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Professional educators, disability and adaptive technology. Evaluation of an improvement pathway. Data analysis.
Educatori professionali, disabilità e tecnologia adattiva. Valutazione di un percorso di miglioramento. Analisi dei dati.

by
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Abstract
The purpose of this paper is to evaluate the effectiveness of improvement interventions understood as continuous performance improvement, and empowerment, i.e., a value orientation for working in the community and a theoretical model for comprehending the process and consequences of efforts to exert control and influence over decisions that affect one's life, organizational functioning, and the quality of community existence (Perkins & Zimmerman, 1995; Rappaport, 1981; Zimmerman &

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Warschausky, 1998). The intervention was conducted in the period following the first lockdown, and involved training a sample of 65 professional educators working in educational services, such as school-based education, home-based education, residential communities for minors, Home-Care for Minors, youth aggregation centers (Italian acronym c.a.g.), Socio-Educational Centers. On the basis of the need detected by the client company, operating in the Lombardy region, the training was a dual one and specifically related to (1) the use of a particular software designed for educational interventions with subjects affected by ADHD and (2) video modelling, for the improvement and enhancement of autonomy skills of users with cognitive disabilities.

The dimensions assessed through the test are those related to perception of professional success, relationship, affiliation, self-actualization, protection and security, emotional maturity, finalization to action, relational fluency and ability to analyze the context. The scale, taken from a work by Getuli, Salvi and Avallone (1998), assesses the attribution of meaning that the educator gives to his or her work, to (professional) needs, to the value of his or her intervention, and thus the detection of conceptions of work experience after a specific training course. Considering the results as a whole, an articulated picture emerges of how they define needs and values of their professional life. Significant importance is attributed to the set of values that contribute to the area of openness to change.

Abstract

Lo scopo del presente contributo è quello di valutare l'efficacia di interventi di improvement inteso come miglioramento continuo delle prestazioni, e di empowerment, ossia di un orientamento al valore per lavorare nella comunità e di un modello teorico per comprendere il processo e le conseguenze degli sforzi per esercitare il controllo e l'influenza sulle decisioni che condizionano la propria vita, il funzionamento organizzativo e la qualità dell'esistenza della comunità (Perkins & Zimmerman, 1995; Rappaport, 1981; Zimmerman e Warschausky, 1998). L'intervento ha avuto luogo nel periodo successivo al primo lockdown, addestrando un campione di 65 educatori professionali operanti nell'ambito di servizi educativi, quali educativa scolastica, educativa domiciliare, comunità residenziale per minori, a.d.m., centri di aggregazione giovanile (c.a.g), c.s.e. In base al bisogno rilevato dall'azienda committente, operante nel territorio lombardo, la formazione è stata duplice e nello specifico relativa (1) all'uso di un particolare software progettato per interventi didattici con soggetti affetti da ADHD e (2) di video modelling, per migliorare e potenziare le competenze di autonomie di utenti con disabilità cognitiva. Le dimensioni valutate attraverso il test sono quelle relative a percezione di successo professionale, relazione, affiliazione, auto-realizzazione, protezione e sicurezza, maturità emotiva, finalizzazione all'azione, fluidità relazionale e capacità di analisi del contesto. La scala, tratta da un lavoro di Getuli, Salvi e Avallone (1998), valuta l'attribuzione del significato che l'educatore dà al proprio lavoro, ai bisogni (professionali), al valore del proprio intervento e quindi alla rilevazione delle concezioni dell'esperienza lavorativa dopo un percorso di training specifico.

Considerando i risultati nel loro insieme, emerge un quadro articolato di come essi definiscono bisogni e valori della propria vita professionale. Importanza rilevante è attribuita all'insieme di valori che concorrono a realizzare l'area dell'apertura al cambiamento.

Parole chiave: Improvement, Empowerment, Educatori, Disabilità, DaD

1. Introduction

The profession of the educator embraces a wide range of users and methodologies. It is addressed to children, disabled people, adolescents, adults in particular situations of risk or disadvantage: mentally disabled, alcohol or drug addicts, homeless people. It contributes to the integration of people in the community and to do this it uses different methodologies depending on the situations of social, cultural and educational needs present. The privileged tool used by the professional educator is himself or herself, with the objective of fostering the development of the person or user. It can be said that social education is an intentional action in which there is a strong conscious decision which is then transformed into a goal-oriented program that concerns the evolution and life of the other, based on professional decisions. Methods are multidimensional and include caring, education, intervention, therapy, and the promotion of inclusive and non-exclusive activities and places. Social work education is a profession that requires great flexibility and openness to the new, and competencies that we can define as a synthesis of knowledge, skills, and behaviors (Crisafulli et al., 2010). The training required of educators concerns both theoretical and practical aspects, to make them skilled in connecting these two dimensions, but also aspects concerning motivation and personal commitment. Social-educational work takes place in direct contact with people, even over a long period of time and it is centered on the interpersonal relationship and occurs primarily with the educator's body and mind. This requires educators to be able to clarify the content, dynamics and methods of their actions. The social, economic and cultural changes that are characterizing society in recent decades make it increasingly necessary to provide new and transversal tools and skills to all social workers, especially educators who meet realities, individuals with needs and expectations that are sometimes very heterogeneous and often "unknown". A system of ongoing training and updating closely linked to the profession are desirable but not always formally envisaged and recognized. In addition to this, there are the effects of the pandemic that struck the globe in 2020 and is still continuing. Today, their professional life is fragilized and exasperated by the contingencies arising from the imposition of home isolation, the emergency redistribution of resources and more specific impositions regarding social distancing that make communication and relationships with the most fragile subjects increasingly difficult. It becomes increasingly important to work on the skills of educators to support the moment of change with new tools and professionalism and their level of involvement and energy, through improvement and empowerment programs. The study presented here concerns the results of an intervention oriented to increase these two aspects, which has been carried out in the period following the first lockdown, training a sample of 65 professional educators working in educational services, such as school education, home education, residential community for minors, youth centers.

2. Improvement & Empowerment in the educational profession

As stated by Crisafulli (2018), in his work of analysis of the reference literature, the skills required of the professional educator can be divided into central and complementary: the planning and implementation of the educational intervention along with the functions of education and rehabilitation, evaluation and reflection, fall into the first grouping; the organizational functions, training, documentation and research, professional techniques, fall into the second grouping. To these are added interpersonal communication and relational skills. In order to ensure the professional effectiveness of the professional educator, it is important to maintain a high focus on developing new skills and strengthening existing ones, while constantly monitoring the results. The process of "continuous improvement" is used in the business world to describe an approach to problem solving that represents a flow to achieve improvement in the end result (America Society for Quality). In the world of technology, manufacturing, and healthcare, it has brought successful results, from the evolution of technology to the reduction of mortality in patients (Grayson, 2009; Institute for Healthcare Improvement, 2003; Kabcenell, Nolan, Martin, & Gill, 2010; Langley et al., 2009). In this approach, we learn from experience and mistakes to produce better results. In education, continuous improvement refers to both the individual level of the educator and/or teacher and the organizational level of educational processes in facilities dedicated to education. Practices must be integrated into daily work and contextualized to the facility and environment of reference (Park et al., 2013). In a perspective of continuous improvement, it is important to analyze areas of improvement, new educational needs and innovative tools to make one's educational practice as effective as possible and generate an ever better output for its user. In this individual process, the support of the structure in which the educator is inserted is fundamental, in particular for the detection of needs and the structuring of a training process, in view of continuous training. The process of continuous improvement with training programs on specific needs seems to contribute to increase the sense of self-efficacy of the person and at the same time the educational impact on the user. In a study by Tweed and Gilbert (2018) showed that a training program on specific skills needed to perform the job significantly increased the self-efficacy of worker participants in the care setting. Closely related to the concept of improvement is the concept of empowerment, which Short (1994), in education, defines as "a process whereby participants develop the competence to take charge of their own growth, resolve their own problems, and believe they have the skills and knowledge to act on a situation and improve it" (p. 488). The concept of empowerment "includes both processes and outcomes, suggesting that actions, activities, or structures may be empowering, and that the outcome of such processes result in a level of being empowered" (Perkins & Zimmerman, 1995, p. 570). Six elements are defined in educational empowerment: decision making, professional growth, status, self-efficacy, autonomy and impact (Short, 1994). Specifically, professional growth relates to teachers/educators' perceptions of being supported by the governing structure in professional growth and development, continuing education, and expanding their skills (Bogler & Somech, 2004). Sweetland & Hoy (2000) state that empowerment is most effective when it is geared toward increasing teacher/educator professionalism. Empowerment has been shown to be a mediator in some aspects of workers, such as job satisfaction, commitment to the organization, performance in and out of the role, and an innovative attitude (Dewettinck & van Ameijde, 2011; Konczak et al., 2000; Raub & Robert, 2010). The same findings have also been found on teachers/educators (Lee & Nie, 2014). Other studies show that empowerment can facilitate

leadership in teachers and increase self-perceived efficacy (Bolin, 1989; Katzenmayer & Moller, 2001).

