (15 items; α = 0.77). SENNA has two parts, the first part consisting of a set of anchor vignettes referring to the Big Five dimensions and the second consisting of 92 items; both dimensions have positive and negative poles and are evaluated using a five-point Likert Scale. In this study the dimensions, or domains, were evaluated in the sense of their positive poles. With the advances of the investigations using that instrument, it was eventually renamed Instrument for Socio-Emotional Skills Assessment (SENNA 2.0), with changes in the items. However, this instrument was made available after data collection related to this study that used SENNA 1.0.

The QEC is a Canadian instrument validated for the Brazilian setting. The version used in this study was adapted and validated by Aguillera (2013) with a sample from the State of *São Paulo*. The QEC measures Career Education needs that are understood to include knowledge, skills, attitudes, and values beyond the vocational maturity of high school students, and can be used to evaluate Career Education Programs. The instrument consists of seven scales: the first one, Work Sense and Importance (22 items; α = 0.85) is one-dimensional and the second one, called Career Preparation includes six subscales: (a) Steps Taken (13 items; α = 0.81); (b) Aspects taken into account (17 items; α = 0.89); (c) Preferred Profession (9 items; α = 0.90); and (d) Job Search (11 items; α = 0.89) that make up the Career Planning tasks; the last two subscales; (e) People and Sources Consulted (11 items; α = 0.82) and (f) Activities Performed (13 items; α = 0.89) refer to Career Exploration tasks. Data are evaluated using a four-point Likert scale.

Procedures

Two basic-level State public schools were invited to participate in the survey. They were located in a large city in the interior of the State of *São Paulo* in Brazil, with which the group already had contact. Upon acceptance by the schools, the project was submitted and approved by the Research Ethics Committee of

the investigation host university (CAAE nº 46763915.5.0000.5407). All ethical precautions were taken, such as clarifying the research objectives and the character of the activities, the confidentiality of the information, the willingness and non-compensation for the participation, as well as the issue of recording the audio intervention sessions, as well as the possibility of students withdrawing at any time. Participants were students who delivered the Informed Consent Form (ICF) with the applicable permission of parents/guardians and the consent term of the students themselves. The Intervention Groups were defined by the school's pedagogical coordination teams and the others composed the Comparison Groups.

The pretest and posttest were applied, respectively, before and after the intervention. Data collection was performed by a team trained to apply the instruments, composed by the author of this study plus two psychologists and four students from undergraduate courses in Psychology and Pedagogy. The intervention, coordinated by the author of this study, was carried out in the classroom, at regular times, in the second semester of 2015, from September to early December, which is the month that marks the end of the school year in Brazil.

Quantitative data were entered into the IBM®SPSS® Statistics (version 21.0). Omitted cases were replaced using the series average. Normality was verified with the Kolmogorov-Smirnov test. For intergroup comparisons, the Student's *t*-test was used and intragroup analyses were performed using the *t*-test for paired samples. The magnitude of the differences between the means in the intergroup comparison was calculated using Cohen's *d*.

Results

Table 1 presents the results of the comparison of socioemotional and career competences, before the intervention. The comparison of the groups in the socio-emotional competences indicates that competences are partially homogeneous in connection with the dimensions of SENNA 1.0; the exception is in relation to *conscientiousness* t (114) = -2.404; p = 0.018; 95% CI [-10.69; -1.03] and *agreeableness* t (114) = -2.508; p = 0.014; 95% CI [-6.208; -0.729] higher for the Comparison Group.

Table 1
Comparison of socio-emotional and career skills before intervention

Dimensions	Group				*t* (114)
	Intervention (*n* = 44)		Comparison (*n* = 72)		
	M	*SD*	*M*	*SD*	
SENNA					
Conscientiousness	52.77	13.04	58.64	12.57	-2.404*
Agreeableness	42.12	7.23	45.59	7.22	-2.508*
Extroversion	49.42	7.79	47.33	9.13	1.258
Openness to New Experiences	39.20	8.88	42.16	8.13	-1.832
Emotional Stability	55.44	10.03	52.93	12.97	1.165
QEC					
Job Sense and Importance	71.00	6.75	73.31	5.77	-1.957
Steps Taken	38.66	6.62	41.42	5.43	-2.442*
Aspects Considered	47.47	8.90	45.64	7.64	1.172
Favorite Profession	24.51	5.67	25.58	5.20	-1.035
Job Search	27.73	8.26	28.54	7.61	-0.541
People and Sources	27.34	5.22	25.81	6.70	1.297
Activities Performed	30.75	8.35	26.58	8.57	2.566*

Note: *p < 0.05. *M*: Mean; QEC: Career Education Questionnaire; *SD*: Standard Deviation; SENNA: Social and Emotional or Non-cognitive Nationwide Assessment.

