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THE IMPACT OF COGNITIVE SKILLS AND RESILIENCE IN SOCIAL EDUCATION STUDENTS' PROFILE

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Abstract

Cognition and resilience in higher education students as a research theme emerges from the necessity of developing knowledge about possible associations or links between the capacity to adapt cognitive development in a stage full of challenges such as higher education. The aim of the present study is to explore the association between resilience and cognitive development in a sample of Portuguese Social Education students in order to reflect on the impact of personal cognitive characteristics related to academic and professional adjustment. This is a quantitative ex-post-facto study, with a convenience sample of 135 students of the three years of Social Education degree (age, 23.01±7.10). The Portuguese version of Parker Cognitive Development Inventory, Resilience Scale and a social demographic questionnaire were used to collect data. We used the SPSS-24 for the non-parametric analyses with $p \leq .05$. A moderate level of resilience (mean of 139.71±17.41) and higher levels of relativism and commitment to dualism were observed. Positive and significant Spearman correlations (.28 ≥ rho ≤.40) were found between levels of relativism and commitment and in all subscales of resilience, except optimism scale ($p \leq 001$), that showed correlation ($rho=.19$) with dualism ($p=.03$). There is a dearth of literature on cognition and resilience, and much more can be learned about the role of both in higher education, leading us to these questions: Do cognitive skills promote resilience or only influence the perception of it? What's the impact of promoting them in the skill profile of the Social Educator?

1. Introduction

The professional practice of the Social Educator must sustain itself in a solid skill training at the knowing, know-how and attitude levels (Fernandes et al., 2013). Being an intervention agent seeking individual enhancement to enjoy a full social life, professional, formal scientific, technical and generic skills (knowing and know-how) and informal skills (attitudes) "of affective and relationship nature" (Carvalho, & Baptista, 2004, p. 86) are required. It is in this context that we can speak of transferable generic skills to be developed in higher education context (Martins, Fernandes, Mendes, & Magalhães, 2015; Sing & Gera, 2015). As a matter of fact, the particularities of the tasks and challenges in higher education justify the growing concern in literature, for the last 50 years, with the development of these youngsters, faced with the decision-making and the entire process of selection and admission; the separation from family in most cases, adapting to a new place, to new classmates, a new social and institutional network, and new teaching methods. Overall, they experience interactions that are different in feature and nature, with an impact much further reaching in their development than the acquired professional skills (Martins et al., 2015).

At the same time, literature highlights the bivalent nature of this type of experiences that can turn into a challenge potential, or into pressure sources, and eventually destabilisers. Long (2012) refers to the higher education context as a critical period in which occurs a regression or consolidation of the moral and cognitive development reached so far. "Conceptually, students with higher academic success are those who are revealed to be more strategic in their approach to learning and tasks and attending, in particular, courses from Humanities and Social Sciences" (Valadas, Gonçalves, & Faísca, 2010, p. 3).

Literature also points out, the importance of cognitive capabilities as strong resilience predictors (Shastri, 2013). Resilience may be defined as positive adaptation facing adversity, and as such, related with successful coping and well-being, and in reverse with the perception of stress and anxiety (Wagnild & Collins, 2009). Other authors claim that resilience emerges from the confrontation between the individual and his/her life context, when he/she manifests the capacity to respond with success to the adversity and difficult events in life (Wu et al., 2013), exhibiting the capability of recovering or maintaining well-being when facing such events (Russo, Murrough, Han, Charney, & Nestler, 2012; Souri & Hasanirad, 2011). Also, the literature suggests the important role of the emotional resilience in the kind of work an employee produces, in the relationship at the organization, and in the individual and organizational performance. Effectively, there is a higher level of positive relationship between emotional resilience and the workplace performance (Tahira, Latif, & Arif, 2015).

Resilience studies have attributed a great interest in the search for the factors associated with the promotion or inhibition of resilience due to the practical repercussions in defining intervention programs. Risk factors include aspects related with the individual, family and social environment, capable of increasing the probability of the subject to develop behaviour or psychological disorders. On the other hand protection factors moderate the negative consequences of risk and promote positive adaptation to it, such as high levels of cognitive skills (Shastri, 2013).