3. Hypothesis

The hypothesis of the following research is to see if there exists a positive and significant correlation between empowerment interventions focused on developing educators' professional skills and their levels of Power and Success and Relationship and Affiliation (H1). Furthermore, it is hypothesized that such interventions may also have a positive impact in areas related to Emotional Maturity and Analysis of the context (H2).

4. Method

The data collection has been conducted with a sample of educators that took part to a training program that foresees the following subjects:
- use of a particular software designed for educational interventions with ADHD subjects;
- use of video modelling, to improve and enhance the autonomy skills of users with cognitive disabilities.

The participants assisted to 10 online sessions in of 2h each, using the platform with synchronous modality, one per week, divided into a theoretical part (5 hours), a practical one (3 hours), an asynchronous one (about 4 hours) and finally a verification one (2 hours synchronous conclusive). The data were collected at the end of the training program via google form and participants signed the informed consent and privacy policy.

4.1 Research Instruments

Two questionnaires taken from the ISFOL document NEEDS, VALUES AND SELF-EFFICACY IN THE CHOICE OF WORK (ISFOL BISOGNI, VALORI E AUTOEFFICACIA NELLA SCELTA DEL LAVORO, 2007) were used to measure the effectiveness of the training administered:

- Job Needs Questionnaire, aimed at detecting the types of personal needs that subjects expect to meet through their work. The tool was drawn from work by Getuli, Salvi, and Avallone (1998), which identifies six categories of needs as influencing elements of job satisfaction. The Job Needs Scale was constructed around six dimensions that summarize the main references in the relevant literature: (a) needs for psycho-physical well-being (related to the protection of the basic psycho-physiological aspects of individuals); (b) needs for affiliation and social relations (oriented to establish and actively develop positive affective relationships with other people); (c) needs for recognition and social utility (appreciation of one's work by important interlocutors); d) needs for security and stability (consistency linked to the possibility of relying on the future, reducing margins of uncertainty, containing anxieties related to change); e) needs for achievement (oriented towards the pursuit of important objectives, the achievement of standards of excellence, confrontation with stimulating challenges); f) needs for power/influence over others (exercise of influence and control over others).

- Scale of perceived self-efficacy in the management of complex problems, aimed at investigating the subjects' beliefs of efficacy with regard to the management of problems that present certain levels of complexity.

Four dimensions will be examined: (a) context analysis (the beliefs people hold about their abilities to "read" the context in which they find themselves and to understand the demands that come from people in the environment, using appropriate language); (b) action finality (the beliefs about their abilities to set and pursue concrete and achievable goals); (c) relational fluency (the beliefs about their abilities to interact and engage with others and to maintain good relationships with others); and (d) emotional maturity (the beliefs about their abilities to handle stressful situations).

5. Data Analysis

The data of our survey have been compared to the average values resulting from the ISFOL research on NEEDS, VALUES AND SELF-EFFICACY IN THE CHOICE OF WORK / ISFOL BISOGNI, VALORI E AUTOEFFICACIA NELLA SCELTA DEL LAVORO, where the same items taken into consideration in our study have been administered to a sample of 3879 subjects, 2427 of whom are between 20 and 30 years of age and constitute the group of "young people", and 1452 are between 31 and 65 years of age and constitute the group of "adults" (see Table 1).

Genere / Gruppo	M	F	Tot.	%
Giovani	1190	1236	2426	62,6
Adulti	665	784	1449	37,4
Tot.	1855	2020	3875	100

Non Risponde. Giovani = 1; Adulti = 3

Table 1 - Composition of the ISFOL study sample Needs, Values and Self-efficacy in choosing a Job

The sample for this study consisted of 29 youth (including 24 females and 5 males) and 36 adults (including 31 females and 5 males) for a total of 65 statistical units (including 55 females and 10 males).

Educational qualification	
Integrative courses to perform the profession	10,77 %
High School	27,69 %
Degree	61,54 %

| Civil Status	
Single	64,62 %
Married/Cohabitant	23,08 %
Separated	12,30 %

A. Job needs
A.1

We want to verify whether, in the four areas identified, the sample presents average values in the questionnaire related to job needs that are different (in a statistically significant way) from the values presented in the ISFOL document NEEDS, VALUES AND SELF-EFFICACY IN THE CHOICE OF WORK.

The average reference values are as follows:

The One-Sample T value test will be used to perform the analysis. The null hypothesis H0 holds that there is no statistically significant difference between the mean value obtained for our sample and the mean value of the ISFOL paper.

A.1.1 Area Power and Success
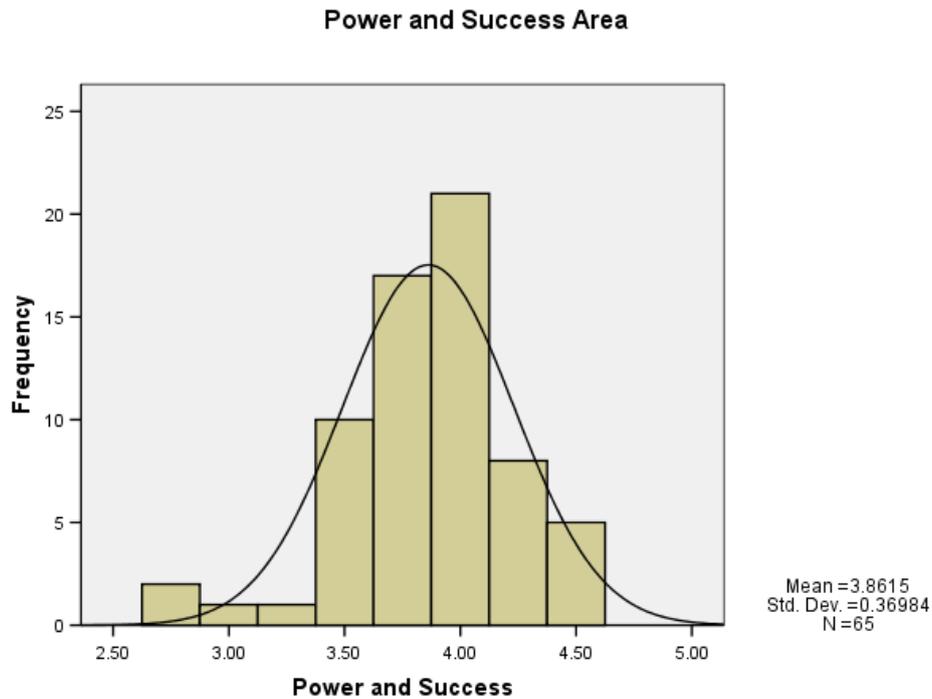
Graph. 1 Power and Succes Area

Descriptive statistics applied to our sample provides us with the results in the figure below:

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Power and Success	65	3.8615	.36984	.04587

**Table 1 One-sample Statistics - power and success**

Therefore, our sample of 65 statistical units has a mean of 3.8615 relative to the area in question. The inferential statistics show us the following results:

One-Sample Test

	Test Value = 2.98					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Power and Success	19.217	64	.000	.88154	.7899	.9732

Table 2 One-sample test - power and success

"df" represents the degrees of freedom of the sample (df=N-1). From the conversion table it is obtained that for a value of degrees of freedom equal to 64 and for a 95% confidence interval the critical value for the t distribution is equal to 2.000. Having obtained a T-value of 19.217 this is a first indicator that the null hypothesis should be rejected and that therefore there is no statistically significant difference between the two averages (Mean difference = 0.88154). The p-value (Sig. 2-tails) is then equal to 0.000 which is less than 0.05. This parameter also indicates that there is a statistically significant difference between the averages. The last indicator (the 0-value equality between the averages) is also not present within the confidence interval (0.7899 and 0.9732) indicating that there is a statistically significant difference between the averages. The null hypothesis H0 can therefore be rejected. Consequently, we can reject the hypothesis that there is no statistically significant difference between the mean value calculated for our sample and the reference value for the Area Power and Success area. The area average has a higher value than the reference value.

A.1.2 Relationship and Affiliation
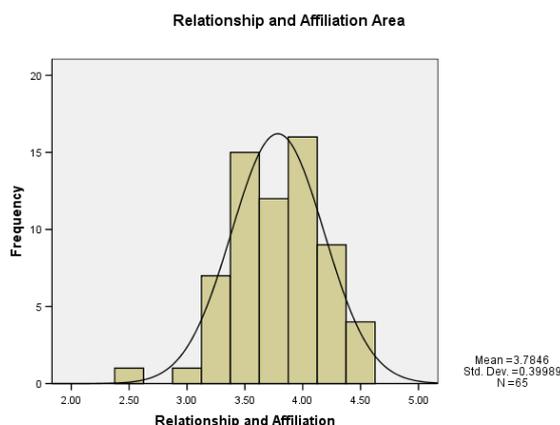
Graph. 2 Relationship and Affiliation

Descriptive statistics applied to our sample provides us with the results in the figure below:

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Relationship and Affiliation	65	3.7846	.39989	.04960

**Table 3 One-sample statistics - relationship and affiliation**

Consequently, our sample of 65 statistical units has a mean of 3.7846 relative to the area in question. Inferential statistics shows us the following results:

One-Sample Test

	Test Value = 3.33					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Relationship and Affiliation	9.165	64	.000	.45462	.3555	.5537

Table 4 One-sample test - Relationship and Affiliation

"df" represents the degrees of freedom of the sample (df=N-1). From the conversion table, it can be concluded that for a value of degrees of freedom equal to 64 and for a 95% confidence interval the critical value for the t distribution is 2.000. Having obtained a T-value of 9.165 this is a first indicator the null hypothesis that there is no statistically significant difference between the two averages (Mean difference = 0.45462) must be rejected. The p-value (Sig. 2-tails) is then equal to 0.000 which is less than 0.05. This parameter also indicates that there is a statistically significant difference between the averages. The last indicator (the 0-value - equality between the averages - is also not present within the confidence interval (0.3555 e and 0.95537) indicates that there is a statistically significant difference between the averages. The null hypothesis H0 can therefore be rejected. Consequently, we can reject the hypothesis that there is no statistically significant difference between the mean value calculated for our sample and the reference value for the Relationship and Affiliation area. The area average has a higher value than the reference value.