Regarding career competencies, the outcome of the comparison between the Intervention and Comparison groups in the pretest shows statistically significant differences in the *steps taken* for Choice t (114) = -2.442; p = 0.016; 95% CI [-4998; -0.521] in favor of the Comparison Group, and in the activities performed for the choice t (114) = 2.566; p = 0.012; 95% CI [0.951; 7.374] in favor of the Intervention Group.

The results show that before the intervention, the groups differed; the students of the Comparison Group were more responsible with regard to their duties, more organized, collaborative and empathic than those of the Intervention Group. The Comparison Group also stood out with regard to the higher level of planning for making school and professional choices, suggesting that the Comparison Group students had already thought, for example, about ways to obtain information on the greatest number of professions, on the functions of the profession that is of interest to them, their interests, abilities and qualities. On the other hand, the students of the Intervention Group stand out regarding the activities performed, suggesting that the students in this group had already received some help or information about initiatives, including meetings with employers, vocational/career activities parallel to school activities, visits to universities and companies, besides the observation of people in their work setting. This suggests that while Comparison Group students are more focused on the planning sphere, Intervention Group students are more focused on actual action. Table 2 exhibits the results of the comparison of socioemotional and career competences between the Intervention Group and the Comparison Group after the intervention.

Comparison of the means in the SENNA 1.0 dimensions, socio-emotional skills, between the Intervention Group and the Comparison Group, after the intervention, indicated a statistically significant difference only in the conscientiousness dimension: t (114) = -2,122; p = 0.036; d = -0.41; 95% CI [-8.480; -0.291] and *agreeableness*: t (114) = -2.325; p = 0.022; d = -0.44; 95% CI [-5,823; -0,465] in favor of the Comparison Group. The analysis of effect size can be considered small according to Cohen (1988).

Regarding career skills, a statistically significant difference was found only for the dimension people and sources consulted: t (114) = 2,364; p = 0.020; d = 0.45; 95% CI [0.480; 5.538] in favor of the Intervention Group. In addition, the size of the effect demonstrates the program's impact on the implementation of exploratory career behaviors, indicating the program's effectiveness in developing such skills. The dimension

Table 2
Comparison of socio-emotional and career skills after intervention

Dimensions	Group				t (114)	Cohen's d
	Intervention (n = 44)		Comparison (n = 72)			
	M	*SD*	*M*	*SD*		
SENNA						
Conscientiousness	53.21	10.39	57.60	11.04	-2.122*	-0.41
Agreeableness	41.93	7.22	45.07	6.97	-2.325*	-0.44
Extroversion	48.30	7.40	47.15	8.72	0.728	0.14
Openness to New Experiences	41.13	9.08	42.62	7.90	-0.933	-0.17
Emotional Stability	52.76	11.87	51.42	11.03	0.616	0.11
QEC						
Job Sense and Importance	71.21	9.24	73.72	6.46	-1.575	-0.31
Steps Taken	38.61	7.88	40.52	5.96	-1.478	-0.27
Aspects Considered	48.04	9.37	47.18	8.40	0.511	0.09
Favorite Profession	24.54	6.11	25.18	5.55	-0.579	-0.11
Job Search	28.49	8.74	28.45	7.35	0.026	0.005
People and Sources	28.58	6.76	25.57	6.46	2.364*	0.45
Activities Performed	29.83	8.75	26.54	9.07	1.939	0.37

Note: *p < 0.05. *M*: Mean; QEC: Career Education Questionnaire; *SD*: Standard Deviation; SENNA: Social and Emotional or Non-cognitive Nationwide Assessment.

activities performed showed a tendency to statistical significance: t (114) = 1,939; p = 0.055; 95% CI [-0.079; -6.665] in favor of the Intervention Group. In turn, the intragroup comparison showed no differences in the Intervention Group and in the Comparison Group, as a function of time, for socio-emotional skills. On the other hand, regarding career competencies, it was found that from pre-intervention to post-intervention time, there was an increase in the aspects considered for professional selections of the Comparison Group students t (71) = -1,994, p = 0.05, 95% CI [-3.074; 0.000].

The outcome analysis shows that the intervention contributed to increase career competencies, specifically regarding information seeking behaviors from different sources and people. It should be noted that before the intervention, the Comparison Group had an advantage over the *steps taken* and that, after the intervention, there was a decrease in the Comparison Group average, in this dimension.

Discussion

The results obtained in the QEC, regarding career matters show that the intervention had significant effects on career exploration, with greater search for help and/or information from different people and sources. This result is very relevant as an occupational health promotion and prevention of wrong decisions in choosing courses that often lead to dropout and demotivation regarding studies. Autonomous and conscious choices based on reliable information about the professions increase the likelihood of commitment with the course and career satisfaction that is built throughout life. Moreover, this result collaborates to confirm the effectiveness of the Career Education intervention modality, as pointed out by Oliver and Spokane (1988). Specifically, regarding the SENNA results, regarding the socio-emotional competences, the statistically significant difference in conscientiousness and agreeableness in favor of the Comparison Group after the intervention, stems from the fact that, at the time of pre-intervention, the Comparison Group already had higher indices in these dimensions from the very beginning.

