Psychological
RESILIENCE
For Emergency Responders

# TEST TO MEASURE RESILIENCE LEVEL

## in emergency medicine staff

Erasmus+

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# Psychological Resilience for Emergency Responders

*Erasmus+ Strategic Partnership*

Project # 2020-1-RO01-KA202-079773

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# Introduction

This booklet was produced in the Erasmus project "Psychological Resilience for Emergency Responders", in order to carry out a test to assess the level of psychological resilience in personnel involved in emergency situations (doctors, nurses, volunteers, paramedics, firefighters).

Before the actual design of the test we reviewed recent scientific literature on psychological resilience assessment paying attention to international research and research in partner countries in the project. After reviewing the instruments for measuring psychological resilience, we did a Swot analysis to identify the items used and what other items we could consider for the construction of the questionnaire measuring the level of resilience. We took into account cultural, educational, behavioural aspects of each country involved in the project. This booklet also contains the results and their interpretation obtained from the application of the test in the project partner countries. After administering the test we made a psychological and statistical analysis, which led to additional data on the level of psychological resilience of the target group, as well as possible differences in the participating countries.

# Chapter 1. Analysis of resilience measurement tools

## 1.1. How to measure resilience

There are several scales for measuring resilience in the literature and each has specific strengths and limitations. The first instrument for assessing resilience is the Dispositional Resilience Scale (DRS; Bartone, 1989), which measures resilience in terms of psychological resilience, taking into account emotional, cognitive and behavioural qualities. Resilience refers to three components: engagement, i.e. interest in reality, control, i.e. subjective perception of the degree to which events are influenced, and challenge, whereby new experiences represent the possibility of learning (Bartone, 1989). The Resilience Scale (RS; Wagnild and Young, 1993), on the other hand, is the scale most present in the literature, whose applications have included the presence of heterogeneous samples: Russian immigrants, mothers of teenagers, Irish immigrants, elderly women, depressed Mexican women, teenagers, middle-aged Soviet women, homeless teenagers, mothers of military subjects, and the elderly, and has good internal consistency.

The scales presented so far, while valid, have not negligible limitations, including a small number of participants who certified their validation or a particular sample type or, again, high heterogeneity in total sample size. Despite the obvious difficulty in operationalizing the construct of resilience, due to the multidimensionality of the concept, two more scales are presented here, selected on the basis of being instruments designed to detect resilience, listed in the Psychodynamic

Diagnostic Manual 2 (PDM -2), whose accuracy in selecting the scales described is guaranteed by the fact that it was developed based on the most recent updates in the scientific literature and published in 2018 (PDM-2, 2018).

In addition to those shown above, here is a list of the most commonly used tests for measuring resilience:

- Shedler-Westen Assessment Procedure-200.
- Ways of Coping Questionnaire.
- COPE Inventory.
- Ego Resiliency.
- Connor-Davidson Resilience Scale.
- Adult Attachment Interview e Adult Attachment Projective.

Of these, only two scales directly measure resilience, namely: Ego Resiliency Scale, which is a 14-item self-report questionnaire that measures ego strength on a 4-point Likert scale. The term "ego strength" refers to the ability to adapt flexibly to stressors (Block and Block, 1980). It is a unidimensional scale, based on the concept of ego-resilience, which has adequate internal consistency and construct validity (Ietzring, Block and Funder, 2005); a high score refers to a high ability to manage negative situations and, conversely, a low score reveals difficulties in emotional management under stressful circumstances (Block and Kremen, 1996).

The Connor-Davidson Resilience Scale (Connor and Davidson, 2003) is a 25-item self-report questionnaire that measures resilience, understood as the ability to cope with adverse events and to be able to mature through these

experiences. The scale is a 5-point Likert scale, where a higher score corresponds to greater resilience. It is an instrument constructed from various theoretical sources, influenced also by the work of Kobasa in relation to psychological resilience and Rutter in relation to strategies such as action, strong self-esteem, adaptability, problem solving, sense of humour, stability, emotional bonds, previous successful experiences. The scale was administered to subjects belonging to the following groups: community sample, primary care outpatients, general psychiatric patients, generalized anxiety disorder clinical trials, and two PTSD clinical trials. Reliability, validity and analytic structure of scale factors were assessed and baseline scores were calculated for the samples studied (Connor and Davidson, 2003).

How to measure resilience with the CD-RISC scale Measuring resilience with psychometric characteristics. One of the most widely used scales to study resilience is certainly the Connor-Davidson Resilience Scale (CD-RISC; 2003). The authors of this scale define resilience as a measure of one's ability to cope with stress. Resilience may be an important aspect to assess in the treatment of anxiety, depression and stress reactions. The scale, in the version proposed by the authors, consists of 25 items, each based on a 5-point scale (ranging from 0 to 4), the scale is designed to be administered individually. The five levels of presence of the characteristic correspond to (0) almost never true, (1) rarely true, (2) sometimes true, (3) often true, (4) true in almost all cases, the score can therefore fluctuate between 0 and 100. The higher the score, the higher the person's level of resilience becomes.

To validate the scale, groups with different characteristics were administered to assess the sensitivity of the scale to capture different levels of characteristic presence. Therefore, Connor and Davidson define resilience as "the personal

capacity to thrive even in the face of difficulties", according to the authors, it can be considered a measure of the ability to manage stress, it is a fundamental component in treatments for anxiety and stress. The Connor-Davidson Resilience Scale (CD-RISC) was created with the aim of being used in a valid and reliable way to detect resilience, to understand what the ranges of typical and non-typical values are in the general population and in samples of people with clinical problems. It can also be used to detect changes in levels of resilience in relation to the different treatments that may be carried out on a disorder, whether pharmacological or psychotherapeutic. for managing anxiety and coping with stress.

The CD-RISC consists of five factors: 1. personal competence and tenacity (8 items); 2. self-confidence and management of negative emotions (7 items); 3. positive acceptance of change and secure relationships (5 items); 4. control (3 items); 5. spiritual influences (2 items). The items were created from the previous resilience research study. The main reference of the scale is the construct of resilience (Kobasa, 1979), based on them the idea of control, change as challenge and commitment was developed. Items that refer to developing strategies for pursuing a specific goal, proactive action orientation, self-esteem, coping with challenges, problem solving, humor in stressful situations, having a secure and trusting social network, had previous experiences of positive coping refer to the work of Rutter (1985). From Lyon's (1991) work, questions were created to measure patience and the ability to withstand stress and anxiety. The Connor Davidson - Resilience Scale is based on a 5-point Likert scale, ranging from 1 "totally false" to 5 "totally true". The resilience scale has good internal consistency with Cronbach's alpha values ranging across searches from a low of .82 to a high of .93. Stability was also measured with the retest method at 24 weeks with similarly positive results. Consistent with the hypotheses, the

scale is positively correlated with resilience, social support (Connor and Davidson, 2003), self-esteem, life satisfaction (Yu and Zhang, 2007), while negatively correlated with perceived stress and vulnerability ( Connor et al., 2003).

Exploratory factor analysis by Connor and Davidson (2003) confirmed a five-factor structure in line with the hypotheses, however subsequent confirmatory factor analyses by different researchers from different cultures found different results, for example, Jorgensen and Seedat (Jorgensen & Seedat, 2008) found three factors (tenacity, self-confidence, adaptability), in addition, factor analysis by Khoshouei (2009) found four factors: tenacity, self-confidence, adaptability and motivation. Yu and Zhang (Yu and Zhang, 2007) finally found a two-factor structure (tenacity, strength). Connor & Davidson's (2003) baseline study was based on a total of six samples: 1. A sample of people from the general population (n = 577); 2. A sample of patients receiving primary care (n = 139); 3. A sample of psychiatric patients (n = 43); 4. A clinical sample of people diagnosed with generalized anxiety disorder (n = 25); 5. Two clinical samples from people diagnosed with PTSD (Group 5, n = 22; Group 6, n = 22); The latter groups were included only in order to compare pre- and post-treatment outcomes. The overall sample (samples 1-5) is balanced as follows, the number of female participants is 65%, for males it is 35%. The sample is mainly white (77%), mean age is 43.8 years with a standard deviation of 15.3. The standard deviation shows us that there is a good variability in the ages of the participants, so it is possible that these data reflect more than just one age group of the population.

In order to check the internal consistency of the scale, item-total correlations were calculated, this type of check allows to identify the adherence of each item to the overall scale, the basic assumption of this type of index is that if it is assumed

that each item represents a way of measuring the scale, each item must be positively correlated with a certain intensity with the overall scale. Through this type of analysis, it is also possible to identify which items are responsible for a possible low level of internal consistency. In this case, the item-test correlation indices are satisfactory, ranging from .30 to .70. In order to check for stability, a test-retest correlation coefficient was calculated between groups that repeated the test twice, i.e. sample 4, consisting of patients diagnosed with Generalized Anxiety Disorder (GAD) and sample 5, consisting of patients diagnosed with Posttraumatic Stress Disorder (PTDS). The test re-test coefficient was highly satisfactory (rtt = 0.89). Convergent validity indices were also computed, with satisfactory results, in particular, the scale correlated positively with the Kobasa strength measure (r = 0.83; p <, 001) in the sample of psychiatric patients. There is a negative correlation between the CD-RISC and the Perceived Stress Scale (PSS-10), and this consistently indicates that the higher the level of resilience, the lower the perceived level of stress (r = -0.76; p <. 01). Similarly, there is a negative correlation with the Sheehan Stress Vulnerability Scale (SVS) (r = -.32; p. <.001), therefore the higher the level of resilience, the lower the level of vulnerability to stress. The correlation (r = - 0.62, p <0.001) with the Sheehan Disability Scale (SDS) is negative. The scale correlates positively (r = 0.36, p <0.001) with the Sheehan Social Support Scale (SSS).

To assess the structure of the construct, a rotated factor analysis was performed which produced five factors with an eigenvalue greater than 1. The table shows the item number in the first column, item-total correlations in the second column other columns show item loadings to the various factors. Items that saturate a factor using 40 as threshold value are shown

in bold. As we can see, there are good factor solutions. In addition, there are no cases of items saturating more than one factor, thus avoiding interpretative problems related to the membership of an item in factors.

These are the most important tests for measuring resilience, although increasing resilience has become a desideratum of our times, not much research has been done in this regard.

This is precisely why our project proposes the development of new adapted tools.

## 1.2. Considerations and implications of the literature review

The current review aimed to determine the factors most commonly associated with fatigue in emergency medicine professionals. Thirty-two studies were reviewed looking at a large number and variety of variables. Despite the variation in studies, some factors were commonly reported as being related to fatigue and stress. Key factors included professionals' trauma history, awareness, empathy and workload, as well as other variables such as burnout and satisfaction. Other variables examined report very mixed results and, as such, do not appear to consistently influence fatigue and stress, such as age, gender, religion, and work experience. Those factors where a high percentage of studies found significant relationships include trauma history, certain types of empathy, and high workload. These could therefore be considered the main "risk factors" for fatigue and stress in emergency medicine professionals. Certain factors, such as mindfulness, although not extensively studied, have been associated with less fatigue and stress, which could indicate these potential protective factors. The results seem to confirm Figley's theory that empathy is involved in the development of some level of fatigue and stress (Figley, 2002). It is well known that empathy plays an important role, but appears to pose a risk to the well-being of emergency medicine professionals. However, the relationship between empathy and empathy-induced fatigue is not clarified by cross-sectional studies. The apparent role of empathy in the development of compassion fatigue suggests that those with higher levels of empathy may be more vulnerable in the first instance (Mathieu, 2007). Therefore, it is not necessarily clear whether we would expect empathy to correlate positively or negatively with compassion fatigue. It is possible that a clinician has developed compassion fatigue because they are highly empathic, for example, but have a low

empathy score due to the effects of compassion fatigue. To investigate this relationship further, longitudinal research is needed. However, the findings of the current review shed additional light on the relationship between empathy, compassion fatigue and trauma history. It has previously been suggested that professionals with a traumatic personal history may be more vulnerable to secondary traumatic stress reactions due to the potential reactivation of traumatic memories and the development of intense empathic responses (Figley, 1995; McCann and Pearlman, 1990; Pearlman and Saakvitne, 1995). Given the relationship between compassion fatigue and compassion satisfaction, it may be interesting to investigate which factors are associated with higher levels of compassion satisfaction. Some studies have suggested that interns have lower compassion satisfaction, while part-time workers have reported higher increases (Robins et al., 2009). The relationship between compassion, satisfaction and empathy may also warrant further investigation. Some research has reported that compassion satisfaction correlates with empathic concern (Thomas and Otis, 2010). Future research could further examine the relationship between different aspects of empathy in relation to both compassion satisfaction and compassion fatigue. Findings regarding trauma history have led some authors to suggest that the relationship between personal trauma history and reactions to working with other traumatized people has implications for the validity of secondary traumatic stress reactions (Elwood et al., 2011). If what is conceptualized as a secondary trauma reaction can be explained by some pre-existing psychological difficulties, such as post-traumatic stress disorder from a previous trauma, individuals' reactions to trauma, rather than their level of exposure, may be more predictive (Elwood et al., 2011). It has been suggested that if previous trauma exposure is not recognized or resolved, it may intensify and increase symptoms of secondary trauma

(Munroe et al., 1995; Solomon, 1993). Indeed, previous research measuring secondary trauma using the Impact of Events Scale (PTSD; Weiss, 2007) suggested that participants who were unaware of their reactions to trauma or who had experienced previous trauma were more likely to experience severe secondary trauma (Creamer & Liddle, 2005; Hargrave, Scott, & McDowall, 2006). A large number of studies have found an association between burnout and compassion fatigue. The relationship between these two factors could be explained by a conceptual overlap. As constructs, both purport to describe the psychological and physical effects, which develop over time, of mentally and emotionally demanding work. Conclusive findings from such research could be hampered by conceptual overlap between the two constructs, which could essentially 'touch' on a common feature such as emotional exhaustion. As such, a greater challenge for research in this area is likely to be the development of clearer distinctions between compassion fatigue and burnout. For example, moral distress has been reported by healthcare professionals in emergency medicine and has been found to be related to increased compassion fatigue (Maiden, Georges & Connelly, 2011). Moral distress has also been found to exist in mental health professionals (Austin, Bergum, & Goldberg, 2003), suggesting that it is certainly an area worthy of exploration. One of the most interesting implications of this review is that the emergence of mindfulness plays a potentially protective role against compassion fatigue. The relationship between mindfulness and compassion fatigue could have implications for how emergency medicine professionals manage the stress of their work. The results of this review suggest the need for further, more experimental research that builds on the knowledge already gained, such as investigating the effectiveness of mindfulness over time as a workplace intervention or testing differences between groups of physicians who use mindfulness

and those who do not. Indeed, recent research has suggested that mindfulness practices may be effective in reducing stress and promoting resilience (Seppala, Hutcherson, Nguyen, Doty, & Gross, 2014). A previous study found that an 8-week meditation-based stress reduction program helped reduce anxiety and psychological distress in a group of emergency medicine professionals (Shapiro, Schwartz, & Bonner, 1998). Furthermore, further exploration of other cognitive and behavioral coping mechanisms and their impact on compassion fatigue over time would be a valid area of research. Because professionals' trauma history is associated with compassion fatigue, it has been suggested that work organizations should provide services that offer professionals the opportunity to process personal trauma (Killian, 2008). This is an important finding when considering what might motivate a person to seek a career in emergency medicine. It is possible that some may have experienced significant difficulties or trauma in the past and this motivated them to help others in similar situations. Knowing that past trauma history correlates with increased compassion fatigue, emergency medicine personnel and the companies they work for can be more proactive in providing the support needed to protect themselves from compassion fatigue. This may have further implications for training organisations who may wish to consider training emergency medicine professionals in understanding and recognising compassion fatigue and potential risk factors. While most of the studies in the review measured and reported on a number of different variables, few conducted additional analyses to examine how different variables might interact in relation to compassion fatigue.