A.1.3 Self-Realization
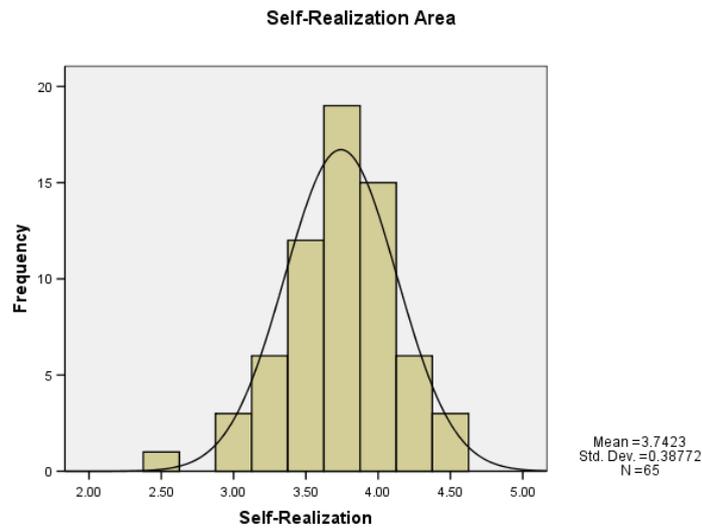
Graph. 3 Self-realization

Descriptive statistics applied to our sample provides us with the results in the figure below:

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Self-Realization	65	3.7423	.38772	.04809

Table 5 One-sample statistics - self-realization

Thus, our sample of 65 statistical units has a mean of 3.7423 relative to the area in question. Inferential statistics shows the following results:

One-Sample Test

	Test Value = 4.10					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Self-Realization	-7.438	64	.000	-.35769	-.4538	-.2616

Table 6 One-sample test - self-realization

"df" represents the degrees of freedom of the sample (df=N-1). From the conversion table, we find that for a value of degrees of freedom equal to 64 and for a 95% confidence interval, the critical value for the t distribution is 2.000. Having obtained a T-value of -7.438, this is a first indicator one must reject the null hypothesis that there is no statistically significant difference between the two means (Mean difference = -0.35769). The p-value (Sig. 2-tails) is then 0.000 which is less than 0.05. This parameter also indicates that there is a statistically significant difference between the averages. The last indicator (the 0-value - equality between the averages) is also not present within the confidence interval (- 0.4538 and -0.2616) indicates ch3 there is a statistically significant difference between the averages. The null hypothesis H0 can therefore be rejected. We can therefore reject the hypothesis that there is no statistically significant difference between the mean value calculated for our sample and the reference value for the Self-Realization area. The area average has a lower value than the reference value.

A.1.4 Protection and Security
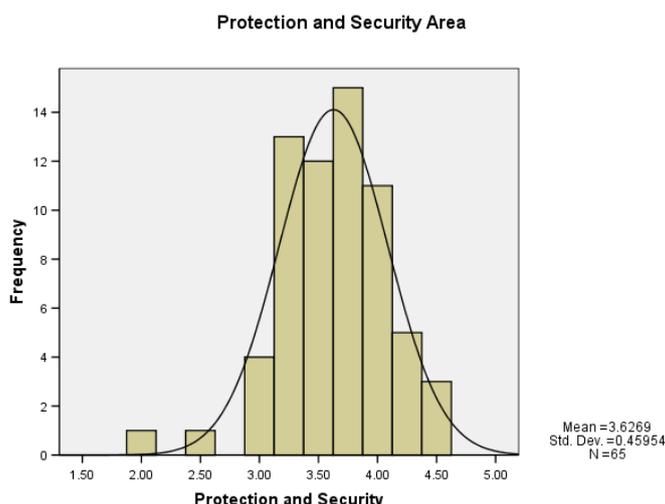
Graph. 4 protection and security

Descriptive statistics applied to our sample provides us with the results in the figure below:

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Protection and Security	65	3.6269	.45954	.05700

Table 7 One-sample statistics – protection and security

Thus, our sample of 65 statistical units has a mean of 3.6269 relative to the area in question. The inferential statistics show us the following results:

One-Sample Test

	Test Value = 3.76					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Protection and Security	-2.335	64	.023	-.13308	-.2469	-.0192

Table 8 One-sample test – protection and security

"df" represents the degrees of freedom of the sample (df=N-1). From the conversion table we find that for a value of degrees of freedom equal to 64 and for a 95% confidence interval the critical value for the t distribution is 2.000. Having obtained a T-value of -2.335 this is a first indicator that the null hypothesis that there is no statistically significant difference between the two averages (Mean difference = -0.13308) must be rejected. The p-value (Sig. 2-tails) is then equal to 0.023 which is less than 0.05. This parameter also indicates that there is a statistically significant difference between the averages. The last indicator (the 0 value - equality between the averages) is also not present within the confidence interval (-0.2469 and -0.0192) indicates that there is a statistically significant difference between the averages. Therefore, the null hypothesis H0 can be rejected. Consequently, we can reject the hypothesis that there is no statistically significant difference between the mean value calculated for our sample and the reference value for the Protection and Security area. The area average has a lower value than the reference value. In summary, the sample mean values for the areas in question show statistically significant differences from the reference mean values, but with contrasting signs. In particular, for the Power and Success and Relationship and Affiliation areas the values are greater, while for the Self-Realization and Protection and Security areas the values are lower.

A.2 Correlation matrix between the four areas

Correlations

		Power and Success	Relationship and Affiliation	Self-Realization	Protection and Security
Power and Success	Pearson Correlation	1	.687**	.469**	.639**
	Sig. (2-tailed)		.000	.000	.000
	N	65	65	65	65
Relationship and Affiliation	Pearson Correlation	.687**	1	.569**	.688**
	Sig. (2-tailed)	.000		.000	.000
	N	65	65	65	65
Self-Realization	Pearson Correlation	.469**	.569**	1	.581**
	Sig. (2-tailed)	.000	.000		.000
	N	65	65	65	65
Protection and Security	Pearson Correlation	.639**	.688**	.581**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	65	65	65	65

**. Correlation is significant at the 0.01 level (2-tailed).

Table 9 – Correlations

It can be seen from the correlation matrix that the four areas are strongly positively correlated with each other, as can also be seen from the matrix scatterplots below.

Correlation Matrix - Job needs
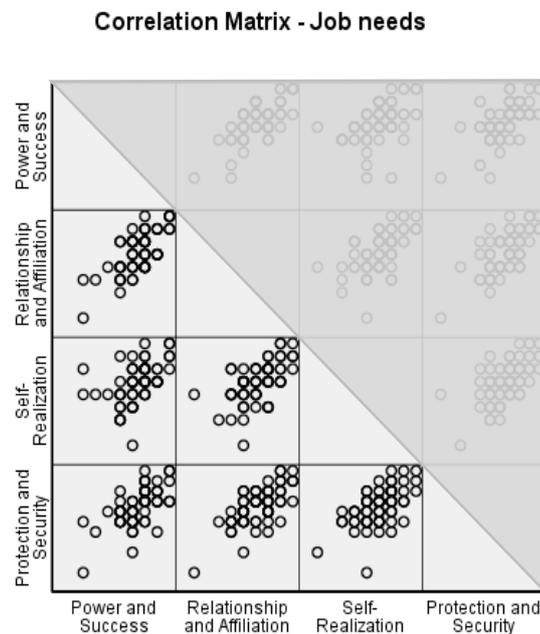
Table 9 Correlation Matrix - Job needs

In conclusion, subjects with low values in one area will also have low values in the other areas, while those with high values in one area will also have high values in the other areas.

A.3

It is now desired to test the null hypothesis H0 that the average results by age group (youth between 18 and 30, adults between 31 and 65) are equal across areas.