This association was verified in children who manifest resilience characteristics in facing adverse occasions, in the sense that they recognize, comprehend, evaluate, learn and respond effectively to these events. Likewise, resilient teenagers with higher cognitive performance have higher predisposition for

self-reflection, to understand circumstances in different perspectives and are more conscious in decision-making (Wu et al., 2013).

In this context, the study aimed to relate resilience and cognitive development, as fundamental variables in the context of the adaptive capability of higher education students, particularly in the Social Education degree. Regarding students' cognitive development and facing the diversity of associated constructs, our choice was the theoretical model developed by Perry (1970), which is premised on the existence of 3 thinking levels: dualism, relativism and commitment in relativism. According to the author, the individual expresses his/her lifestyle and identity starting from an elementary level that opposes right and wrong (dualism); recognizes, progressively, the relative nature of knowledge (relativism); and finally assumes a commitment position with the value system that has been built across time (commitment). Relative to resilience, the Oliveira and Machado proposal (2011) that identifies 5 factors: personal skills (belief in self as positive perception), self-discipline (self-organization capability solving tasks), autonomy (solving self-sufficiency); problem solving (engagement method) and optimism (positive perception towards life and without excessive worrying) was utilised.

2. Problem Statement

Constellations of cognitive factors (such as, analytic skills, solving problems), as well as other individual difference characteristics have been shown in the relevant literature to contribute to resilience. On the other hand, resilience appears in the literature as playing a role in academic (Garza, Bain, & Kupczynski, 2014) and professional success (Tahira, Latif, & Arif, 2015). As resilience is not considered an innate attribute or personality trait, but rather a developmental process (Gutman, & Schoon, 2013) the training of resilience is possible. Also, if we know the relationship between resilience and other variables, we can improve ways to develop resilience and its consequences on academic success and the professional profile. Cognitive development is one of the ways to develop resilience.

3. Research Questions

3.1 Are the resilience and cognitive skills in a sample of Social Education students similar to the reference levels for higher education students?

3.2 Is there an association between resilience and cognitive development?

4. Purpose of the Study

The aim of this study is to analyse the association between resilience and cognitive development in a sample of Portuguese Social Education students in order to analyse the impact of personal cognitive characteristics in their academic and professional adjustment.

5. Research Methods

This is a quantitative ex post facto study, with a convenience sample of 135 students of Social Education degree, with an average age of 23 (±7.10) mostly female (96%), from an up-country (80%) and

rural background (69%). The second and third year students` percentage was very similar (47% and 40%, respectively), with less first year students (13%).

The Portuguese Version of the Resilience Scale (Oliveira & Machado, 2011) is a self-report instrument, composed of 25 items, organized accordingly with a Likert type scale of 7 points (1-totally disagree, 4- neither agree or disagree and 7- totally agree with the statement), ranging from 25 to 175, with higher scores indicating higher resilience. Items comprise questions related to the subject (e.g. "I am a determined person"; "I feel well with myself") or relative to the way the subject behaves in stressful situations (e.g. "In hard situations I usually find a way out", " I am capable of adapting to unpredictable circumstances"). The Parker Cognitive Developmental Inventory (PCDI), validated for the Portuguese population by Ferreira and Bastos (1995), is an instrument with 150 items that includes the 3 ways of thinking (dualism, relativism and commitment in relativism), defined initially by Perry (1970), from 3 contents (Education, Religion and Career), each corresponding to a subscale (with 50 items) and targeted to higher education students. According to the aim of this study, it was applied in the education subscale. The questionnaire responses are presented in a Likert scale with 4 agreement alternatives (totally agree, agree, disagree and totally disagree). Finally, an elementary sociodemographic questionnaire was applied for data collection.

Instruments were applied electronically with the LimeSurvey tool. Participants were informed of the study aim and voluntary nature, as well of the confidentiality of the answers. The necessary clarifications were provided.

We used the SPSS-24 for the statistical descriptive (average and stand deviation) and non-parametric analyses (Spearman's *rho*). The significance level was $p{\le}05$, as usual in the social sciences.

6.   Findings

The descriptive nature results regarding cognitive development were the following: dualism (40.28±4.96), relativism (46.27±4.06) and commitment (47.04±4.38). When compared with the studies of Martins et al. (2015) and Ferreira and Bastos (1995) it is verified that the results of the present study are higher for the dualism levels (39.86±5.62) and lower for relativism (50.23±4.14) and commitment (50.29±4.07), manifesting indicators of lower cognitive development. Nevertheless, the sample shows lower results in dualist thinking than in cognition levels that require acceptance of the relative nature of knowledge and guide their behaviour towards commitment, establishing the personal identity.