As a result of this review of using tests to measure resilience levels and the variables that might be considered, we developed a questionnaire to measure resilience levels with a focus on empathy levels, which as we have seen correlates with

compassion fatigue and specifically focused on awareness of reactions and emotions. As part of the Erasmus project, we applied this questionnaire to a significant number of emergency medicine professionals in the project partner countries to analyse and interpret the results so that we have a starting point for the course material we will build.

# Chapter 2. Test for measuring the degree of resilience

## 2.1. Instrucțiuni de completare

This test measures your resilience. Resilience is a person's ability to resist, to adapt quickly to a tragic event, to problems or failures, to a difficult situation.

Below are a series of questions that you are asked to answer by selecting the appropriate value for your answer on a scale from 1 to 5 where:

1 - Represents completely false 5 - Represents completely true

The questionnaire is anonymous, it is not necessary to give your name. Thank you!

Age.....

Occupation.....

Department.....

| No | Section | Question | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| 1 | Perception | I believe my life has meaning and is worth living | | | | | |
| 2 | | My work is in line with my values | | | | | |
| 3 | | What I do in my job is important to others | | | | | |
| 4 | | I notice new and positive things more than negative things | | | | | |
| 5 | | I am aware of my negative feelings and don't allow them to control me | | | | | |
| 6 | | I know how to express and manage emotions | | | | | |
| 7 | Emotional and behavioural management | I consider myself a victim of circumstances | | | | | |
| 8 | | I deal coherently with unpleasant situations | | | | | |
| 9 | | I deal coherently with pleasant situations | | | | | |
| 10 | | I have received formal training to learn how to manage my moods when participating in an emergency situation | | | | | |
| 11 | | I have become accustomed to seeing injured or dead people, disasters, dangerous situations | | | | | |
| 12 | | Even though I am affected when participating in emergency situations with casualties and disasters, I have learned to control myself | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 13 | Relationship | There's at least one person in my life with whom I can share everything, good and bad | | | | | |
| 14 | | Relationships with important people in my life suffer if I get emotionally charged up from work | | | | | |
| 15 | | I have access to a psychologist at work | | | | | |
| 16 | | I find it helpful to talk to a psychologist after every tough assignment | | | | | |
| 17 | | I think it would be useful to be able to talk about how I felt and what happened after each difficult assignment | | | | | |
| 18 | | I trust my colleagues and superiors and can count on their support when I need it | | | | | |
| 19 | Resilience self-assessment | I value my experiences and learn from both mistakes and successes | | | | | |
| 20 | | I adapt quickly to change and easily accept what I cannot change | | | | | |
| 21 | | I believe I can cope with difficulties in the workplace | | | | | |
| 22 | | I feel in control even when I feel overwhelmed by situations at work | | | | | |
| 23 | | I value the work I do | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 24 | Resilience self-assessment | I know techniques that allow me to get over how I feel when I see injured or dead people and disaster situations | | | | | |
| 25 | | I apply techniques that enable me to cope with how I feel when I see injured or dead people and disaster situations | | | | | |
| 26 | | I prefer to find solutions myself | | | | | |
| 27 | | I prefer others to find solutions | | | | | |
| 28 | Lifestyle | My life is important and I take care of myself | | | | | |
| 29 | | I am aware of what is good and bad for me | | | | | |
| 30 | | In a difficult situation, I think of my health first | | | | | |
| 31 | | I am aware of my capabilities and strengths | | | | | |
| 32 | | I trust myself | | | | | |

## 2.2. Scorers

For each question you can choose a choice from 1 to 5. Each option chosen is scored with the corresponding number.

1. Variant 1 - 1 point
2. Variant 2 - 2 points
3. Variant 3 - 3 points
4. Variant 4 - 4 points
5. Variant 5 - 5 points

The scores for each question are added together. There are 31 questions. The maximum score is 155 (based on points from 1 to 5).

a) 62 low score - low level of resilience

b) 63 - 93 medium - medium level of resilience

c) 94 - 124 good - good level of resilience

d) 125 - 155 maximum - optimal level of resilience

# Chapter 3. Results of the questionnaires and their interpretation

## 3.1. Romania

### 3.1.1. Introduction

Drawing on the literature, this research set out to investigate the level of resilience among medical staff working with emergency situations. Different levels of resilience intensity and its components were considered. For a clear picture of how it evolves, the data were analysed in terms of age categories. In order to observe individual differences and possible high-risk categories, analyses at the level of sub-departments and occupations have been made based on the following assumptions:

- H1: Emergency staff have a high level of psychological resilience due to the nature of their job
- H2: Special psychological training of staff is important to cope with workplace events
- H3: Increased experience helps them to cope better under general stress
- H4: There are age group differences in the level of resilience
- H5: There are departmental differences in resilience levels
- H6: Occupational differences in resilience levels

### 3.1.2. Methodologies

From a methodological point of view, the research is quantitative. A cross-sectional design was used. It was based on a structured questionnaire measuring the person's level of resilience consisting of 5 sub-divisions measured through 32 items scored on a likert scale. The target group was administered the questionnaire both online and in pencil and paper format. It was administered to 650 participants, of which the final sample consisted of 530 participants whose completion was valid. The total sample is representative of medical staff involved in emergency situations in the three partner countries, aged between 20 and 65 years. The target group by nature of their profession is exposed to a whole range of events with a possible major traumatic impact. Respondents volunteered to take part in the survey both online and in physical format and the data to be presented were reported as a percentage of the overall target group.

### 3.1.3. Research steps

In the first phase a thorough literature review was carried out. On the basis of the selected information, a general profile of the target group was made in relation to the existing scientific results. A first resilience questionnaire adapted to the profile of the target group was developed and subsequently developed in its current form. The sample for the current research was selected and the questionnaires were administered online and paper pencil. After application of the questionnaires a selection of the sample was made again. The end of the research included the analysis of statistical data and the creation of the final report.

### 3.1.4. Research objectives

In terms of research objectives, the following lines of inquiry were pursued:

- O1: Examining resilience levels by department, occupation and age group.
- O2: Correct perception of events that happen to them.
- O3: Ability to manage emotions and behaviours while on duty
- O4: Relating functionally in all environments
- O5: Correct ability to assess their limits in terms of their level of resilience
- O6: How participants' lifestyles are influenced by their job

### 3.1.5. Research results

*General:*

In the following excerpt, the level of resilience of the target group will be analysed in terms of 3 categories: age of the participants (20-30 years, 31-40 years, 41-50 years and 51-65 years), the department they belong to (Financial-Administrative, ISU, Ambulance Service, Emergency Situations, UPU, Dispatch and Home Consultations), the occupation within the department (Assistant, Nurse, General Nurse, Economist, Manager, Firefighter-Paramedic, Volunteer, Ambulance Driver,

Ambulance Driver, Operator). This analysis was necessary in order to see which categories are at risk and which are at the opposite end of the scale of the categories with a good level of resilience to a major event.

The components that were investigated in the research were: Perception, Emotional and Behavioural Management, Relationship, Self-assessment of Resilience and Lifestyle. These included items to assess the following dimensions as follows:

- Perception: how respondents perceive their life as meaningful, personal values are in line with their private life, notice the importance of their job to others, focus on general positive aspects and have the ability to be aware of how they express and manage their emotions. (Example item: ,,Work is in line with my values")
- Emotional and behavioural management: how concretely respondents deal with pleasant/unpleasant situations, awareness of the limits of behavioural readiness to do their job, whether they are impacted by borderline situations (death, disasters, dangerous situations), how they behave and emotionally manage the borderline situation ("I think I am a victim of circumstances").
- Relationship: the existence of a support person in the vicinity of the person, whether the workplace affects their private life, whether there is a specialist person (psychologist) in the workplace, whether they feel they need a specialist person in the workplace, the level of trust and support they receive in the community ("I think it would be useful to talk to a psychologist after every difficult assignment")

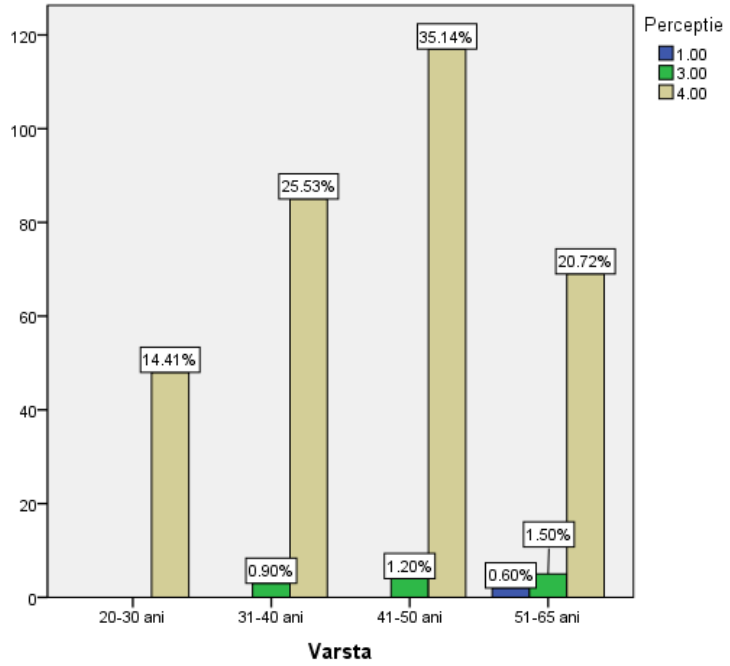
- Self-assessment of resilience: valuing success and integrating the experience of failure in a workable way, ability to adapt to change, ability to cope with difficulties in the workplace, how they stay resilient regardless of the difficulty encountered, the value they place on their job, knowledge of the techniques and coping methods for dealing with difficult situations, ability to solve a problem alone, preference for receiving support from others ( Example item: I adapt easily to changes and easily accept what I cannot change)
- Lifestyle: the importance one attaches to one's own life, the ability to be aware of right and wrong, the ability to put oneself first, awareness of one's capabilities and strengths, self-confidence (Example item: "My life is important and I take care of myself")

3.1.6. Participants' response to the dimensions investigated

(1 - represents low level of resilience, 2 - medium to good level of resilience, 3 - good level of resilience, 4 - high level of resilience)

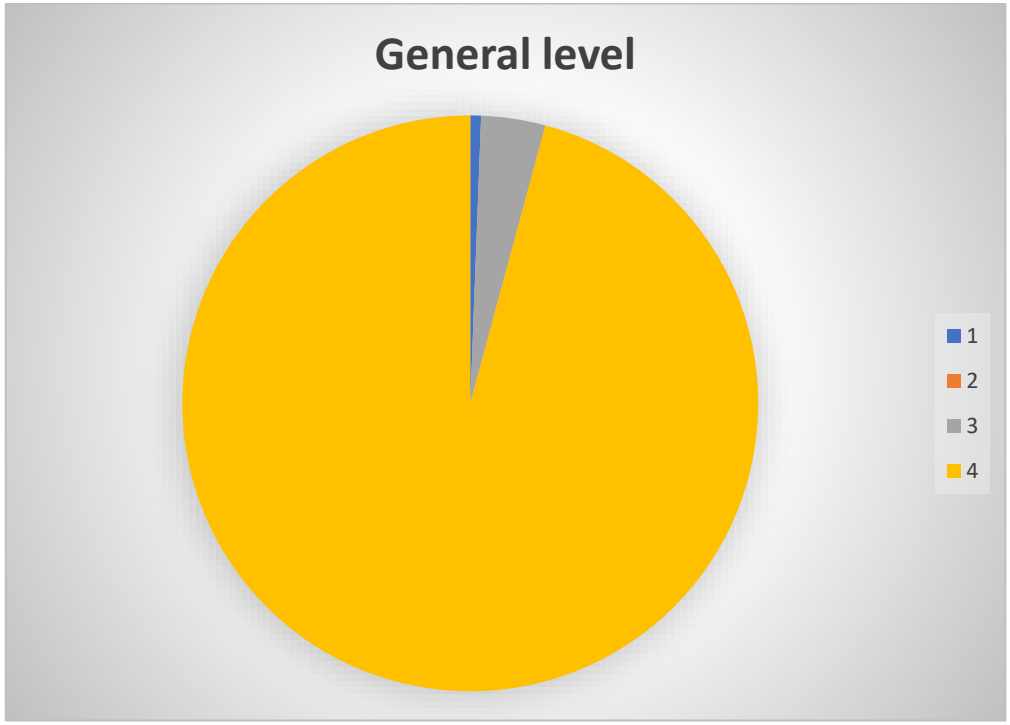
A. Age category and components of resilience.

1. *Perception and Age (Level of perception of relationality that health professionals have)*

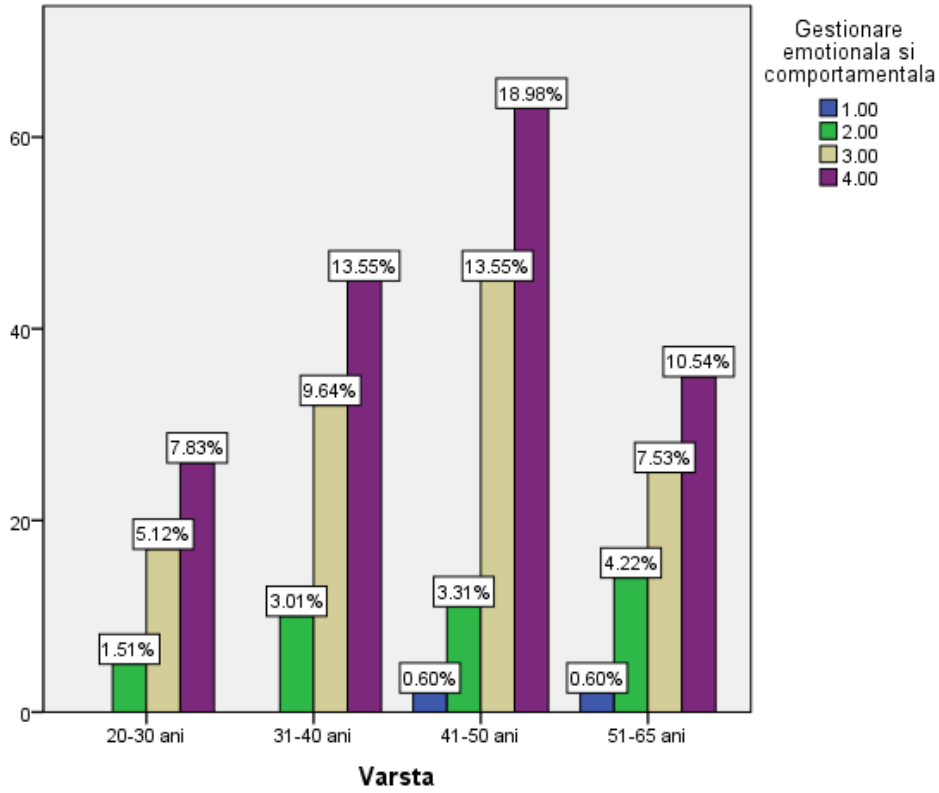


Regarding the perception of the age group 20-30 with a percentage of 14. 41% show a high level of resilience. In the age category 31-40 0.90% of the participants show a good level of resilience. In the age category 41-50 years, 1.20% of the participants showed a good level of resilience and 35, 14% a high level of resilience. In the 51-65% category 0.60% show a low to critical level of resilience, 1.50% show a good level of resilience and 20.72% show an increased level of resilience.