We apply the Independent-Samples T-test, which can be applied since the conditions of applicability are valid. Conditions:

- Independent observations. This is often true if each case in SPSS represents a different person or a different statistical unit. This is true for our data.
- Normality: the dependent variable must follow a normal distribution in the population. This is only necessary for samples smaller than about 25 units. Again, having a sample of 65 statistical units (29 youth and 36 adults) is considered to be the condition satisfied.
- Homogeneity: the standard deviation of our dependent variable must be equal in both populations. This assumption is not verified only if our sample size is (sharply) unequal. SPSS checks whether this holds when we run our t-test. If not, we can still report corrected test results.

A.3.1 Area Power and Success

Group Statistics

	Age group	N	Mean	Std. Deviation	Std. Error Mean
Power and Success	young	29	3.9052	.36237	.06729
	adult	36	3.8264	.37711	.06285

Descriptive statistics applied to our sample provides us with the results in the figure below:

Table 10 Group Statistics Power and Succes

The two averages differ by 0.0788. This is a very low value, suggesting that there is no statistically significant difference between the two age groups for the area in question.

Inferential statistics shows us the following results.

As previously mentioned, the observations are independent and the samples are greater than 25 (1), so it is possible to therefore it is possible to neglect the Normality check. From Levene's test (2) on equality of variances we obtain a value of Sig. greater than 0.05, hence the hypothesis of equal variances holds and consequently the first line of the test will be considered.

Since the p-value - Sig. (2-tailed) - is greater than 0.05 (3), the null hypothesis cannot be rejected, and it is concluded that the difference between the averages by age group is not statistically significant (4).

The age group does not statistically significantly affect the mean value of the test results for the **Power and Success Area.**

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Power and Success	Equal variances assumed	.144	.705	.852	63	.397	.07878	.09248	-.10602	.26359
	Equal variances not assumed			.856	61.015	.396	.07878	.09208	-.10534	.26290

A.3.2 Relationship and Affiliation

Descriptive statistics applied to our sample provides us with the results in the figure below:

Group Statistics

	Age group	N	Mean	Std. Deviation	Std. Error Mean
Relationship and Affiliation	young	29	3.8017	.45010	.08358
	adult	36	3.7708	.36043	.06007

Table 13 Group statistics Relationship and affiliation

The two averages differ by 0.0309. This is a very low value, suggesting that there is no statistically significant difference between the two age groups for the area in question.

Inferential statistics shows us the following results:

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Relationship and Affiliation	Equal variances assumed	.459	.501	.307	63	.760	.03089	.10050	-.16993	.23171
	Equal variances not assumed			.300	53.070	.765	.03089	.10293	-.17555	.23733

Table 11 Indipendent sample test - Relationship and affiliation

As previously stated, the observations are independent and the samples are greater than 25 (1), therefore it is possible to neglect the Normality test. From Levene's test (2) on equality of variances we obtain a value of Sig. greater than 0.05, therefore the hypothesis of equal variances is valid and consequently the first line of the test will be considered.

Since the p-value - Sig. (2-tailed) - is greater than 0.05 (3), the null hypothesis cannot be rejected and it is concluded that the difference between the averages by age group is not statistically significant (4).

The age group does not statistically significantly affect the mean value of the test results for the **Relationship and Affiliation Area**.

A.3.3 Self-Realization

Descriptive statistics applied to our sample provides us with the results in the figure below:

Group Statistics

	Age group	N	Mean	Std. Deviation	Std. Error Mean
Self-Realization	young	29	3.8534	.35049	.06508
	adult	36	3.6528	.39766	.06628

Table 12 Group statistics – self-realization

The two averages differ by 0.2006. Inferential statistics shows us the following results:

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Self-Realization	Equal variances assumed	.248	.620	2.131	63	.037	.20067	.09418	.01248	.38887
	Equal variances not assumed			2.160	62.454	.035	.20067	.09289	.01501	.38633

Table 13 Independent samples test - Self-realization

As already said, the observations are independent and the samples are greater than 25 (1), therefore it is possible to neglect the Normality test. From Levene's test (2) on the equality of variances we obtain a value of Sig. greater than 0.05, therefore the hypothesis of equal variances is valid and consequently the first line of the test will be considered. Since the p-value - Sig. (2-tailed) - is less than 0.05 (3), we therefore reject the null hypothesis and conclude that the difference between the averages by age group is statistically significant (4). The age group statistically significantly affects the mean value of the test results for the Self-Realization Area. Young people are found to be more Self-Realization oriented than adults.

A.3.4 Protection and Security

Descriptive statistics applied to our sample provides us with the results in the figure below:

Group Statistics

	Age group	N	Mean	Std. Deviation	Std. Error Mean
Protection and Security	young	29	3.6466	.48879	.09077
	adult	36	3.6111	.44096	.07349

Table 14 Group Statistics - Protection and Security

The two averages differ by 0.0356. This is a very low value, suggesting that there is no statistically significant difference between the two age groups for the area in question. Inferential statistics show us the following results:

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Protection and Security	Equal variances assumed	.017	.897	.307	63	.760	.03544	.11549	-.19534	.26622
	Equal variances not assumed			.303	57.111	.763	.03544	.11679	-.19842	.26930

Table 15 Independent Sample test - Protection and Security

As previously stated the observations are independent and the samples are greater than 25 (1), therefore it is possible to neglect the Normality test. From Levene's test (2) on equality of variances we obtain a value of Sig. greater than 0.05, therefore the hypothesis of equal variances is valid and consequently the first line of the test will be considered. Since the p-value - Sig. (2-tailed) - is greater than 0.05 (3), the null hypothesis cannot be rejected and it is concluded that the difference between the averages by age group is not statistically significant (4). The age group does not statistically significantly affect the mean value of the test results for the **Protection and Security Area**.

A.4

It is now desired to test the null hypothesis H0 that average outcomes by level of education are equal across areas. We use the One-Way Anova test (since the independentent variable is qualitative and has a number of values greater than 2).

1. A requirement for the ANOVA test is that the variances of each comparison group must be equal. This condition is tested using the Levene statistic. What is sought here is a significance value greater than 0.05, since a different result would suggest a real difference between the variances (**Homogeneity of Variances**).
2. 2.   In order to obtain the result of the **ONEWAY ANOVA test**, the value is sought if the F that appears in the row between the groups reaches the level of significance (**Sig**. <0.05). If this is not the case, the **Welch test** can be performed if necessary, before not rejecting the null hypothesis.
3. 3.   If so, it is not yet known between which of the various pairs of values of the independent variable (in this case education level) the difference is significant. the result of the **Tukey HSD POST HOC test** must be taken into exam. Again, it is necessary to find levels of p-value (Sig.) <0.05 to have a level of significance that allows to reject the hypothesis and thus state that the difference between the means of the two groups is statistically significant.

A.4.1 Power and Success

Comparing the Power and Success Area with the Educational Qualification variable provides the following tables based on what has been stated above.

Test of Homogeneity of Variances

Power and Success

Levene Statistic	df1	df2	Sig.
1.381	2	62	.259

Table 16 Test of Homogeneity of Variances – Levene Statistic

The first requirement on equality of variances is met (Sig. > 0.05).

ANOVA

Power and Success

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.047	2	.024	.168	.846
Within Groups	8.707	62	.140		
Total	8.754	64			

Table 17 ANOVA - Power and Success

The **ONEWAY ANOVA test** shows a p-value (Sig.) > 0.05 and therefore the null hypothesis cannot be rejected, concluding that for the **Power and Success Area** there is no statistically significant difference between the averages, relative to different levels of education.

A.4.2 Relationship and Affiliation

Comparing the Relationship and Affiliation Area with the Educational Qualification variable, based on what has previously been stated, the following tables are obtained.

Test of Homogeneity of Variances

Relationship and Affiliation

Levene Statistic	df1	df2	Sig.
4.831	2	62	.011

Table 18 Test of homogeinity of variances - Levene statistic

The first requirement on equality of variances is not met (Sig. < 0.05). Therefore, the ONEWAY ANOVA test cannot be applied, but the Welch version of the ONEWAY ANOVA test must be used:

Robust Tests of Equality of Means

Relationship and Affiliation

	Statistic[a]	df1	df2	Sig.
Welch	.070	2	14.813	.933

a. Asymptotically F distributed.

Table 19 Robust tests of equality of means

The Welch **ONEWAY ANOVA test** shows a p-value (Sig.) > 0.05 and therefore the null hypothesis cannot be rejected, concluding that for the **Relationship and Affiliation Area** there is no statistically significant difference between the averages, in relation to different levels of education.

A.4.3 Self-Realization

Comparing the Self-Realization Area with the Educational Qualification variable, based on what has been previously stated, the following tables are obtained.

Test of Homogeneity of Variances

Self-Realization

Levene Statistic	df1	df2	Sig.
.444	2	62	.644

Table 20 Test of homogeneity of variances - Self-realization - Levene statistic

The first requirement on equality of variances is met (Sig. > 0.05).

ANOVA

Self-Realization

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.560	2	.280	1.917	.156
Within Groups	9.061	62	.146		
Total	9.621	64			

Table 21 ANOVA- Self-realization

The **ONEWAY ANOVA test** shows a p-value (Sig.) > 0.05 and therefore the null hypothesis cannot be rejected, concluding that for the **Self-Realization Area** there is no statistically significant difference between the averages, relative to different levels of education.