Still in connection with SENNA, regarding the module's intervention time, despite the positive effects reported in the literature for programs with similar duration to the one we performed, in terms of total hours or 12 one-hour sessions, held for six months (Castillo, Salguero, Fernández-Berrocal, & Balluerka, 2013), or 12 one-hour sessions held during the school year (Coelho et al., 2015), a possible explanation for the difference regarding the effectiveness of the above programs may be associated with the time extension of the intervention throughout the school year, with longer-term interventions being more effective. Zins, Weissberg, Wang, and Walberg (2004) point out that short-term and isolated efforts such as the present intervention, are not as effective as long-term efforts. Thus, it is recommended, as pointed out by Coelho, Marchante, Sousa, and Romão (2016), in a critical review of the Social and Emotional Learning (SEL) and Social and Emotional Aspects of Learning (SEAL) that such programs last more than one school year. Thus, it is considered that the limitation of program effectiveness may be related to the intervention time. Since SENNA 1.0, is a measure based on personality models, more effective results may be associated with longer work, in terms of intensity and duration.

The socio-emotional themes approached were actually complex to be worked out in a short time (only one or two sessions for each topic), in the classroom context, with classes that are not used to reflect on life issues such as those addressed in the Edu-Car Program. Such skills require more time as highlighted by Durlak et al. (2011). It is suggested that such issues be addressed earlier, as they are associated with the personality characteristics and skills relevant to the work in its various forms, and that the actions developed be addressed more broadly, with the involvement of the school and family. Well-implemented programs require time and their actions are developed focusing on school demands and with the support of the teachers. Therefore, it is considered that these interventions can be developed by both properly trained school psychologists and/or teachers. It is suggested that socio-emotional skills combined with career competences may enable greater

development of self-knowledge, acceptance of the other in the interpersonal relationships and greater clarity about the continuing need for vocational exploration, which may favor the development of skills and abilities to work in teams and to cope with the numerous educational and occupational transitions and the need for adaptations to lifelong and career change. Thus, it is suggested that vocational interventions intentionally focus on the development of socio-emotional skills.

Other factors may have influenced the results obtained from SENNA, such as the selection of the sample for convenience, which does not allow generalization of the findings. Another point to consider refers to the possible difficulty of students in responding to assessment instruments. It is noteworthy that the instruments are extensive. During the intervention difficulties in text reading and interpretation were observed in part of the sample. It should be noted that the Intervention Group was made up of students from two classes from different schools. One of the classes in school A featured poor school performance compared to the other two classes in the same school, according to teachers, even though the school has an Ideb grade of 5.4. The other class, despite having a good school performance according to the teachers, was from a school with low educational indexes (Ideb, 4.1). Other aspects can also be considered, for example low motivation for the studies, the absence of pedagogical proposals that motivate students in high school, and the lack of strategies that envision future perspectives. It is noteworthy that the Common National Curriculum Base (BNCC) (MEC, 2017) represents an effort by governments to resignify high school as a step that makes more sense to students who are transitioning from school to the labor market and/or university, which makes the implementation of strategies for the development of one of the competences relevant: Life Project. Thus, programs such as Edu-Car can assist the school in its educational task for the future of new generations.

It is considered that this investigation has relevance for the starting, in the Brazilian scenario, in the area of Professional and Career Guidance, a line of research that combines the development of socio-emotional skills with career development in the context of psychoeducational interventions. Programs aimed at the development or activation of socio-emotional skills, along with career skills, as is the case in this study, can be considered a differential, since the changes that are occurring in the labor market, such as constant technological innovations and economic and employment instability has challenged workers to cope with uncertainties.

Career Education is a modality of intervention that is still little explored in the Brazilian scenario and that can be useful for career development in a life-long perspective, being inserted in the school curriculum since the early years of education, with a view to attributing meaning to studies and work, continuously developed throughout the educational cycle. This model has particular relevance in view of the ongoing educational reforms, notably the high school reform, since work and life project competence is one of the ten general competencies provided by the BNCC, as pointed out above. Thus, offering Career Education throughout schooling can help to reduce indecision problems observed in transitions to high school and college, as observed in countries where this practice is started early. Offering innovative programs that are built on sound theoretical assumptions and that include outcome evaluation is a relevant contribution to theory and practice.

Future studies are suggested to evaluate diverse programs, including those inspired by the BNCC, that target socio-emotional and career development for different populations, such as students at all levels of basic education, including early childhood education. It is also recommended that the Edu-Car Program be replicated in other samples in order to improve the intervention with evidence studies and to verify the possibility of generalizing its results with a view at implementing large-scale programs.

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Contributors

M. S. LEAL participated of conception and design, data collection and analysis and writing of the full text. L. L. MELO-SILVA participated of conception and design, supervision of the intervention and review and approval of the final version of the article. M. C. TAVEIRA participated the guidance in data analysis, interpretation and discussion of results

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