In conclusion, in terms of perceptual ability as a sub-division of resilience: 95.80% show a high level, 3.60% show a good level and 0.60% show a low level.



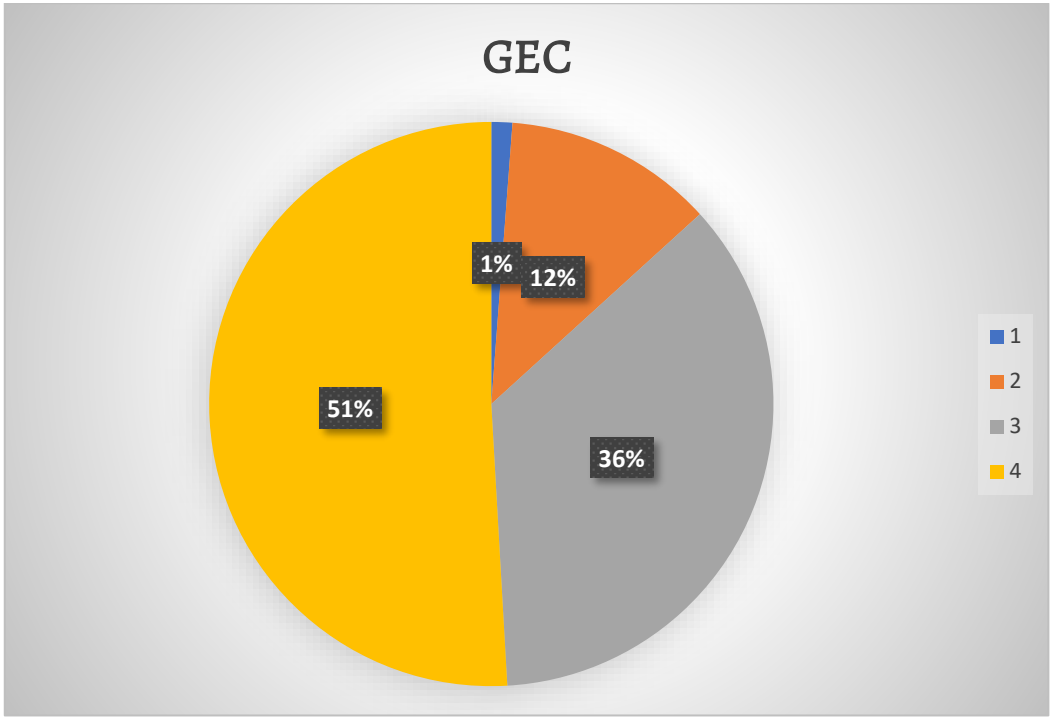
*2. Age and Emotional and Behavioural Management*



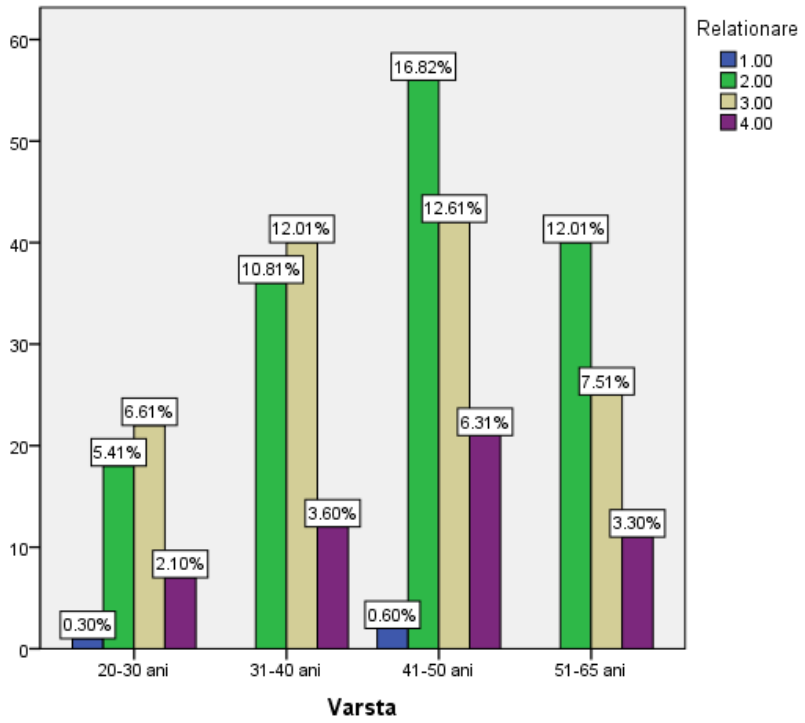

Regarding "Emotional and behavioural management" the age group 20-30 with a percentage of 7.83% shows a high level, 5.12% shows a good level, 1.51% shows an average to good level. In the age category 31-40 years 3.01% of the participants show a medium to good level, 9.64% show a good level and 13.55% show a high level. In the 41-50 age group, 0.60% of participants had a low to critical level, 3.31% a medium to good level, 13.55% a good level and 18.98% an increased level. In the

51-65% category, 0.60% had a low to critical level, 1.50% had a medium to good level, 7.53% had a good level and 10.54% had an increased level.

In conclusion, in terms of GEC as a sub-division of resilience: 50.90% show a high level, 35.84% % show a good level, 12.05% show a good to medium level and 1.20% show a low level.



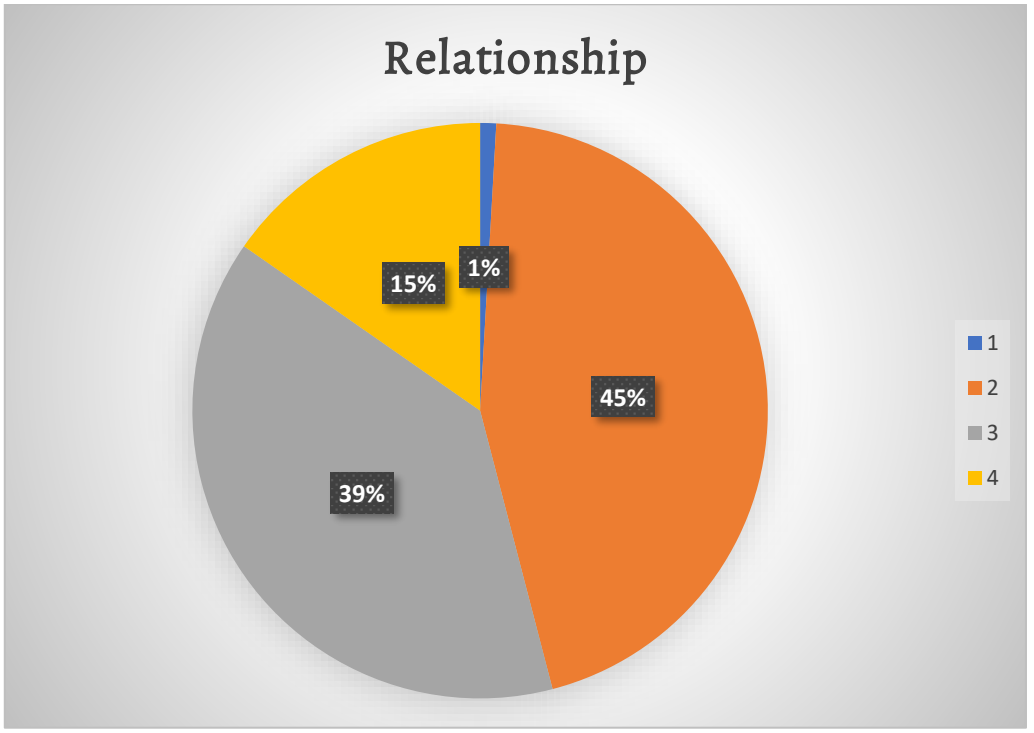
*3. Age and relationship*



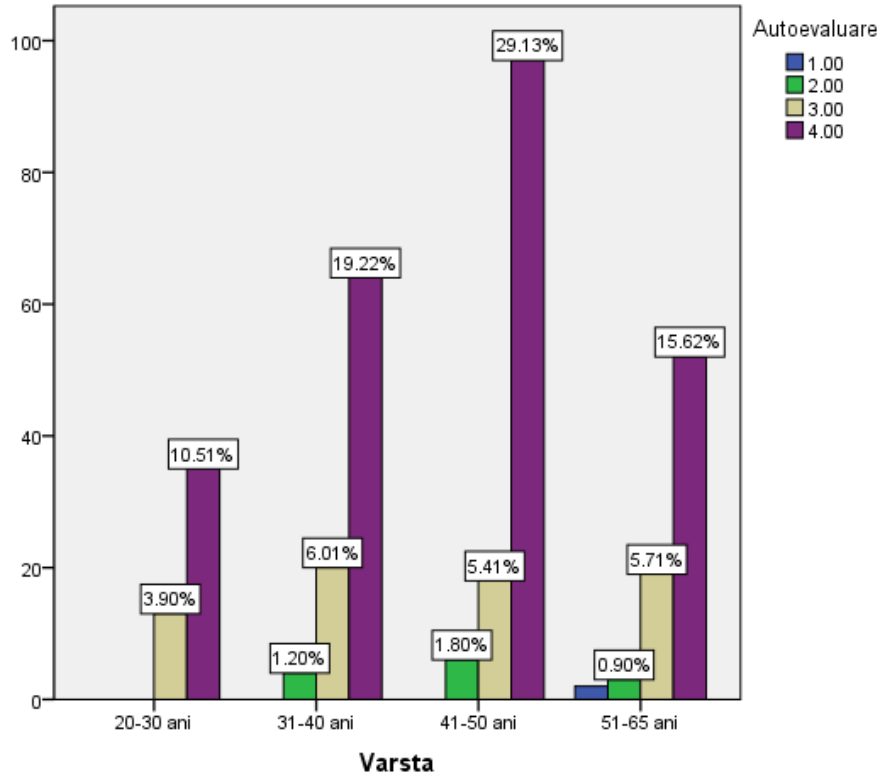

Regarding "Relating" the age group 20-30 with a percentage of 2.10% shows a high level, 6.61% shows a good level, 5.41% shows a medium to good level and 0.30% shows a low level. In the age category 31-40 years 3.60% of the participants have a high level, 12.01% have a good level and 10.81% have a medium to good level. In the 41-50 age category, 6.31% of participants have an increased level, 12.61% a good level, 16.82% a medium to good level and 0.60% a low level. In the 51-65%

category, 3.30% showed an increased level, 7.51% showed a good level, 12.01% showed a medium to good level, there were no critical level scores.

In conclusion, in terms of relatedness as a sub-division of resilience: 15.32% show a high level, 38.74% % show a good level, 45.05% show a good to medium level and 0.90% show a low level.



*4. Resilience self-assessment and age*

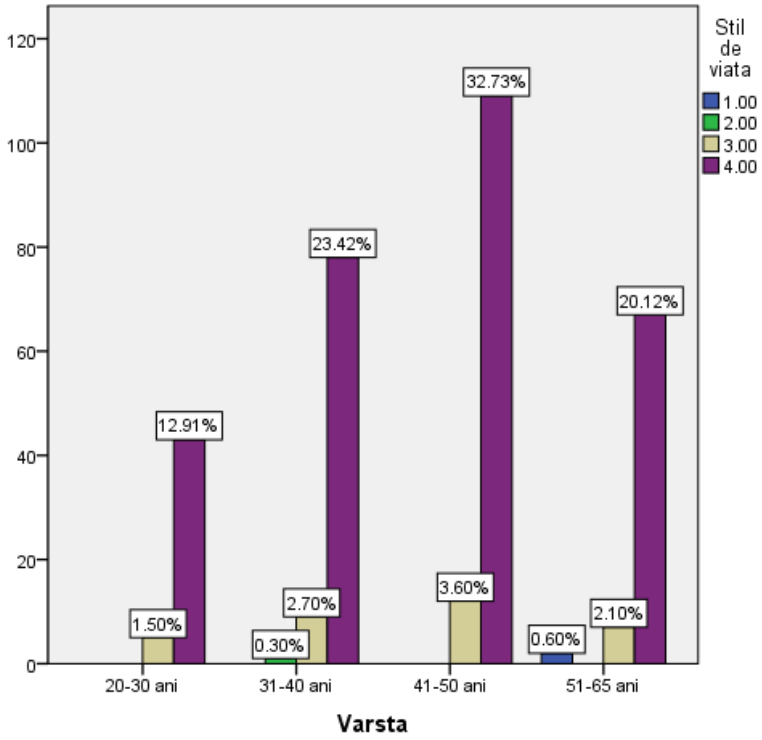



Regarding "Self-assessment of resilience" the age category 20-30 with a percentage of 10.51% shows a high level, 3.90% shows a good level. In the age category 31-40 19.22% of the participants show an increased level, 6.01% show a good level and 1.20% show an average to good level. In the 41-50 age category, 29.13% of participants have an increased level, 5.41% a good

level and 1.80% a medium to good level. In the 51-65% category, 15.62% showed an increased level, 5.71% showed a good level, 0.90% showed an average to good level, 0.60% showed a critical level.

In conclusion, in terms of "Self-assessment of resilience" as a sub-division of resilience: 74.45% show a high level, 21.02% show a good level, 3.90% show a good to medium level and 0.60% show a low level.