A.4.4 Protection and Security

Comparing the Protection and Security Area with the Educational Qualification variable, based on what has been previously stated, the following tables are obtained.

Test of Homogeneity of Variances

Protection and Security

Levene Statistic	df1	df2	Sig.
1.570	2	62	.216

Table 22 Test of Homogeinity of Variances - Protection and security - Levene statistic

The first requirement on equality of variances is met (Sig. > 0.05).

ANOVA

Protection and Security

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.025	2	.012	.057	.944
Within Groups	13.491	62	.218		
Total	13.515	64			

Table 23 ANOVA - Protection and security

The **ONEWAY ANOVA test** shows a p-value (Sig.) > 0.05 and therefore the null hypothesis cannot be rejected, concluding that for the **Protection and Security Area** there is no statistically significant difference between the averages, relative to different levels of education.

A.5 Box plot according to the Gender
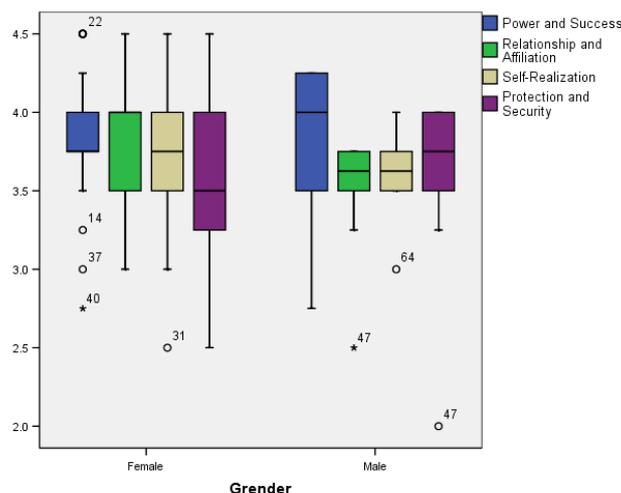
Graph. 5 Box plot per Gender

A.6

Comparing the various areas with the Civil Status variable, based on what has been previously stated, the following tables are obtained.

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Power and Success	1.600	2	62	.210
Relationship and Affiliation	1.713	2	62	.189
Self-Realization	1.344	2	62	.268
Protection and Security	.126	2	62	.882

Table 24 Test of homogeneity of variances

The first requirement on equality of variances is met (Sig. > 0.05) for all areas.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Power and Success	Between Groups	.003	2	.002	.011	.989
	Within Groups	8.751	62	.141		
	Total	8.754	64			
Relationship and Affiliation	Between Groups	.050	2	.025	.153	.859
	Within Groups	10.184	62	.164		
	Total	10.235	64			
Self-Realization	Between Groups	.224	2	.112	.740	.481
	Within Groups	9.397	62	.152		
	Total	9.621	64			
Protection and Security	Between Groups	.148	2	.074	.342	.712
	Within Groups	13.368	62	.216		
	Total	13.515	64			

Table 25 test ONEWAY ANOVA

The ONEWAY ANOVA test shows p-value (Sig.) > 0.05 for all areas and therefore the null hypothesis cannot be rejected, concluding that for each area there is no statistically significant difference between the averages, relative to the different marital statuses.

B. Perceived self-efficacy in managing complex systems
B.1

It is intended to test whether in the four identified areas the sample presents average values in the questionnaire on perceived self-efficacy in managing complex systems that are different (in a statistically significant way) from the values presented in the document ISFOL BISOGNI, VALORI E AUTOEFFICACIA NELLA SCELTA DEL LAVORO/ ISFOL NEEDS, VALUES AND SELF-EFFICACY IN CHOOSING A JOB.

The average reference values are as follows:

Area	Mean
Emotional maturity	3,12
Finalization of the action	3,55
Relational fluidity	3,51
Analysis of the context	3,48

Table 26 Average reference values

The One-Sample T value test will be used to perform the analysis. The null hypothesis H0 holds that there is no statistically significant difference between the mean value obtained for our sample and the mean value of the ISFOL paper.

B.1.1 Area Emotional maturity

Emotional maturity Area

Mean = 3.2949
Std. Dev. = 0.48571
N = 65
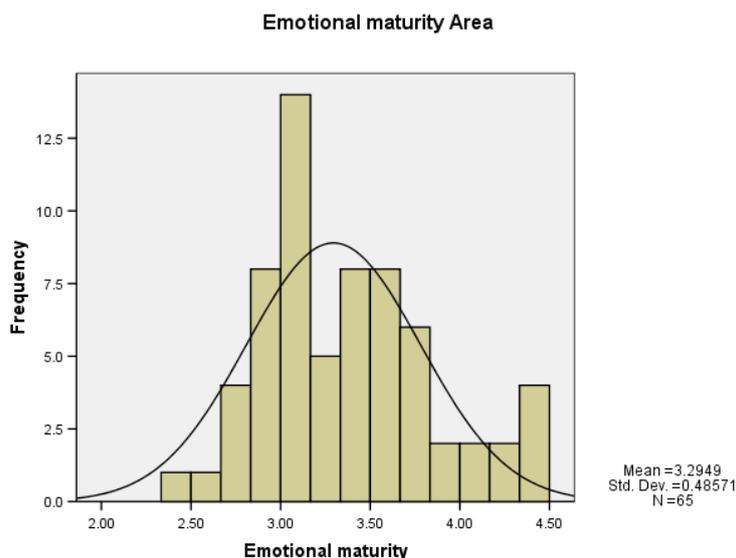
Graph. 6 Emotional Maturity

Descriptive statistics applied to our sample gives us the results in the figure below:

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Emotional maturity	65	3.2949	.48571	.06024

**Table 27 One-sample Statistics - Emotional maturity**

Thus, our sample of 65 statistical units presents a mean of 3.2949 relative to the area in question. Inferential statistics shows us the following results:

One-Sample Test

	Test Value = 3.12					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Emotional maturity	2.903	64	.005	.17487	.0545	.2952

Table 28 One sample test - emotional maturity

"df" represents the degrees of freedom of the sample (df=N-1). From the conversion table we infer that for a value of degrees of freedom equal to 64 and for a 95% confidence interval the critical value for the t distribution is 2.000. Having obtained a T-value of 2.903 this is a first indicator that the null hypothesis that there is no statistically significant difference between the two averages (Mean difference = 0.17487) must be rejected. The p-value (Sig. 2-tails) is then equal to 0.005 which is less than 0.05. This parameter also indicates that there is a statistically significant difference between the averages. The last indicator (the 0 value - equality between the averages - is also not present within the confidence interval (0.0454 and 0.2952) indicates that there is a statistically significant difference between the averages. The null hypothesis H0 can therefore be rejected. We can therefore reject the hypothesis that there is no statistically significant difference between the mean value calculated for our sample and the reference value for the Area Emotional maturity area. The area mean holds a higher value than the reference value.

B.1.2 Finalization of the action

Finalization of the action Area

Mean =3.5462
Std. Dev. =0.49521
N =65
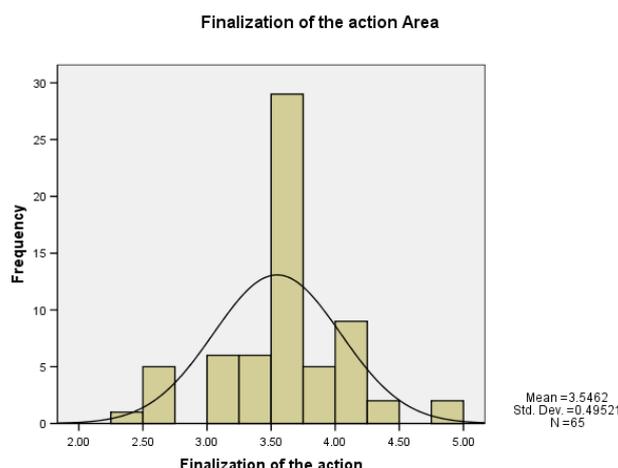
Graph. 7 Finalization of the action Area

Descriptive statistics applied to our sample provides us with the results in the figure below:

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Finalization of the action	65	3.5462	.49521	.06142

Graph. 8 One sample statistics - finalization of the action

Thus, our sample of 65 statistical units presents a mean of 3.5462 relative to the area in question. Inferential statistics shows us the following results:

One-Sample Test

	Test Value = 3.55					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Finalization of the action	-.063	64	.950	-.00385	-.1266	.1189

Table 29 One-sample test - finalization of the action

"df" represents the degrees of freedom of the sample (df=N-1). From the conversion table we can see that for a value of degrees of freedom equal to 64 and for a 95% confidence interval the critical value for the t distribution is 2.000. Having obtained a T-value of -0.063 this is a first indicator you cannot reject the null hypothesis that there is no statistically significant difference between the two averages (Mean difference = -0.00385). The p-value (Sig. 2-tails) is then 0.950 which is greater than 0.05. This parameter also indicates that there is no statistically significant difference between the averages. The last indicator (the 0 value - equality between the averages - is also present within the confidence interval (-0.1266 and 0.1189) indicates that there is no statistically significant difference between the averages. Therefore, the null hypothesis H0 cannot be rejected. Thus, there is no statistically significant difference between the mean value calculated for our sample and the reference value for the Finalization of the action area.