Regarding resilience, the global average in the Resilience Scale is 139.71 (± 17.41). When compared with the classification of Wagnild and Collins (2009), we can conclude that they are integrated in the moderate level of resilience (121 to 145). Oliveira and Machado (2011), in a sample with similar characteristics, of 451 polytechnic education students found a lower global average then the present study (128.9±16.4). Analysing the average value of each factor, we highlight as higher the result in the self-discipline dimension (5.90±.81) followed by autonomy (5.70±.87), personal skills (5.69±.88) and problem solving (5.77±.82). The higher dispersions is found in the optimism dimension (4.31±1.10).

According to this study aim, eventual associations between the analysed variables were looked for, namely the cognitive development dimension and resilience subscales (Table 1). A positive correlation

and statistically significance between the dualism cognitive development dimension and the optimism resilience subscale was found (*rho* =.19, *p*=.03). Also, the relativism cognitive development dimension was positively correlated with all resilience subscales (*rho* ≥.34 e ≤.40, *p* =.00) except with the optimism. Finally, commitment also shown positive correlations and statistically significant with all the resilience sub dimensions (*rho* ≥.28 e ≤ .35, *p*≤.001), once again excluding optimism.

Table 01. Correlations (Spearman's *rho*) between cognitive development and resilience.

Resilience	Spearman's *rho* test	Cognitive development		
		Dualism	**Relativism**	**Commitment**
Personal skills	*rho*	.053	.343**	.352**
	p	.540	.000	.000
Self-discipline	*rho*	.024	.395**	.336**
	p	.785	.000	.000
Autonomy	*rho*	-.062	.370**	.284**
	p	.474	.000	.001
Problem solving	*rho*	.110	.345**	.310**
	p	.205	.000	.000
Optimism	*rho*	.189*	.053	.135
	p	.028	.541	.120

**p<.01 e *p<.05.

7. Conclusion

The exploration of cognitive development dimensions and resilience domains allows us to consider some points regarding the interaction between both variables. The association between resilience dimensions and the relativism and commitment cognitive development domains is clear, which may indicate the importance of the individual in considering alternatives, analysing itself and assuming commitments (cognitive dimensions), for improving the resilience in its different dimensions (personal skills, autonomy, self-discipline and problem solving). In contrast, the inverse relationship between dualism and optimism may be associated with a dichotomic view of the world and of reality with the consequent incapability to admit and consider alternatives (typical of dualist thinking) inducing a higher conformism that may prevail a more positive and optimistic appreciation of life, without excessive worrying.

Recognizing that going to college is associated with higher cognitive development (Long, 2012; Martins et al., 2015), our results reinforce the importance of methodologies that promote that evolution. Analysing specifically Social Education and the role of this future professional in the promotion of autonomy, capacity and participation of others in the social life (Serrano, Llamas, & Fernandez-García, 2014), these are the practical repercussions of this work: individual reflection exercise about personal/social skills and dilemma resolution (Carvalho & Baptista, 2004), as well support for

participation in extracurricular activities (Martins et al., 2015), mainly, volunteering in the social area (Baron, & Corbin, 2012).

Reflecting on the results in this study, we highlight the limitations of any work focused in a non-representative sample and the consequent impossibility of generalizing results. It seems a future possibility the study of these associations in a longitudinal perspective with an indispensable evaluation moment, using the curriculum internship. As there is a dearth of literature on cognition and resilience, much more can be learned about the role of both in higher education. The questions: Do cognitive skills promote resilience or only influence the perception of it? What's the impact of promoting them in the skill profile of the Social Educator? need to be further investigated. The intervention in the students of higher education to promote both resilience and cognitive development aims, ultimately, to improve the performance at their future workplace. So we want better students profile in order to have better professionals.

We should continue to identify key factors and constructs associated with resilience (Cassidy, 2015). Maclean, Cuthill, and Ross (2014), for example, the importance of several factors: initiative and insight, optimism, intellectual ability, placid temperament, trust, autonomy and decision making, humour, identity, social support, education, sources of stress or trauma, in the development of resilient and cognitively strong higher education students with a view towards producing self-sufficient professionals.

Acknowledgments

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