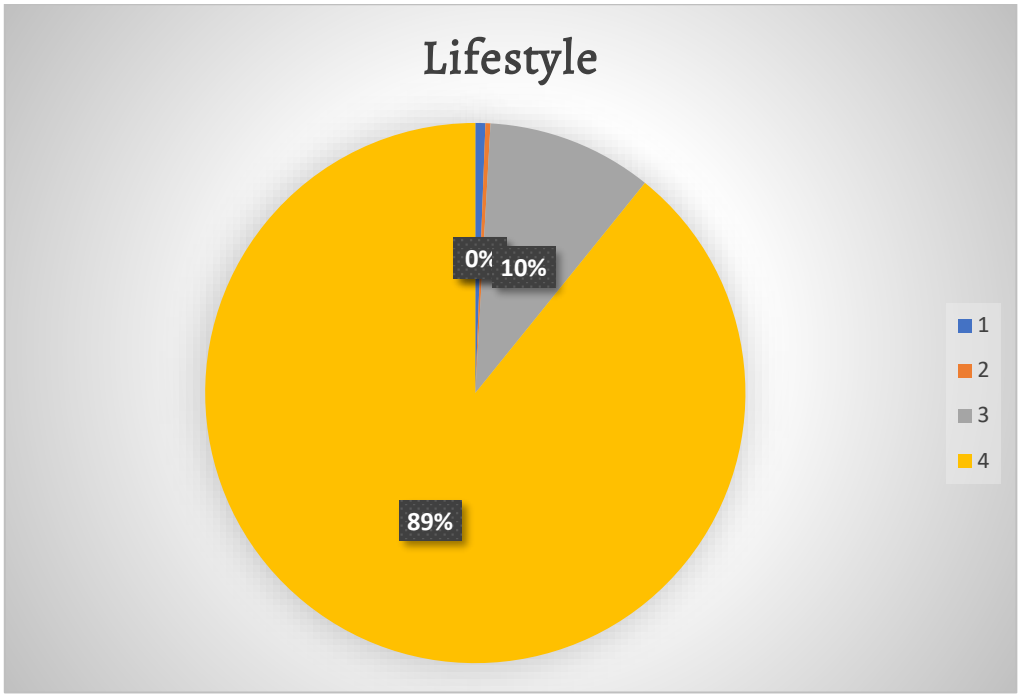
*5. Lifestyle and age*




Regarding the dimension "Lifestyle and age", the age category 20-30 with a percentage of 12.91% shows a high level, 1.50% shows a good level. In the age category 31-40 years 23.42% of the participants show an increased level, 2.70% show a good level and 0.30% show an average to good level. In the 41-50 age category, 32.73% of participants have an increased level,

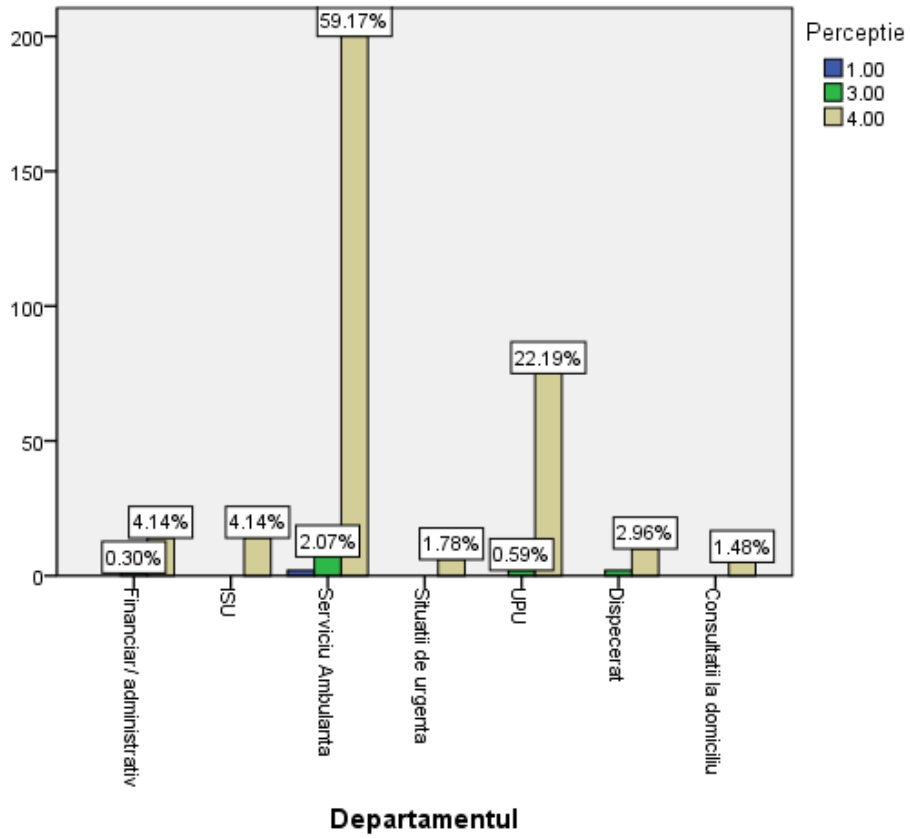
3.60% a good level. In the category 51-65 years old, 20.12% have an increased level, 2.10% have a good level, 0.60% have an average to good level, there were no critical level scores.

In conclusion, in terms of relatedness as a sub-division of resilience: 89.19% show a high level, 9.91% show a good level, 0.30% show a good to medium level and 0.60% show a low level.



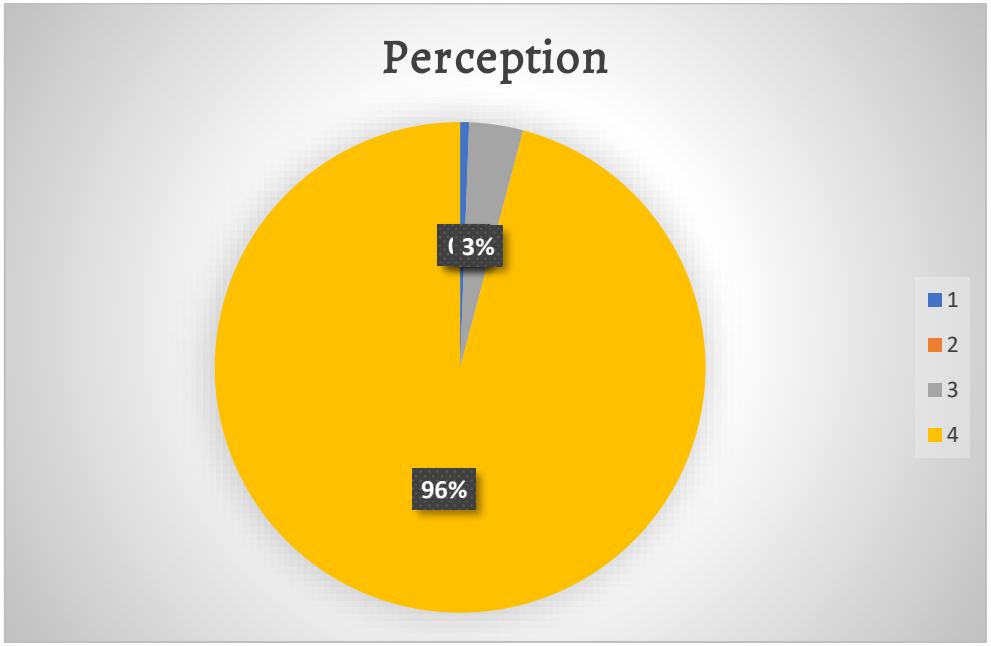
B. Analysis of results in terms of Department and components of resilience.

*1. Department and Perception*

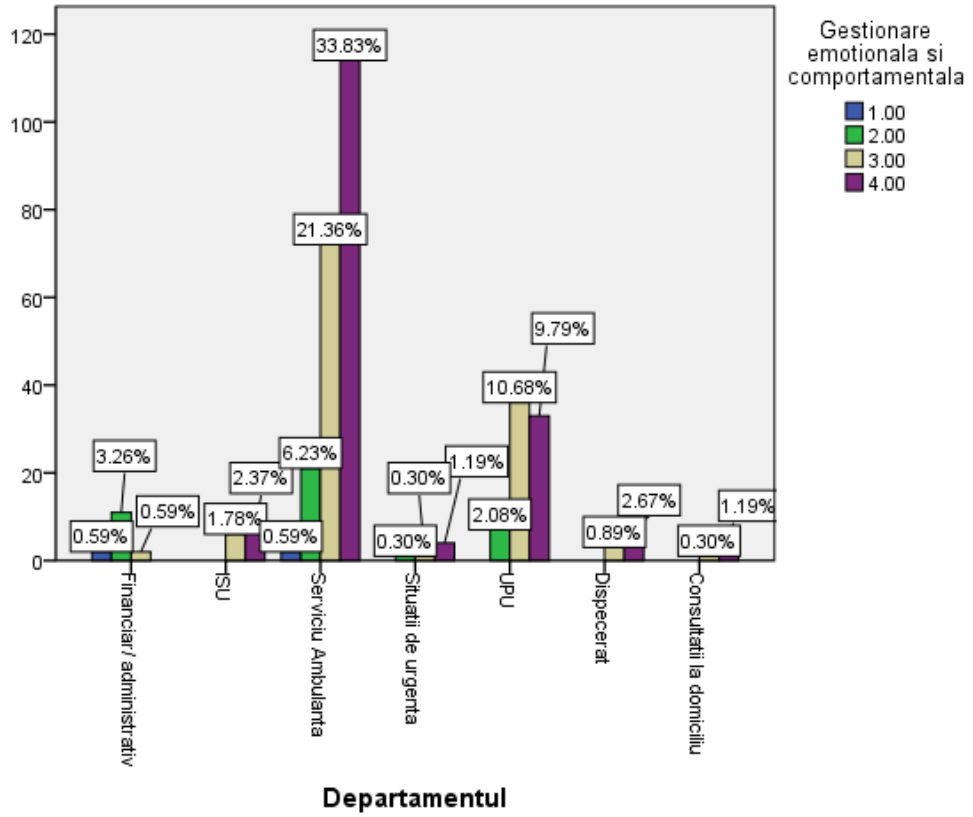


As for "Department", in the category Financial Administrative, 4.14% score high, 0.30% score good. In the ISU category we find 4.14% respondents with a high score. In the Ambulance Service category, 59.17% score high, 2.07% score good. In the category Emergency Situations we meet 1.78% of respondents with a high score, in the category UPU 22.19% present a high score and 0.59% a good level. In the dispatch category 2.96% score high. In the category home consultations 1.48% score high.

In conclusion, in terms of perception as a sub-division of resilience reported at departmental level we find the following results: 95.89% score high, 3.55% score good and 0.59% score low.



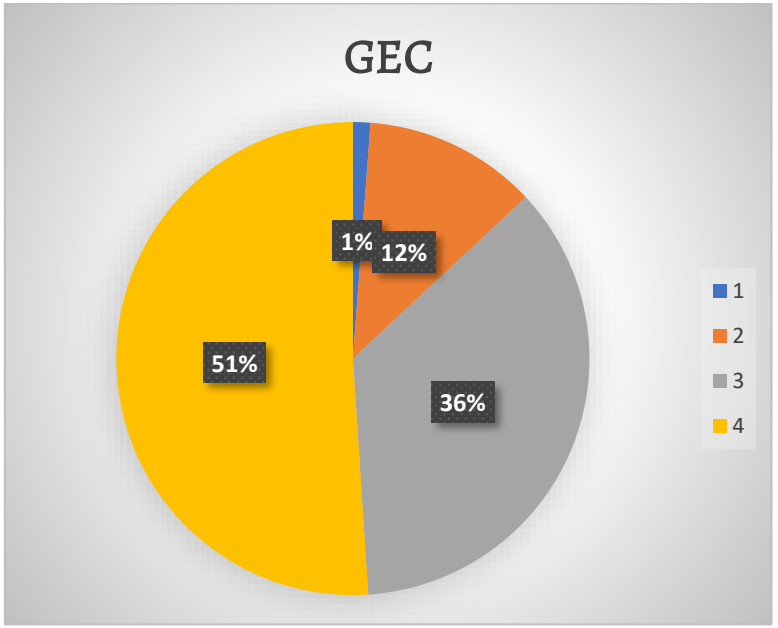
*2. Department and Emotional and Behavioural Management*



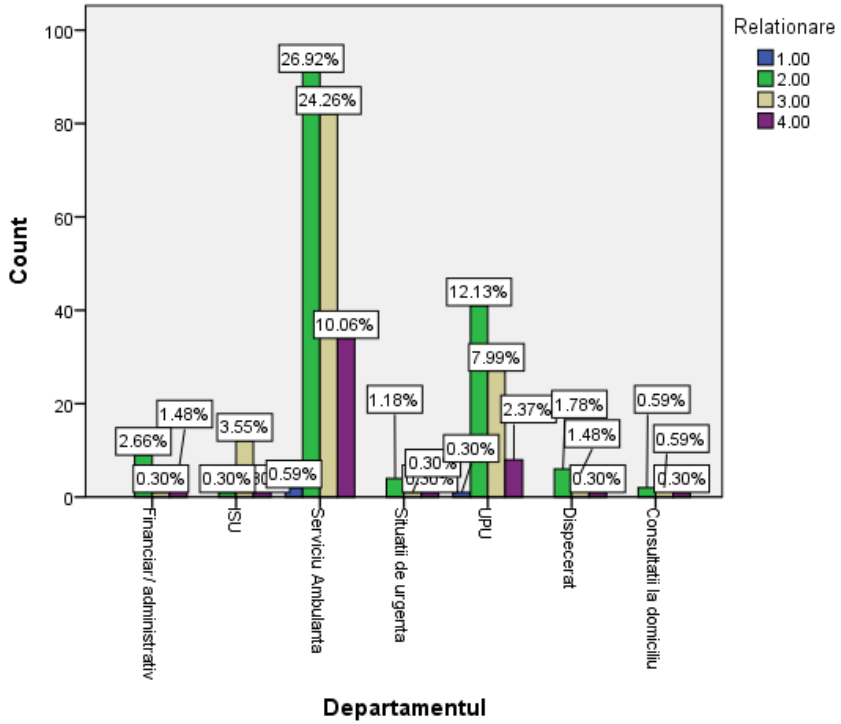

In terms of "Emotional and Behavioural Management", in the Financial Administrative category, there are no respondents scoring high, 0.59% scoring good and 3.26% scoring medium to good and 0.59% of respondents scoring low. In the ISU category we find 2.37% respondents with a high score and 1.78% respondents with a good score. In the Ambulance Service category, 33.83% show a high level, 21.36% show a good level, 6.23% show a medium to good level and 0.59% show a

low level. In the category Emergency Situations we find 1.19% of respondents with a high score, 0.30% of respondents with a good level and 0.30% of respondents with a medium to good level. In the UPU category 9.79% score high, 10.68% score good, 2.06% score medium to good and there are no respondents with a low score. In the Dispatch category 2.67% have a high level and 0.89% have a good level. In the category Home consultations 1.19% have a high level and 0.30% have a good level.

In conclusion, with regard to GEC as a sub-division of resilience reported at department level, the following results are found: 51.04 are high, 35.91 are good, 11.87 are medium to good and 1.19% are low.