B.1.3 Relational fluidity
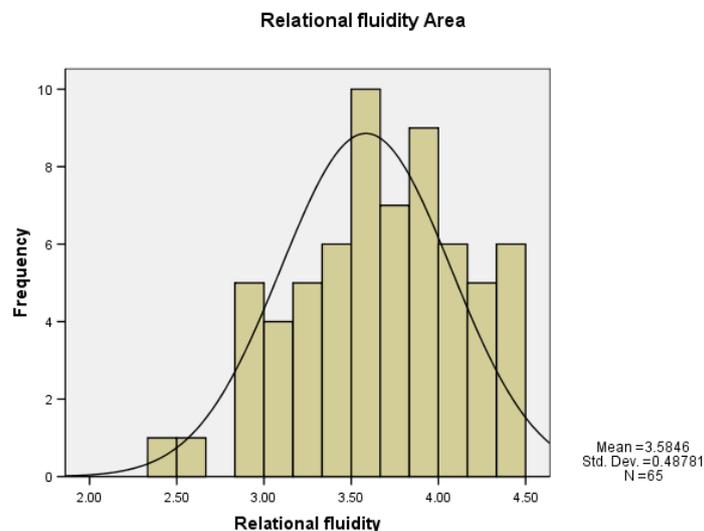
Graph. 9 Relational fluidity Area

Descriptive statistics applied to our sample provides us with the results in the figure below:

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Relational fluidity	65	3.5846	.48781	.06050

Table 30 One-sample statistics - relational fluidity

Thus, our sample of 65 statistical units presents a mean of 3.5846 relative to the area in question. The inferential statistics show us the following results:

One-Sample Test

	Test Value = 3.51					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Relational fluidity	1.233	64	.222	.07462	-.0463	.1955

Table 31 One sample test - relational fluidity

"df" represents the degrees of freedom of the sample (df=N-1). From the conversion table, it can be inferred that for a value of degrees of freedom equal to 64 and for a 95% confidence interval, the critical value for the t distribution is 2.000. Having obtained a T-value of 1.233, this is a first indicator that the null hypothesis that there is no statistically significant difference between the two averages (Mean difference = 0.07462) must be rejected. As a matter of fact, the p-value (Sig. 2-tails) is then equal to 0.222 which is greater than 0.05. This parameter indicates that there is no statistically significant difference between the averages. The last indicator (the 0-value - equality between the averages -is present within the confidence interval (- 0.0463 and 0.1955) indicates that there is no statistically significant difference between the averages. Therefore, the null hypothesis H0 cannot be rejected, given also the low value of the difference between the averages. Therefore, we cannot reject the hypothesis that there is no statistically significant difference between the mean value calculated for our sample and the reference value for the Relational Fluidity Area.

B.1.4 Analysis of the context
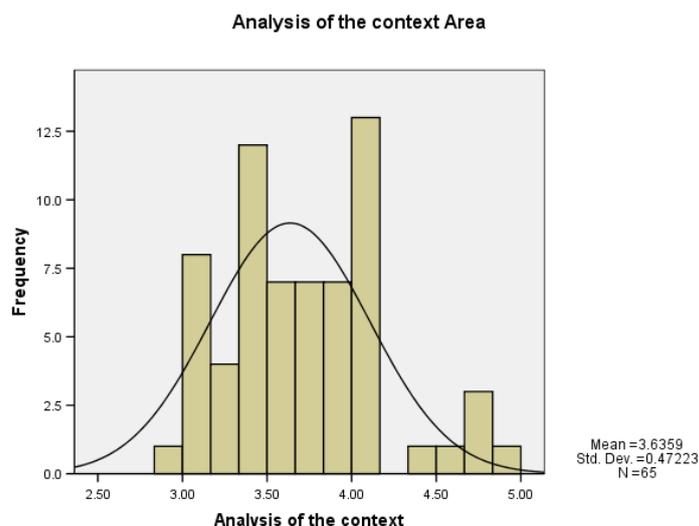
Graph. 10 Analysis of the context

Descriptive statistics applied to our sample provides us with the results in the figure below:

One-Sample Statistics

|	N	Mean	Std. Deviation	Std. Error Mean
Analysis of the context	65	3.6359	.47223	.05857

Table 32 One-sample statistics - Analysis of the context

Thus, our sample of 65 statistical units has a mean of 3.6359 relative to the area in question. The inferential statistics show the following results:

One-Sample Test

| | Test Value = 3.48 | | | | | |
| | t | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference | |
					Lower	Upper
Analysis of the context	2.662	64	.010	.15590	.0389	.2729

Table 33 One-sample Test - Analysis of the contest

"df" represents the degrees of freedom of the sample (df=N-1). From the conversion table we find that for a value of degrees of freedom equal to 64 and for a 95% confidence interval the critical value for the t distribution is 2.000. Having obtained a T-value of 2.662 this is a first indicator that the null hypothesis that there is no statistically significant difference between the two averages (Mean difference = 0.15589) must be rejected. The p-value (Sig. 2-tails) is then equal to 0.010 which is less than 0.05. This parameter also indicates that there is a statistically significant difference between the averages. The last indicator (the value 0 - equality between the averages - is also not present within the 0.0389 and 0.2729 confidence interval) indicates that there is a statistically significant difference between the averages. The null hypothesis H0 can therefore be rejected. We can therefore reject the hypothesis that there is no statistically significant difference between the mean value calculated for our sample and the reference value for the Analysis of the context area. The area mean has a higher value than the reference value. To summarize, the average values of the sample for the areas in question show statistically significant differences with respect to the average reference values in the Emotional maturity and Analysis of the context areas. In both cases, the average value of the sample is higher than the reference value.

B.2 Correlation matrix between the four areas

Correlations

		Emotional maturity	Finalization of the action	Relational fluidity	Analysis of the context
Emotional maturity	Pearson Correlation	1	.556**	.457**	.562**
	Sig. (2-tailed)		.000	.000	.000
	N	65	65	65	65
Finalization of the action	Pearson Correlation	.556**	1	.388**	.595**
	Sig. (2-tailed)	.000		.001	.000
	N	65	65	65	65
Relational fluidity	Pearson Correlation	.457**	.388**	1	.535**
	Sig. (2-tailed)	.000	.001		.000
	N	65	65	65	65
Analysis of the context	Pearson Correlation	.562**	.595**	.535**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	65	65	65	65

**. Correlation is significant at the 0.01 level (2-tailed).

Table 37 – Correlations

From the correlation matrix it can be inferred that the four areas are strongly positively correlated with each other, as can also be deduced from the matrix scatter plots below. In conclusion, subjects with low values in one area will also have low values in the other areas, while those who have high values in one area will also have high values in the other areas.
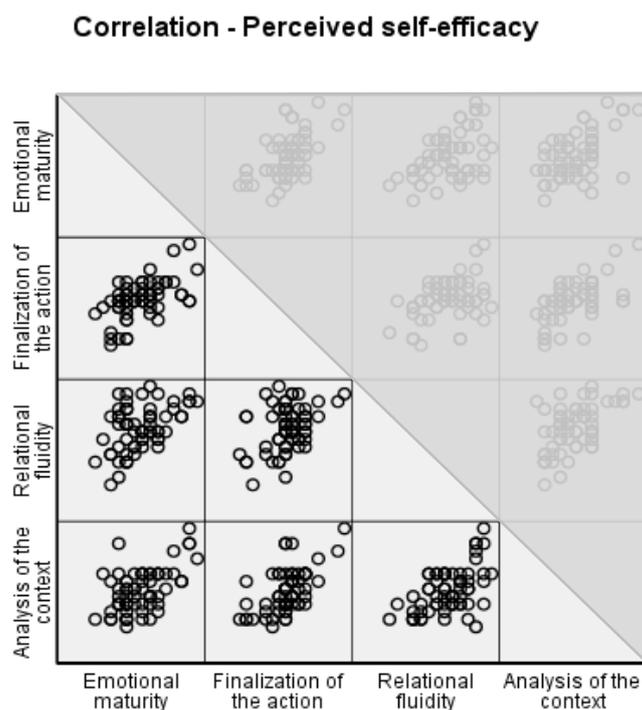
Table 34 Correlation - Perceived self-efficacy

B.3

We now want to test the null hypothesis H0 that the average results by age group (youth between 18 and 30, adults between 31 and 65) are equal across areas.

We apply the Indipendet-Samples T-test, which can be applied since the conditions of applicability are valid. Condition:

- Independent observations. This is often true if each case in SPSS represents a different person or a different statistical unit. This is valid for our data.

- Normality: the dependent variable must follow a normal distribution in the population. This is only necessary for samples smaller than about 25 units. Again, having a sample of 65 statistical units (29 youth and 36 adults) is considered to have met the condition.

- Homogeneity: the standard deviation of our dependent variable must be equal in both populations. This assumption is not verified only if our sample size is (sharply) unequal. SPSS checks whether this holds when we run our t-test. If not, we can still report corrected test results.

B.3.1 Area Emotional maturity

Descriptive statistics applied to our sample provides us with the results in the figure below:

Group Statistics

	Age group	N	Mean	Std. Deviation	Std. Error Mean
Emotional maturity	young	29	3.0920	.39235	.07286
	adult	36	3.4583	.49662	.08277

Table 35 Group statistics - Emotional maturity

The two averages differ by 0.3663. Inferential statistics shows us the following results:

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Emotional maturity	Equal variances assumed	1.873	.176	-3.240	63	.002	-.36638	.11309	-.59238	-.14038
	Equal variances not assumed			-3.323	62.984	.001	-.36638	.11027	-.58673	-.14602

Table 36 Indipendent Sample test - Emotional maturity

As previously stated, the observations are independent and the samples are greater than 25 (1), therefore it is possible to neglect the Normality test. From Levene's test (2) on equality of variances we obtain a value of Sig. greater than 0.05, therefore the hypothesis of equal variances is valid and consequently the first line of the test will be considered. Since the p-value - Sig. (2-tailed) - is less than 0.05 (3), the null hypothesis can be rejected and it is concluded that the difference between the averages by age group is statistically significant (4). The age group statistically significantly affects the mean value of the test results for the Emotional maturity area. Adults present a statistically higher mean value than youth.

B.3.2 Finalization of the action

Descriptive statistics applied to our sample provides us with the results in the figure below:

Group Statistics

	Age group	N	Mean	Std. Deviation	Std. Error Mean
Finalization of the action	young	29	3.4828	.52769	.09799
	adult	36	3.5972	.46866	.07811

Table 37 Group Statistics - finalization of the action

The two averages differ by 0.1144. Inferential statistics shows us the following results:

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Finalization of the action	Equal variances assumed	.608	.438	-.925	63	.358	-.11446	.12370	-.36167	.13274
	Equal variances not assumed			-.913	56.604	.365	-.11446	.12531	-.36544	.13651

Table 38 Indipendent sample test - Finalization of the action

As previously stated, the observations are independent and the samples are greater than 25 (1), therefore it is possible to neglect the Normality test. From Levene's test (2) on equality of variances we obtain a value of Sig. greater than 0.05, therefore the hypothesis of equal variances is valid and consequently the first line of the test will be considered. Since the p-value - Sig. (2-tailed) - is more than 0.05 (3), the null hypothesis cannot be rejected and it is concluded that the difference between the averages by age group is not statistically significant (4). The age group does not statistically significantly affect the mean value of the test results for the **Finalization of the Action Area**.

B.3.3 Relational fluidity

Descriptive statistics applied to our sample provides us with the results in the figure below:

Group Statistics

	Age group	N	Mean	Std. Deviation	Std. Error Mean
Relational fluidity	young	29	3.4598	.52451	.09740
	adult	36	3.6852	.43785	.07297

Table 39 Group Statistics - Relational fluidity

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Relational fluidity	Equal variances assumed	2.130	.149	-1.889	63	.064	-.22542	.11935	-.46391	.01308
	Equal variances not assumed			-1.852	54.516	.069	-.22542	.12170	-.46936	.01853

Table 44 Independent sample test - relational fluidity

The two averages differ by 0.2254. The inferential statistic shows us the following results. As previously mentioned, the observations are independent and the samples are greater than 25 (1), so it is possible to neglect the Normality test. From Levene's test (2) on the equality of variances, a value of Sig. greater than 0.05 is obtained, therefore the hypothesis of equal variances is valid and consequently the first line of the test will be considered. Since the p-value - Sig. (2-tailed) - is **greater** than 0.05 (3), we therefore reject the null hypothesis and conclude that the difference between the means by age group is not statistically significant (4). The age group does not statistically significantly affect the mean value of the test results for the **Relational fluidity Area**.

B.3.4 Analysis of the context

Descriptive statistics applied to our sample provides us with the results in the figure below:

Group Statistics

	Age group	N	Mean	Std. Deviation	Std. Error Mean
Analysis of the context	young	29	3.5862	.45561	.08460
	adult	36	3.6759	.48786	.08131

Table 40 Group Statistics - Analysis of the context

The two averages differ by 0.0897. This is a very low value, suggesting that there is no statistically significant difference between the two age groups for the area in question. Inferential statistics show us the following results:

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Analysis of the context	Equal variances assumed	.004	.953	-.759	63	.451	-.08972	.11822	-.32597	.14653
	Equal variances not assumed			-.765	61.582	.447	-.08972	.11734	-.32432	.14488

Table 41 Independent Sample Test - Analysis of the context

As previously stated, the observations are independent and the samples are greater than 25 (1), therefore it is possible to neglect the Normality test. From Levene's test (2) on equality of variances we obtain a value of Sig. greater than 0.05, therefore the hypothesis of equal variances is valid and consequently the first line of the test will be considered. Since the p-value - Sig. (2-tailed) - is greater than 0.05 (3), the null hypothesis cannot be rejected and it is concluded that the difference between the averages by age group is not statistically significant (4). The age group does not statistically significantly affect the mean value of the test results for the **Area Analysis of the context.**

B.4

It is now desired to test the null hypothesis H0 that average outcomes by level of education are equal across areas. We use the One-Way Anova test (since the independent variable is qualitative and has a number of values greater than 2). References in section A.4.

B.4.1 Emotional maturity

Comparing the Emotional maturity Area with the Educational Qualification variable, based on what has been previously stated, the following tables are obtained.

Test of Homogeneity of Variances

Emotional maturity

Levene Statistic	df1	df2	Sig.
.462	2	62	.632

Table 42 Test of Homogeneity of variances

The first requirement on equality of variances is met (Sig. > 0.05).

ANOVA

Emotional maturity

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.169	2	.085	.352	.705
Within Groups	14.929	62	.241		
Total	15.098	64			

Table 43 ANOVA

The ONEWAY ANOVA test shows a p-value (Sig.) > 0.05 and therefore the null hypothesis cannot be rejected, concluding that for the **Emotional maturity Area** there is no statistically significant difference between the averages, relative to the different levels of education.

B.4.2 Finalization of the action

Comparing the Finalization Area of the action with the Educational Qualification variable, based on what has been previously stated, the following tables are obtained.

Test of Homogeneity of Variances

Finalization of the action

Levene Statistic	df1	df2	Sig.
2.021	2	62	.141

Table 44 Test of homogeinity of variances

The first requirement on equality of variances is met (Sig. > 0.05).

ANOVA

Finalization of the action

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.568	2	.284	1.165	.319
Within Groups	15.126	62	.244		
Total	15.695	64			

Table 45 ANOVA

The **ONEWAY ANOVA test** shows a p-value (Sig.) > 0.05 and therefore the null hypothesis cannot be rejected, concluding that for the **Finalization of the action Area** there is no statistically significant difference between the averages, relative to the different levels of education.

B.4.3 Relational fluidity

Comparing the Relational fluidity Area with the Educational Qualification variable, based on what has been previously stated, the following tables are obtained.

Test of Homogeneity of Variances

Relational fluidity

Levene Statistic	df1	df2	Sig.
1.014	2	62	.369

Table 46 Test of homogeneity of variances - Relational fluidity - Levene Statistic

The first requirement on equality of variances is met (Sig. > 0.05).

ANOVA

Relational fluidity

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.627	2	.313	1.331	.272
Within Groups	14.602	62	.236		
Total	15.229	64			

Table 47 ANOVA

The **ONEWAY ANOVA test** shows a p-value (Sig.) > 0.05 and therefore the null hypothesis cannot be rejected, concluding that for the **Relational fluidity Area** there is no statistically significant difference between the averages, in relation to different levels of education.

B.4.4 Analysis of the context

Comparing the Area Analysis of the context with the Educational Qualification variable, based on what has been previously stated, the following tables are obtained.

Test of Homogeneity of Variances

Analysis of the context

Levene Statistic	df1	df2	Sig.
2.229	2	62	.116

Table 48 Test of homogeneity of variances - Analysis of the context - Levene Statistic

The first requirement on equality of variances is met (Sig. > 0.05).

ANOVA

Analysis of the context

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.023	2	1.011	5.119	.009
Within Groups	12.249	62	.198		
Total	14.272	64			

Table 49 ANOVA

The **ONEWAY ANOVA test** shows a p-value (Sig.) < 0.05 and therefore the null hypothesis can be rejected, concluding that for the **Area Analysis of the context** there is a statistically significant difference between the averages, relative to the different levels of education. It is not yet known between which of the various pairs of values of the independent variable (in this case education level) the difference is significant. The result of the Tukey HSD POST HOC test must be examined. Even in this case, p-value levels (Sig.) <0.05 must be found in order to have a level of significance to reject the hypothesis and thus claim that the difference between the means of the two groups is statistically significant.