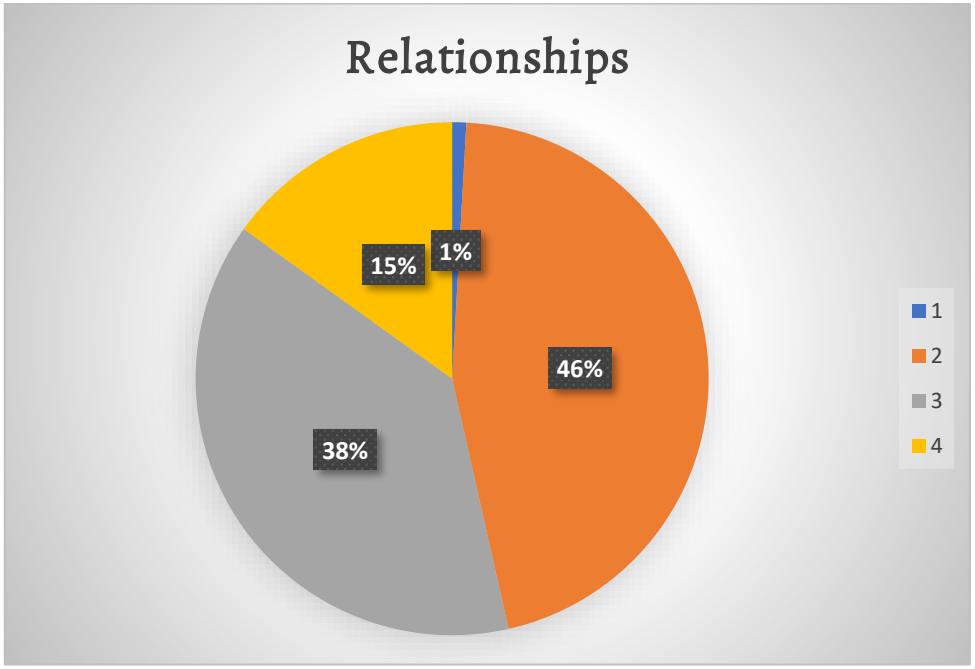
*3 . Department and Relationships*



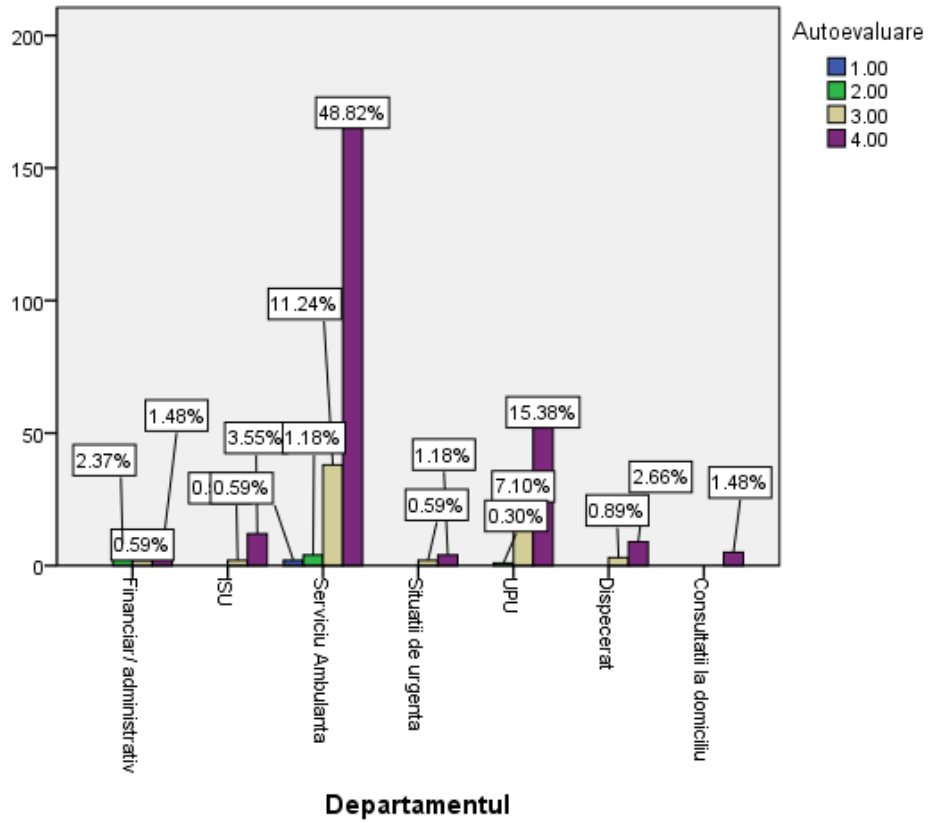

In terms of Relationship, in the Financial Administrative category, 1.48% are high, 0.30% are good and 2.66% are medium to good. In the ISU category we find 0.80% of respondents with high level and 3.55% of respondents with good level and 0.30% of respondents with medium to good level. In the Ambulance Service category, 10.06% show a high level, 24.26% show a good level, 26.92% show a medium to good level and 0.59% show a low level. In the category Emergency Situations we find 0.30% of respondents with a high score, 0.30% of respondents with a good level and 1.18% % of respondents with a

medium to good level. In the UPU category 2.37% score high, 7.99% score good, 12.13% score medium to good and 0.30% score low. In the Dispatch category 0.30% have a high level and 1.48% have a good level and 1.78 a medium to good level. In the category Home consultations 0.30% have a high level and 0.59% have a good level and 0.59% a medium to good level.

In conclusion, in terms of Relating as a sub-division of resilience reported at department level we find the following results: 15.09 show a high level, 38.46 show a good level, 45.59 show a medium to good level and 0.89% show a low level.



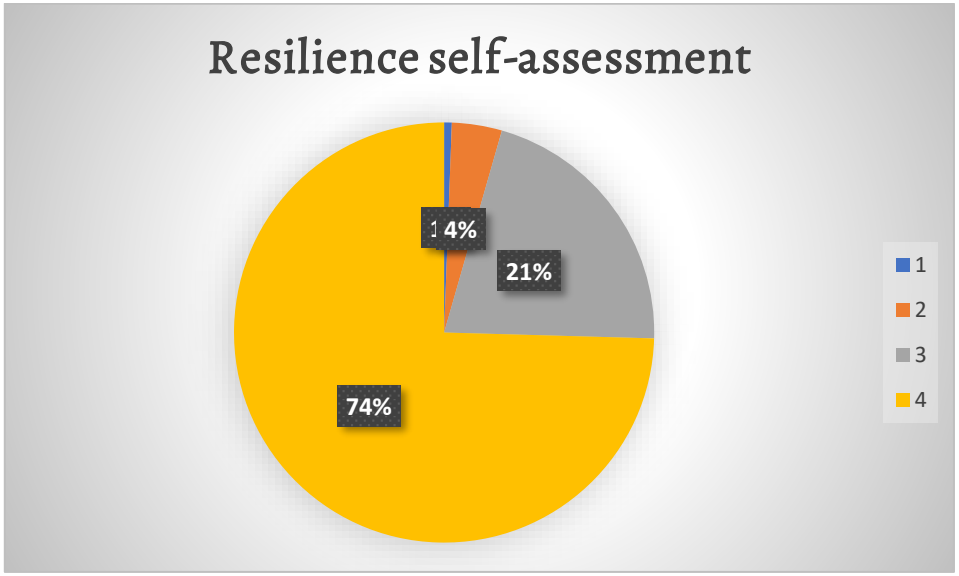
*4. Department and Resilience Self-Assessment*



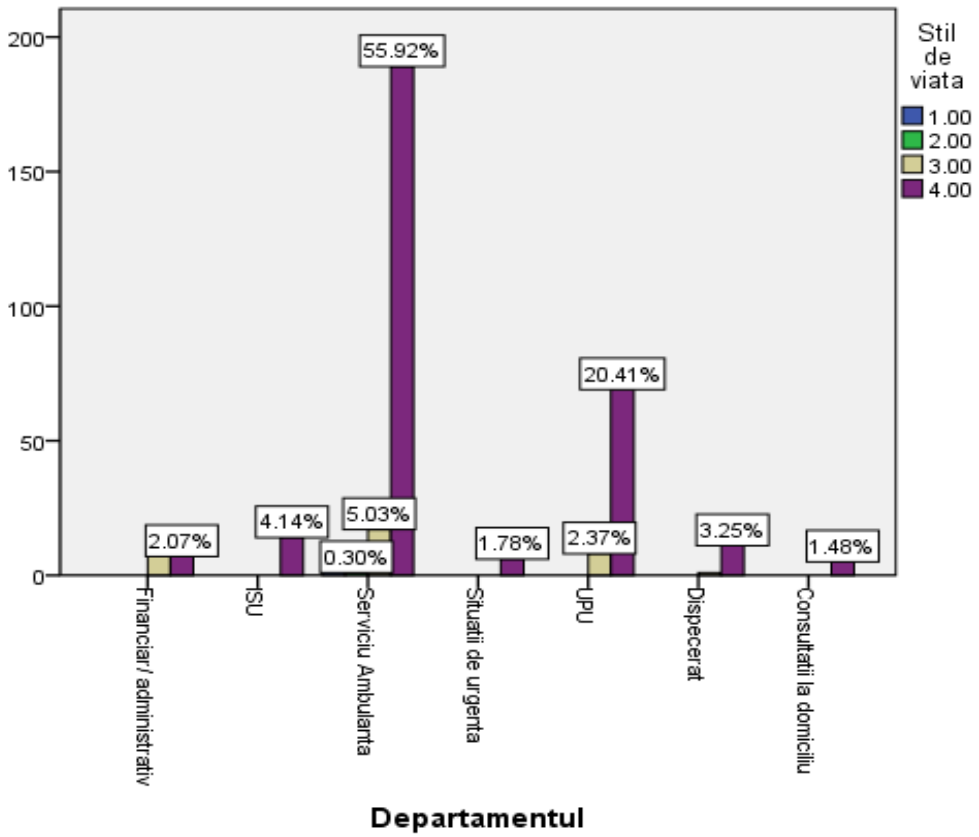

In terms of "Self-assessment of resilience", in the Financial Administrative category, 1.48% show a high level, 0.59% a good level and 2.37% show a medium to good level. In the ISU category we find 48.82% respondents with high level, 11.24% respondents with good level and 1.18% of respondents with medium to good level and 0.59% of respondents with low level.

In the Ambulance Service category, 48.82% show a high level, 11.24% show a good level, 1.18% show a medium to good level and 0.59% show a low level. In the category Emergency Situations we find 1.18% of respondents with a high score, 0.59% of respondents with a good level. In the UPU category 15.38% score high, 7.10% score good, 0.30% score medium to good. In the Dispatch category 2.66% score high and 0.89% score good. In the category Home consultations 1.48% have a high level.

In conclusion, in terms of Relating as a sub-division of resilience reported at departmental level we find the following results: 74.56% show a high level, 21.01% show a good level, 3.85% show a medium to good level and 0.56% show a low level.

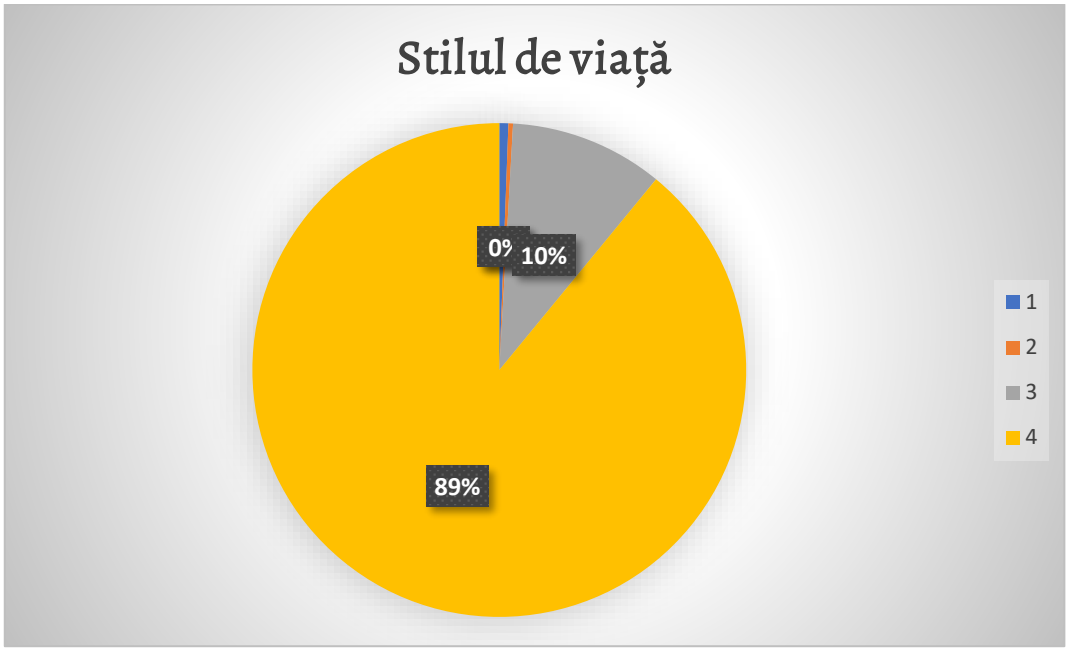


*5. Department and Lifestyle*



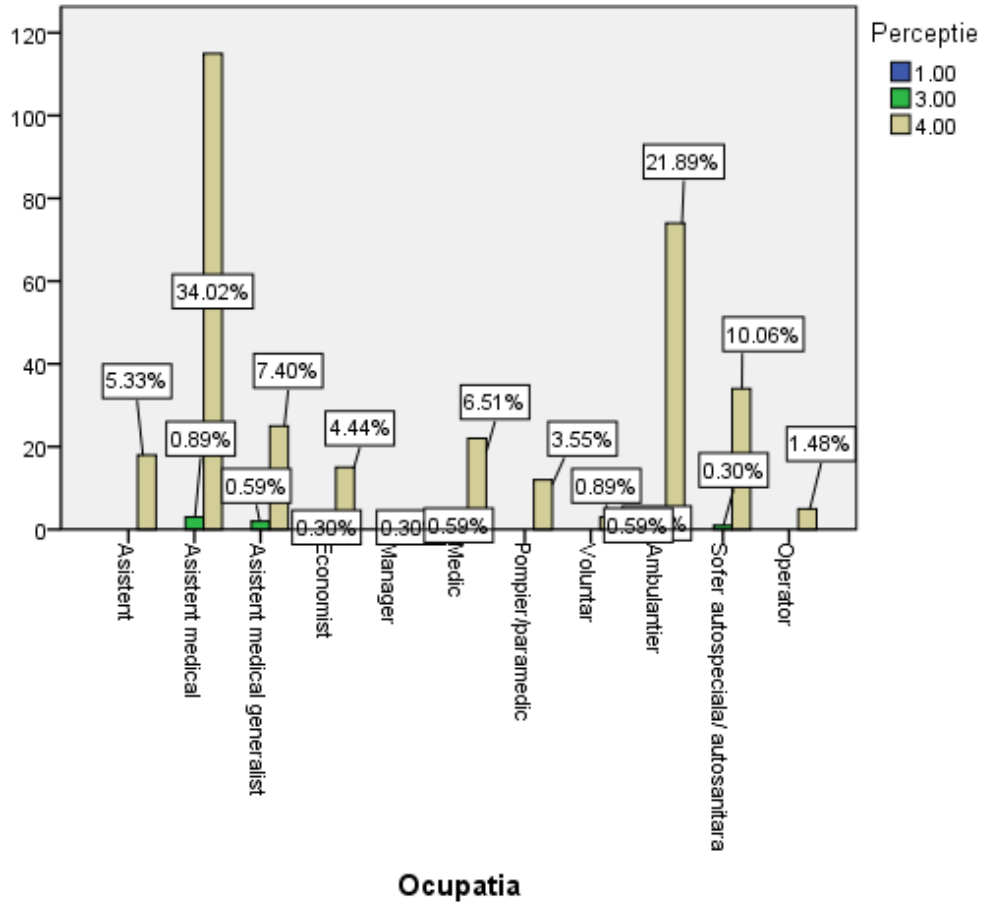

Regarding "Lifestyle", in the Financial Administrative category, 2.07% show a high level, 0.20% a good level. In the ISU category we find 4.14% respondents with a high level. In the Ambulance Service category, 55.92% have a high level, 5.03% have a good level, 0.30% have a medium to good level. In the category Emergency Situations we find 1.78%. In the Dispatch category 3.25% have a high level. In the category Home consultations 1.48% show a high level.

In conclusion, regarding Lifestyle as a sub-division of resilience reported at department level we find the following results: 89.05% have a high level, 10.06% have a good level, 0.30% have a medium to good level and 0.59% have a low level.