Multiple Comparisons

Dependent Variable: Analysis of the context
Tukey HSD

(I) Educational qualification	(J) Educational qualification	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Integrative courses to perform the profession	High School	-.04497	.19799	.972	-.5204	.4305
	Degree	-.39405	.18211	.086	-.8313	.0432
High School	Integrative courses to perform the profession	.04497	.19799	.972	-.4305	.5204
	Degree	-.34907*	.12616	.020	-.6520	-.0461
Degree	Integrative courses to perform the profession	.39405	.18211	.086	-.0432	.8313
	High School	.34907*	.12616	.020	.0461	.6520

*. The mean difference is significant at the .05 level.

In this case, it can be observed that there is a statistically significant difference between the averages of those with a high school diploma and those with a bachelor's degree, with a higher mean value for those with a bachelor's degree.

B.5 Box plot according to the Gender
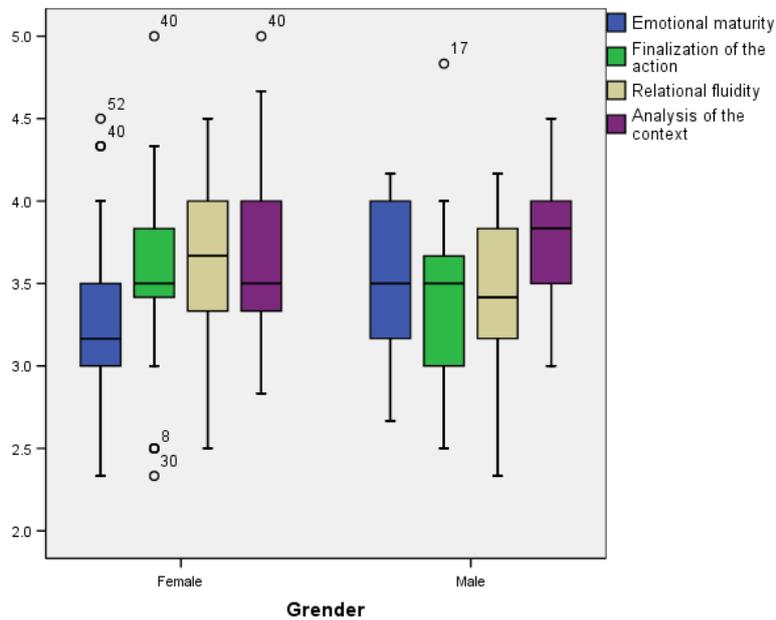
Graph. 11 Box plot Gender

B.6

Comparing the various areas with the Civil Status variable, based on what has been previously stated, the following tables are obtained.

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Emotional maturity	.065	2	62	.937
Finalization of the action	1.116	2	62	.334
Relational fluidity	1.547	2	62	.221
Analysis of the context	.496	2	62	.611

Table 50 Test of homogeinity of variances - Levene statistic

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Emotional maturity	Between Groups	2.292	2	1.146	5.549	.006
	Within Groups	12.806	62	.207		
	Total	15.098	64			
Finalization of the action	Between Groups	2.369	2	1.184	5.511	.006
	Within Groups	13.326	62	.215		
	Total	15.695	64			
Relational fluidity	Between Groups	.975	2	.488	2.121	.129
	Within Groups	14.254	62	.230		
	Total	15.229	64			
Analysis of the context	Between Groups	.307	2	.154	.682	.509
	Within Groups	13.965	62	.225		
	Total	14.272	64			

Table 51 ANOVA

The first requirement on equality of variances is satisfied (Sig. > 0.05) for all areas. The ONEWAY ANOVA test shows p-value (Sig.) < 0.05 for the areas Emotional maturity and Finalization of the action and therefore for these areas we can reject the null hypothesis, concluding that there is a statistically significant difference between the means, in relation to the different marital statuses.

It is not yet known between which of the various pairs of values of the independent variable (in this case marital status) the difference is significant. The results of the Tukey HSD POST HOC test must be examined. Also in this case, p-value levels (Sig.) <0.05 must be found in order to have a level of significance to reject the hypothesis and thus claim that the difference between the means of the two groups is statistically significant.

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) Civil status	(J) Civil status	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Emotional maturity	Single	Married/Cohabitant	-.14286	.13670	.552	-.4711	.1854
		Separate	-.58036*	.17532	.004	-1.0013	-.1594
	Married/Cohabitant	Single	.14286	.13670	.552	-.1854	.4711
		Separate	-.43750	.19897	.079	-.9153	.0403
	Separate	Single	.58036*	.17532	.004	.1594	1.0013
		Married/Cohabitant	.43750	.19897	.079	-.0403	.9153
Finalization of the action	Single	Married/Cohabitant	-.27222	.13945	.133	-.6071	.0626
		Separate	-.54167*	.17884	.010	-.9711	-.1122
	Married/Cohabitant	Single	.27222	.13945	.133	-.0626	.6071
		Separate	-.26944	.20297	.385	-.7568	.2179
	Separate	Single	.54167*	.17884	.010	.1122	.9711
		Married/Cohabitant	.26944	.20297	.385	-.2179	.7568

*. The mean difference is significant at the .05 level.

Table 52 Multiple comparisons

For the Emotional maturity area, a statistically significant difference exists between the mean of separated/divorced and single persons. The difference is to the advantage of separated individuals. For the Finalization of the action area there is a statistically significant difference between the mean of separated/divorced and single persons. The difference is to the advantage of separated persons.

5. Discussions

The first critical issue noted by the research is related to the gender difference of the sample with a clear predominance of female educational staff, therefore it is difficult to study and compare the behavior of different genders.

Beginning with analysis part A, the averages of the Power and Success and Relationship and Affiliation areas have a *higher* value than the statistically significant reference value of 2.98 versus 3.86 and 3.33 versus 3.78 respectively. While the averages of the Self-Realization and Protection and Security area show a *lower* value than the statistically significant reference value 4.10 vs. 3.74 and 3.76 vs. 3.63 respectively. In conclusion, subjects with low values in one area will also have low values in the other areas, while those with high values in one area will also have high values in the other areas. These data confirm our H1 hypothesis, testifying to how empowerment interventions oriented towards the development of professional skills can positively affect the perception of self-efficacy and commitment to work and the organization, as evidenced in the literature reviewed. With regard to the results that emerged in the Self-Realization and Protection and Security areas, we believe that the data may have been conditioned by the pandemic situation that has severely constrained the educational work, forcing it to unusual modalities and creating a climate of general uncertainty, not only professional, but also related to the expectations of effectiveness of the interventions.Il gruppo d'età non influisce in modo statisticamente significativo sul valore medio dei risultati del test per le Aree Power and Success, Relationship and Affiliation e Area Protection and Security.

Age group statistically significantly affects the mean value of the test results for the Self-Realization Area. Young people are found to be more Self-Realization oriented than adults. Probably the seniority of service can cause burnout in the educator (Morsanuto, Cardinali, 2020) and negatively affect the area related to Self-Realization, transforming the resilience gained in pedagogy of resistance (Garista, 2018).

Regarding area B, the second hypothesis (H2) was also confirmed. The mean of the Emotional maturity area holds a higher value than the reference value (3.12 vs. 3.29). Probably, having learned specific skills in significant areas through the use of innovative and pioneering methods made them more confident in being able to handle critical and emergency situations. The age group statistically significantly affects the mean value of the test results for the Emotional maturity Area. Adults present a statistically higher mean value than youth. (3.48 vs 3.59). Moreover, we can deduce that the company's punctual response to the urgent need of the educational staff has strengthened their perception of problem solving in stressful conditions (Piceci et al, 2020). Furthermore, for this data, there exists a statistically significant difference between the mean of separated/divorced and single people. The difference is to the advantage of separated individuals.

The mean for the Analysis of the context area has a higher value than the baseline value. (3.48 vs 3.65) and there is a statistically significant difference between the averages, in relation to the

different levels of education. In this case, it can be inferred that there is a statistically significant difference between the averages for those with a high school diploma and those with a bachelor's degree, with a higher average value for those with a bachelor's degree. This highlights the fact that training is a key element, in educational practice, in the perception of effectiveness with respect to context and relationship analysis. This confirms our hypothesis (H2) that improvement interventions have a positive impact on context analysis.

Conclusions

Overall, the data collected confirm our hypotheses, reinforcing the belief that improvement and empowerment interventions are a fundamental tool for professional educators, particularly when focused on developing and sustaining professional competencies. Great importance is attributed to continuing education in many professions, and this is true for the educational profession as well. The aspect that the presented study emphasizes, and that we strongly believe is desirable, is the need for such interventions to be specific to the needs of individual educators and innovative with respect to the new needs that they face daily: the educator encounters realities, individuals with needs and expectations that are sometimes very heterogeneous and often "unknown". The emergency pandemic situation has further reinforced this need, especially in terms of innovative aspects. As we have seen from the study, training in professional skills helps the development of fundamental elements for an educator, such as the perception of influence and control of the situation, commitment to one's work and to one's structure, emotional regulation and analysis of the context. All these aspects help the quality of the educator's work with an obvious positive impact on the user. This research shows some limitations consisting, first of all, of the small sample, but also of the lack of a control group through which to isolate the effect of the intervention. In terms of the future applicability of the results obtained from this research, it is our intention to expand the group of participants.

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