C . Analysis of results on occupation and subdivisions of resilience

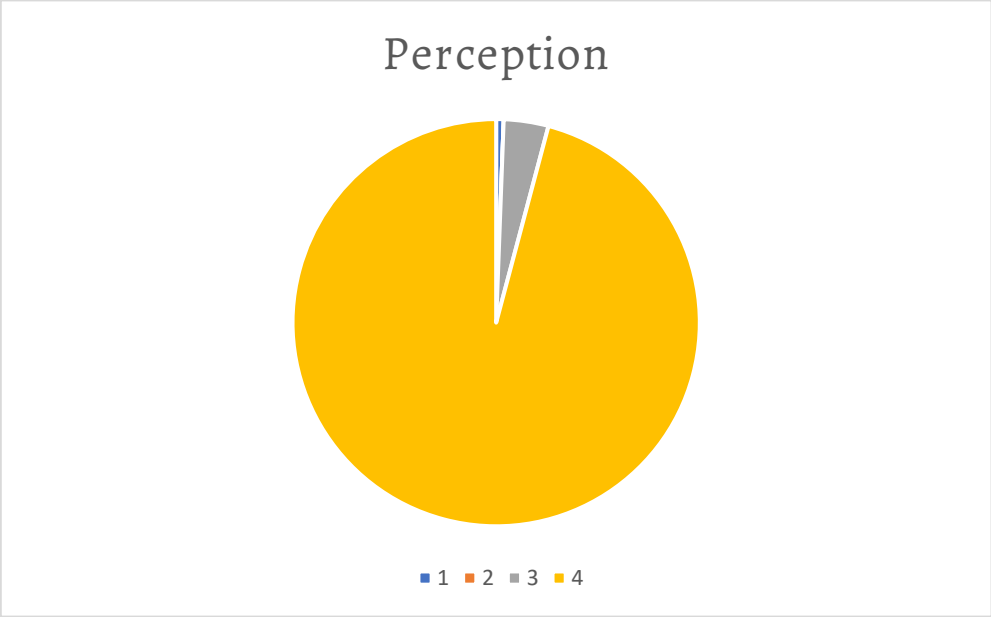
*1. Perception and Occupation*



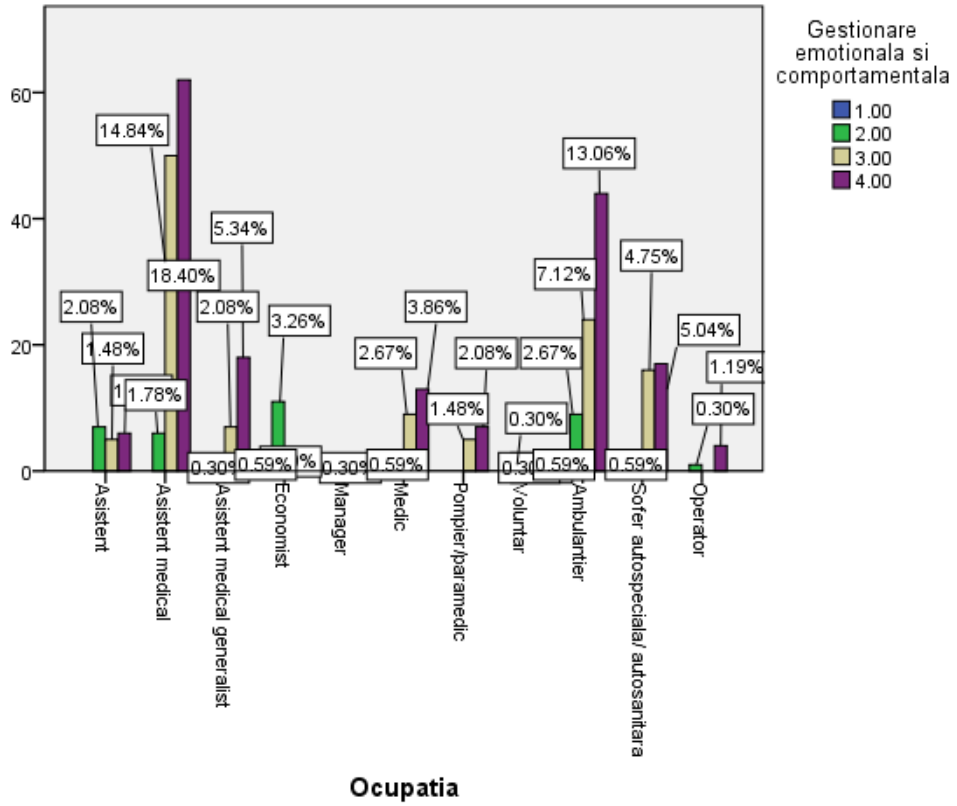

In terms of "Perception", in the category Assistant 5.33% show a high level. In the category Nurse we find 34.02% respondents with high level and 0.89% respondents with good level. In the category General Medical Assistant, 7.40%

present a high level, 0.59% present a good level, 6.23%. In the Economist category we find 0.30% of respondents with a high level. In the Manager category, 0.30% have a high level. In the category Doctor 6.51% show a high level and 0.59% show a good level. In the Firefighter-paramedic category 3.55% present a high level. In the Volunteer category, 0.89% show a high level. In the Ambulance category 21.89% show a high level. In the category driver - ambulance 10.06% have a high level and 0.30% a good level. In the category Operator 1.48% show a high level.

In conclusion, as far as Perception as a sub-division of resilience related to the level of occupation is concerned, we find the following results: 95.86 have a high level, 3.55 have a good level, 0.59% have a low level.



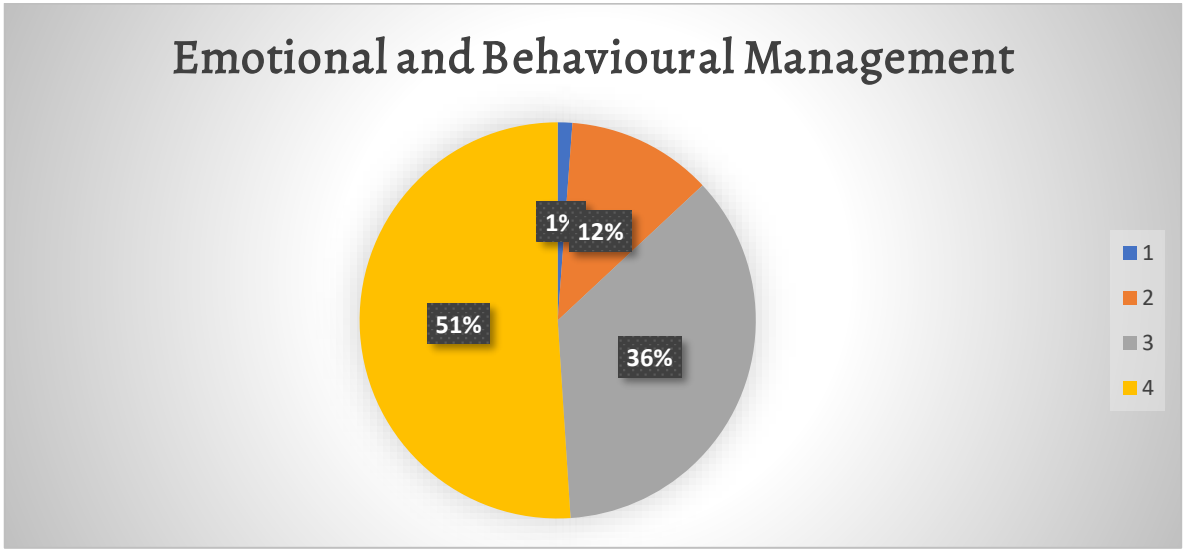
*2. Occupational and Emotional and Behavioural Management*



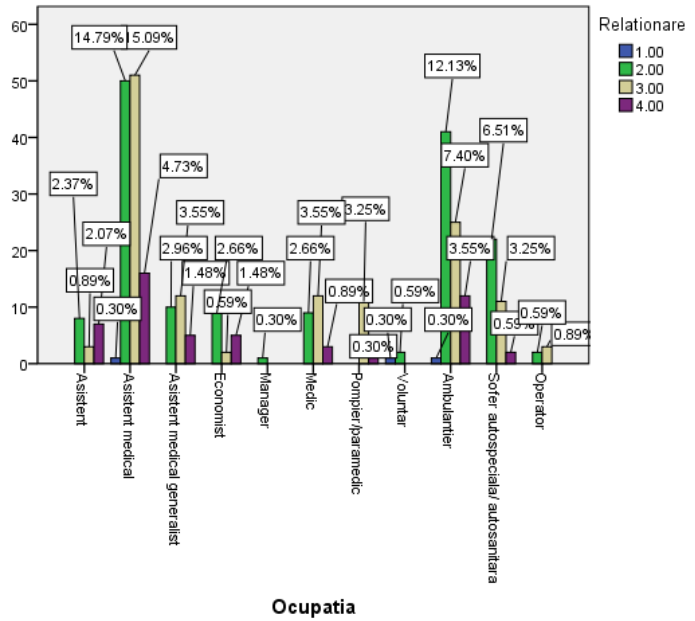

Regarding "Emotional and Behavioural Management", in the category Assistant 1.78% show a high level, 1.48% show a good level, 2.08% show a medium to good level. In the category Nurse we find 18.40% respondents with high level, 14.84% respondents with good level and 1.78% of respondents with medium to good level. In the category General Medical Assistant, 5.34% show a high level, 2.08% show a good level . In the Economist category, 3.26% of respondents have a high level and

0.59% have a good level. In the Manager category, 0.30% have a high level. In the category Doctor 3.86% show a high level and 2.67% show a good level and 0.59 a medium to good level. In the Firefighter-paramedic category 2.08% have a high level and 1.58% have a good level. In the Volunteer category, 0.30% show a high level. In the Ambulance category 13.06% have a high level, 7.12% have a good level, 2.65% have a medium to good level. In the category driver of a self-service vehicle 5.04% have a high level and 4.75% a good level. In the Operator category 1.19% have a high level and 0.30% a good level.

In conclusion, with regard to "Emotional and behavioural management" as a sub-division of resilience related to the level of occupation, we find the following results: 51.04% have a high level, 35.91% have a good level, 11.87% have a medium to good level and 1.19% have a low level.



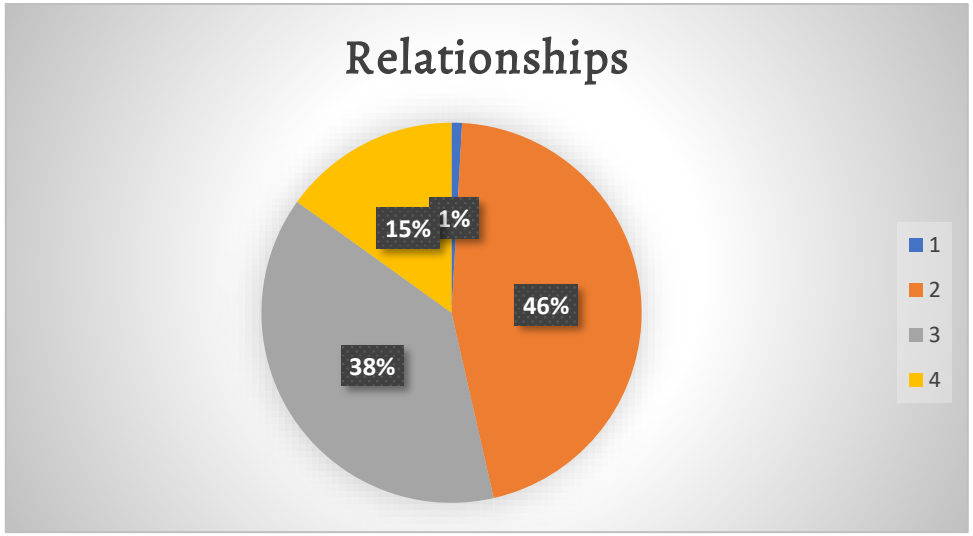
*3. Occupation and Relationships*



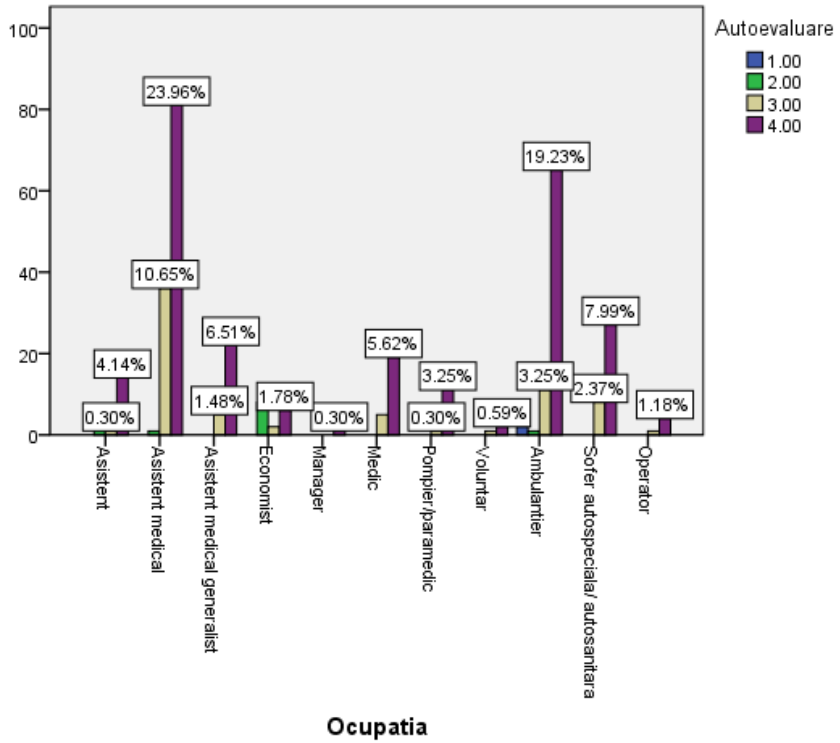

In terms of "Relating", in the category Assistant 0.30% show a high level, 0.89% show a good level, 2.37% show a medium to good level. In the category Nurse we find 4.73% respondents with high level, 50.09% respondents with good level and 14.79% of respondents with medium to good level and 0.30% respondents with poor level. In the category General Nurse, 1.48% show a high level, 3.55% show a medium level, 2.96% show a medium to good level. In the Economist category 1.48% of respondents have a high level, 0.59% have a good level and 2.66% have a medium to good level. In the Manager category, 0.30% show a high level. In the Doctor category 0.98% have a high level, 3.55% have a good level and 2.66 a medium to good

level. In the category Firefighter-paramedic 0.30% show a high level and 3.55% show a good level. In the Volunteer category, 0.59% are good and 0.30% are average to good. In the Ambulance category 3.55% have a high level, 7.40% have a good level, 12.13% have a medium to good level and 0.30% a poor level. In the category Driver - ambulance 0.59% have a high level, 3.25% a good level and 6.51 a medium to good level. In the Operator category 0.59% have a high level and 0.89% have a good level.

In conclusion, with regard to "Relating" as a sub-division of resilience related to the level of occupation, we find the following results: 15.09% show a high level, 38.46% show a good level, 45.56% show a medium to good level and 0.89% show a low level.



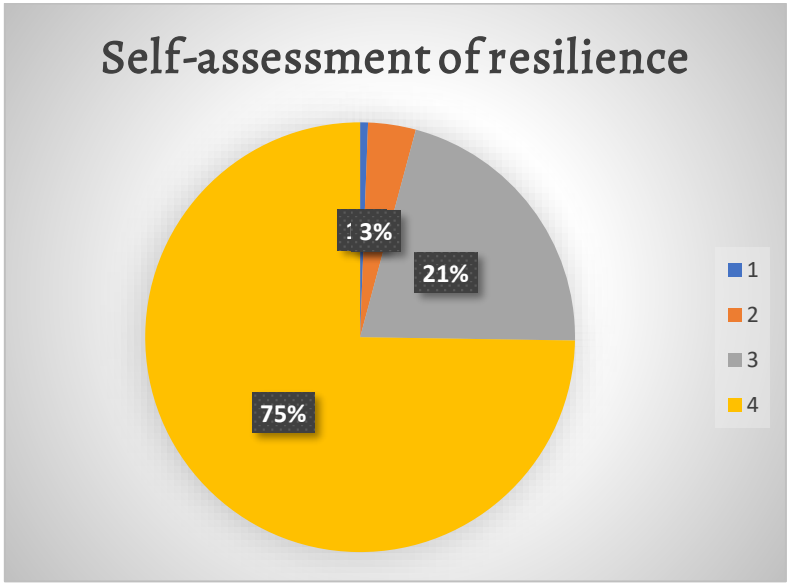
*4. Occupation and Resilience Self-Assessment*



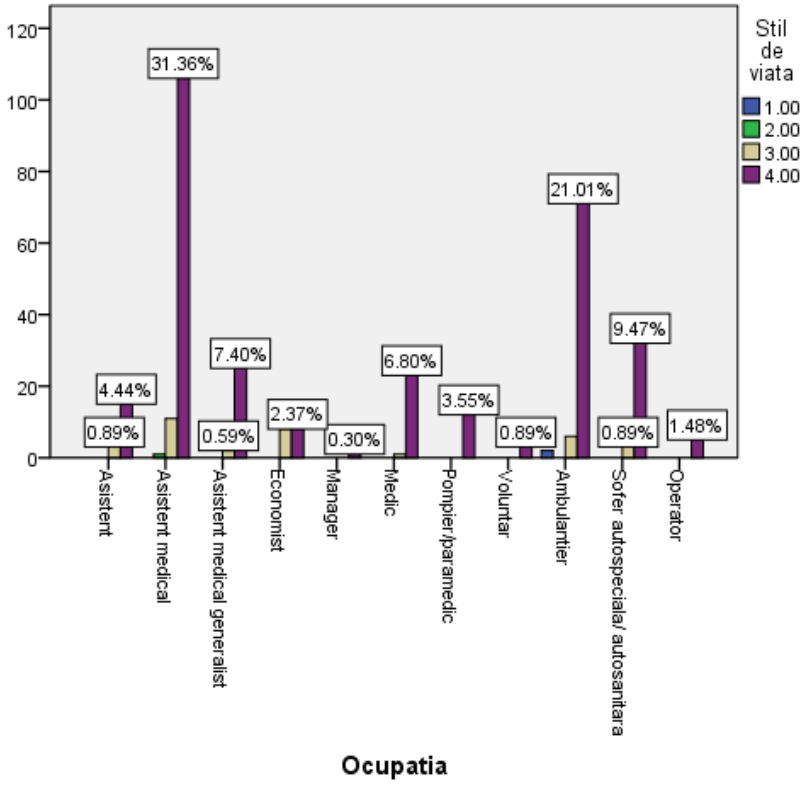

In terms of "Self-assessment of resilience", in the category Assistant 0.30% show a high level, 4.14% show a good level. In the category Nurse we find 23.96% respondents with high level, 10.65% respondents with good level. In the category General Medical Assistant, 6.51% have a high level, 1.48% have a medium level. In the Economist category we find 1.78% of respondents with a high level, 0.20% of respondents with a good level and 0.40% with a medium to good level. In the

Manager category, 0.30% have a high level. In the category Doctor 5.62% show a high level, 0.30% show a level. In the Firefighter-paramedic category 3.25% present a high level, 0.30% present a good level. In the Volunteer category, 0.59% show a good level and 0.30% a medium to good level. In the Ambulance category 19.23% show a high level, 3.25% show a good level. In the category ambulance driver 7.99% have a high level, 2.37% have a good level. In the Operator category 1.18% have a high level.

In conclusion, with regard to the "Self-assessment of resilience" as a sub-division of resilience related to the level of the occupation, we find the following results: 74.56% have a high level, 21.01% have a good level, 3.85% have a medium to good level and 0.59% have a low level.



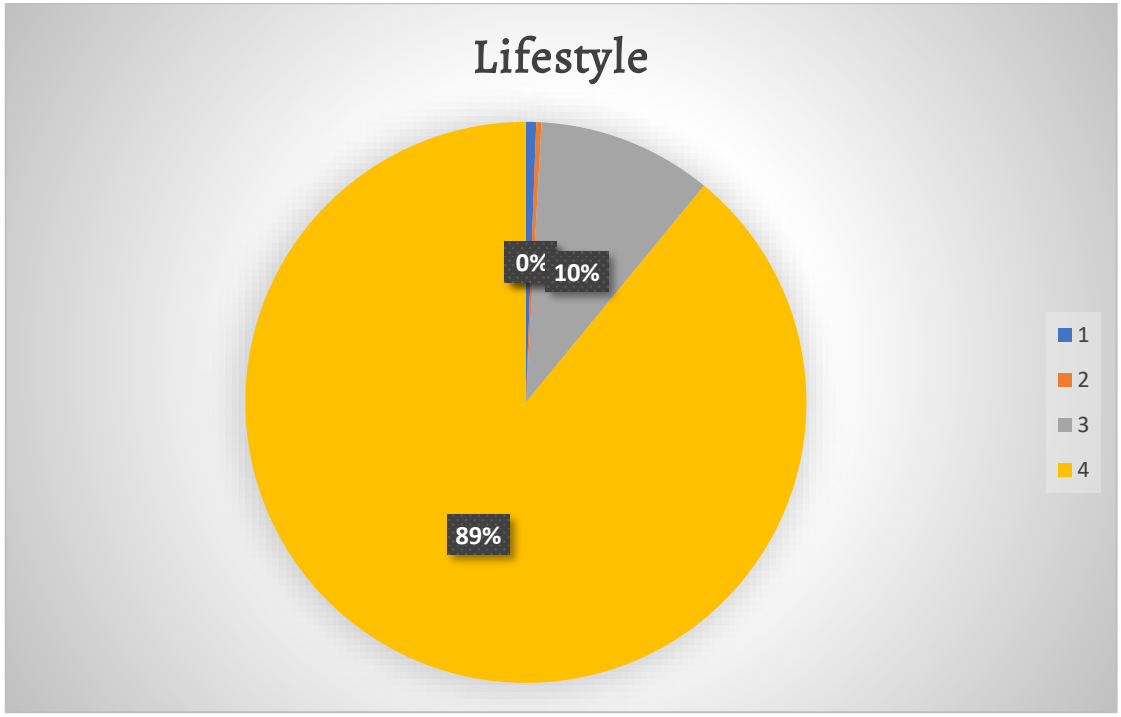
*5. Occupation and Lifestyle*




In terms of the Resilience Self-Assessment, in the Assistant category 4.44% show a high level, 0.89% show a good level. In the category Nurse we find 31.36% respondents with high level, 3.25% respondents with good level and 0.30 show medium to good level. In the category General medical assistant, 7.40% show a high level, 0.59% show a medium level. In the Economist category we find 2.37% of respondents with a high level, 1.03% of respondents with a good level. In the Manager category, 0.30% have a high level. In the Doctor category 6.80% have a high level. In the Firefighter-paramedic category

3.55% show a high level. In the Volunteer category, 0.89% show a good level. In the category Ambulance 21.01% show a high level, 1.03% show a good level. In the category driver of a self-medical vehicle 9.47% have a high level, 0.89% have a good level. In the Operator category 1.48% have a high level.

In conclusion, with regard to the Self-assessment of resilience as a sub-division of resilience related to the level of the occupation, we find the following results: 89.05% have a high level, 10.06% have a good level, 0.30% have a medium to good level and 0.30% have a low level.



## Conclusions

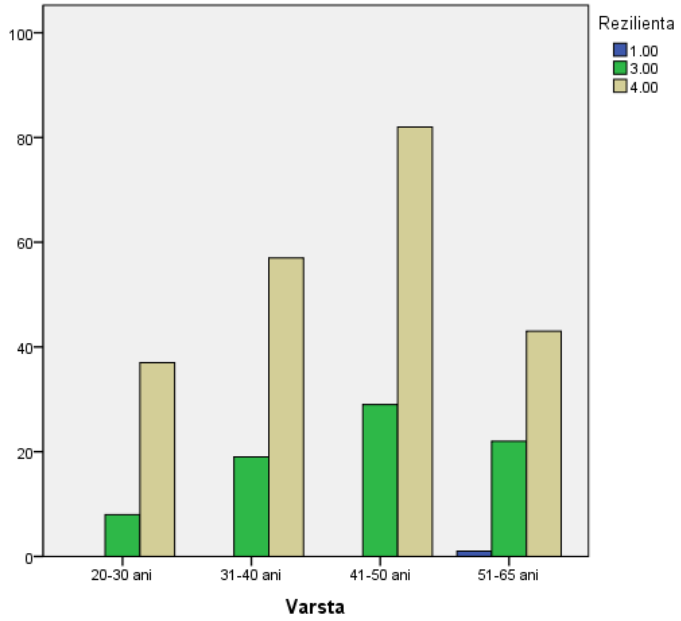
We present below, in conclusion, a comparative analysis of the level of resilience in emergency medicine staff by groups of variables considered and by age group, department, job, etc. (doctors, nurses, volunteers, paramedics, firefighters). The interpretation of the results converges in a psychological and statistical analysis, which will lead to additional data on the level of psychological resilience of the target groups and provide behavioural feedback specific to each respondent.

The comparative analysis shows:

- Increased awareness of the key role of psychological resilience for staff involved in emergency medicine.

- Identification of stress signals in personnel involved in emergency situations (doctors, nurses, volunteers, paramedics, firefighters) who face traumatic emergencies on a daily basis.

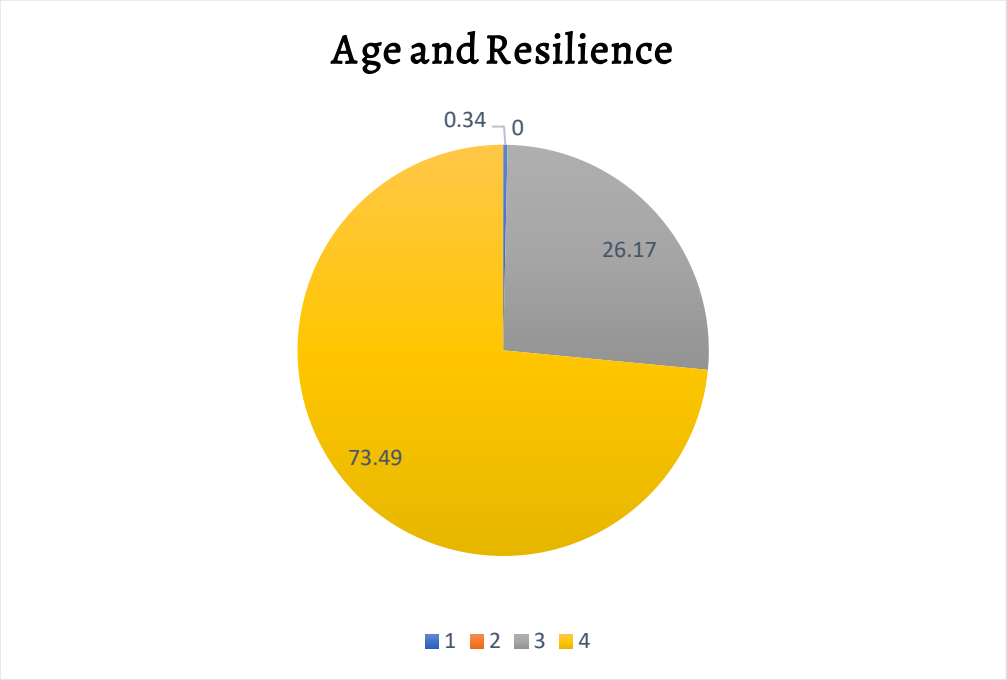
a) AGE



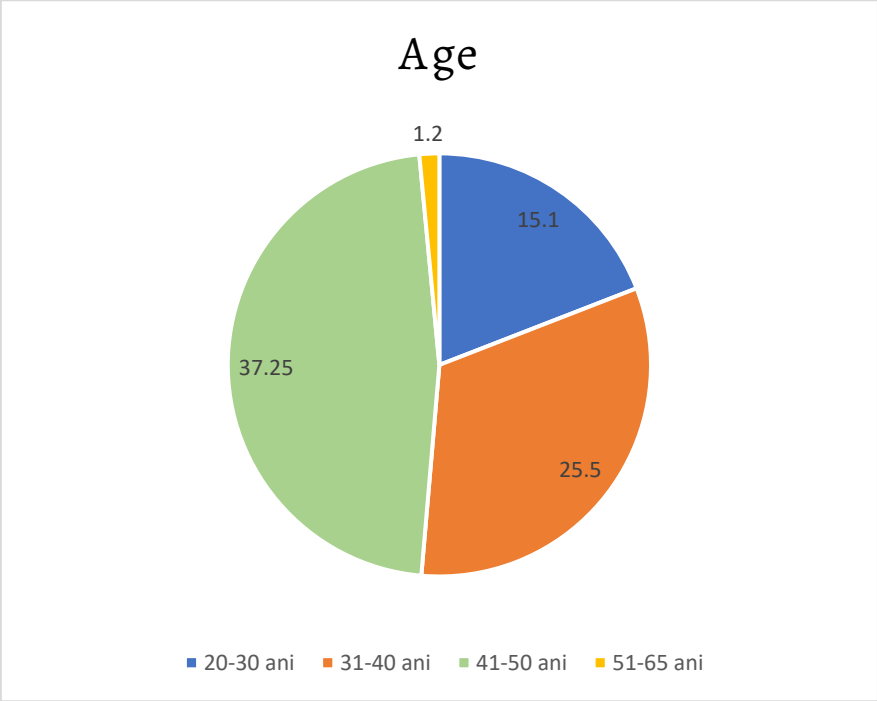

In terms of age, the majority of participants show medium to high resilience. One risk category that stands out is the 51-65 age group where we also find low scores well below the overall average. As for the age category 20-30 years, 2.68% have a medium level of resilience and 12.42% have a high level of resilience. The 31-40 age category contains 19.13% who have a high level of resilience and the rest of the participants a medium level. In this category there were no participants with a low level. The highest scores are found in the category 41-50 years old where 27% show an increased level of resilience while 7.38% of the participants in this category show a medium score. The age category 51-65 years old contains 14.43% who show an increased level of resilience, but at the same time they also have critical scores where respondents have a low level of

resilience. In conclusion, the age category with the best overall scores is respondents aged 41-50. A possible explanation could be work experience and psychological normalisation of situations at work. The scores were analysed cumulatively from 100% of participants of all ages therefore due to the inequality of participants in relation to the subcategories the external scores (very high level of resilience and very low level of resilience) have to be taken into account.

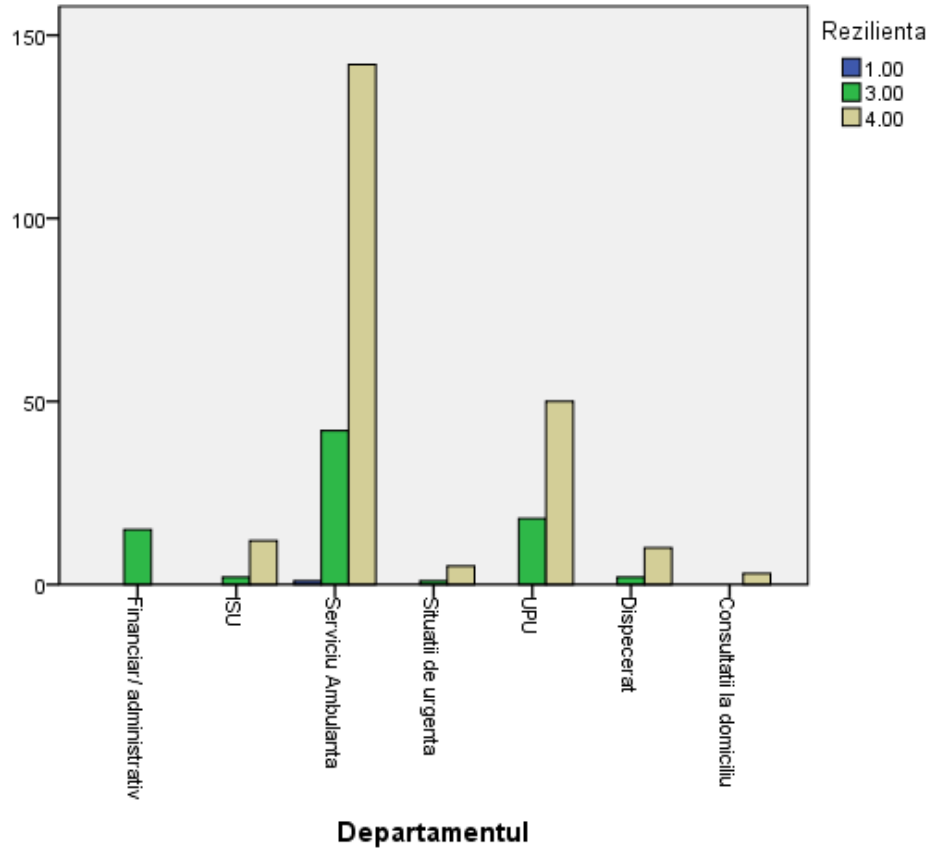
As a general conclusion regarding the level of resilience reported by age categories: 73.49% of respondents show a high level, 26.17% of respondents show a good level and 0.34% of respondents show a low level.



Resilience was analysed in terms of the age of the target group in order to observe trends of increasing or decreasing resilience. The youngest respondent was aged 20 and the oldest was 65. The category 41-50 years old had the highest number of respondents (37.25%), with a percentage of 25.5% the category 31-40 years old was present, followed with a percentage of 15.1% by the category 20-30 years old, the last category, the age group 51-65 years old, representing 1.2% of the respondents.



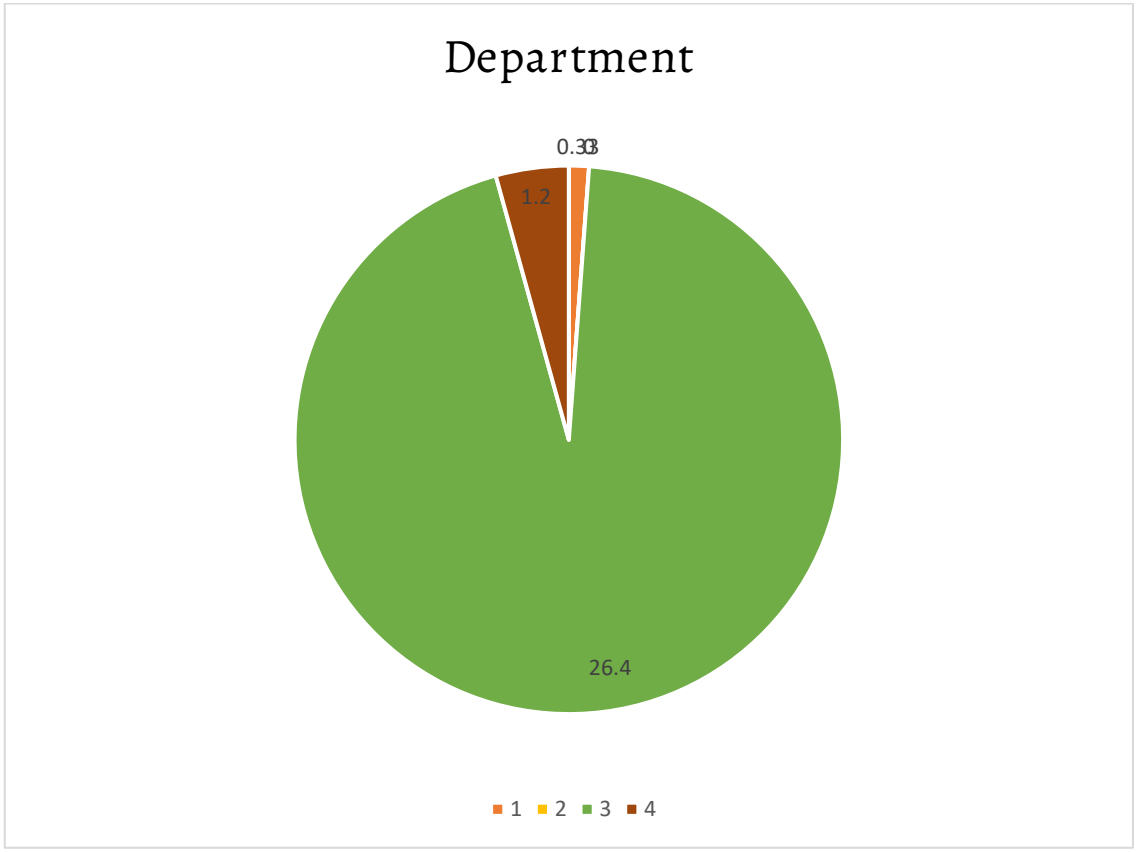
b) DEPARTMENT



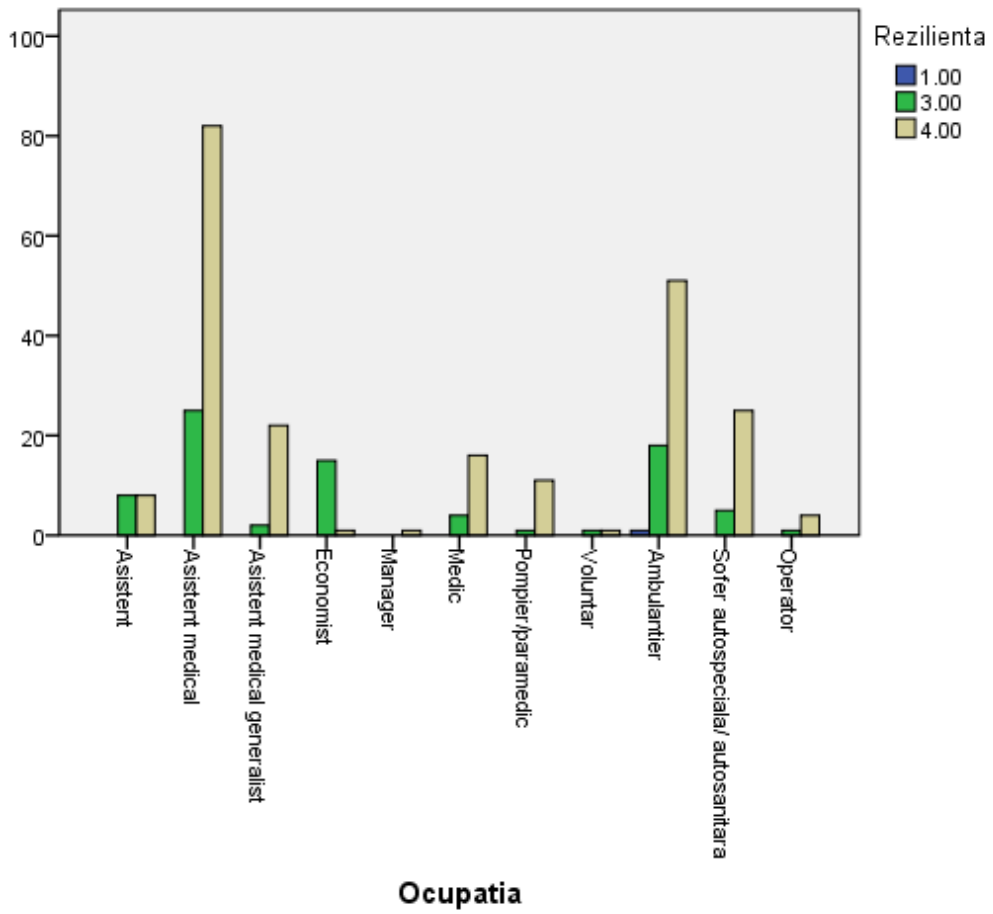

In terms of the department they belong to, the highest level of resilience is found within the department: the Ambulance Service with 46.89% of all participants having a high level of resilience. The rest of the respondents in this

category show a medium to low level of resilience. In the 2nd place is the UPU department with a percentage of 16.50% of the total respondents with a high level of resilience, the rest of the participants having a medium level of resilience. These are followed by the ISU department (4.62%), Emergency Situations (1.98%), Dispatch (3.96%) and Home Consultation (0.99%). The Finance and Administration department scored average in terms of resilience. With a total of 61.06% of the overall score the Ambulance Service department scores best in terms of resilience, but also in this category we find a small but significant percentage at department level of 0.33% of the total participants falling into the risk category scoring well below the overall average. Similar to the analysis based on age categories, the assessment in terms of resilience level by department was analysed cumulatively out of a total score of 100% of unevenly distributed participants. The distribution of participants is due to the number of respondents but also due to the number of certain positions and the number of people in certain departments compared to others. As a general conclusion the Ambulance Service department has the highest level of resilience compared to the other departments. One explanation could be that they have developed this high level due to the nature of their work, being among the first to come into contact with situations requiring a high degree of resilience, thus developing over time strategies to be able to cope professionally and psychologically.

As a general conclusion regarding the level of resilience in relation to the department we obtained the following results: 73.27% of respondents show a high level, 26.40% of respondents show a good level and 0.33% of respondents show a low level.


Department
0.3
0.3
1.2
26.4
1
2
3
4

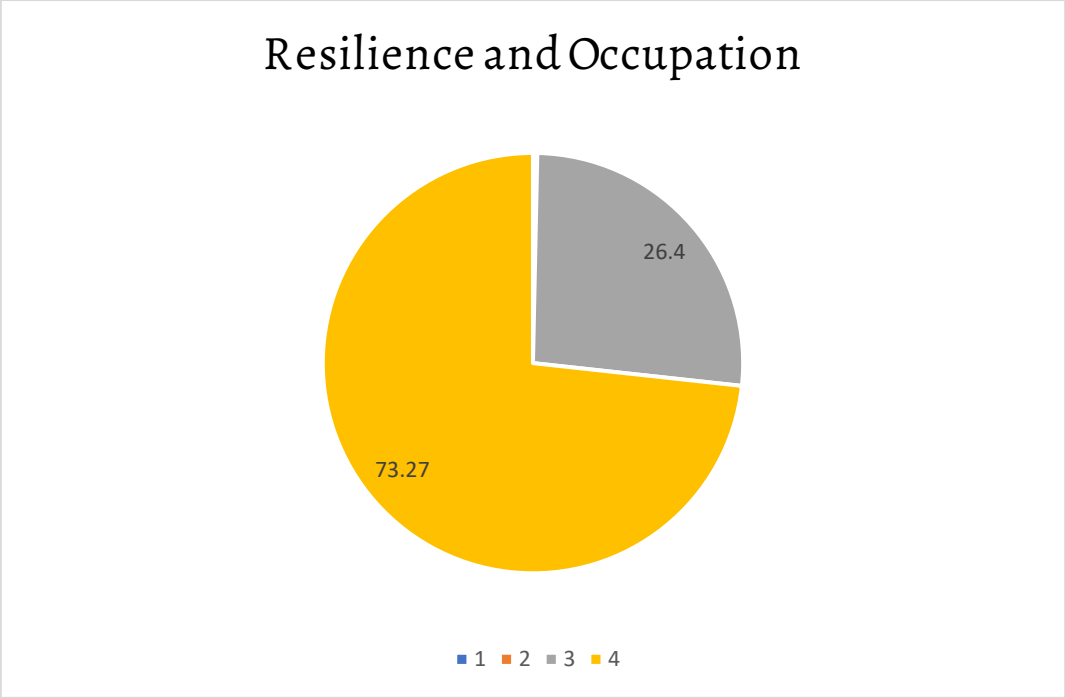
c) OCUPATION


Rezilienta
1.00
3.00
4.00
100
80
60
40
20
0
Asistent
Asistent medical
Asistent medical generalist
Economist
Manager
Medic
Pompier/paramedic
Voluntar
Ambulantier
Sofer autospeciala/ autosanitara
Operator
Ocupatia

As for the occupation with the highest level of resilience 27% is represented by Nurses. This category, in terms of the number of respondents of the target group, represents 35.31% of the total. The rest of the participants in this category (8.25%) have average scores. Interestingly, no participant scored low. The second group with high resilience scores, at 16.83%, are Ambulance Attendants. In this category a percentage of more than 6% of the total score respondents scored with medium and critical level. Also in terms of number of participants they are in 2nd place with a total of 23.10% of respondents. The ranking in terms of high scores is followed by: general nurses, ambulance drivers, doctors, nurses, paramedics, operators, economists and last place is given to volunteers. Similar as in the case of age category and department the scores were analysed from an aggregate of 100% participants of the target group.

In conclusion, with a percentage of over 70%, the target group performed very well in terms of resilience. However, there are a number of scores ranging from medium to low that raise alarm bells about the level of resilience stability in the overall sample. The age group with the best scores is respondents over 40 years of age, but with age comes the critical scores represented by low resilience.

As a general conclusion regarding the level of resilience in relation to occupation we find the following results: 73.27% of respondents show a high level, 26.40% of respondents show a good level and 0.33% of respondents show a low level.


Resilience and Occupation
26.4
73.27
1
2
3
4

## 3.2. Cyprus

### 3.2.1. Introduction

The research on this segment aimed to investigate the level of resilience among medical staff working with emergency situations in Cyprus. Different levels of resilience intensity and its components were considered. For a clear picture of how it evolves, the data was analysed in terms of age categories. In order to observe individual differences and possible high-risk categories, analyses at the level of sub-departments and occupations have been made based on the following assumptions:

- H1: Emergency staff have a high level of psychological resilience due to the nature of their job
- H2: Special psychological training of staff is important to cope with workplace events
- H3: Increased experience helps them to cope better under conditions of general stress
- H4: There are age group differences in the level of resilience
- H5: Departmental differences in resilience exist
- H6: There are differences at occupation level on the level of resilience

### 3.2.2. Methodology

From a methodological point of view, the research is quantitative. A cross-sectional design was used. It was based on a structured questionnaire measuring the person's level of resilience consisting of 5 sub-divisions measured through 32 items scored on a likert scale. The target group was administered the questionnaire both online and in pencil and paper

format. There were a total of 182 participants of which the final sample consisted of 100 participants whose completion was valid (N=100). The total sample is representative of medical personnel involved in emergency situations throughout the country aged 20-65 years old in Cyprus. The target group by the nature of their profession is exposed to a whole range of events with a possible major traumatic impact. Respondents responded voluntarily to the survey both online and in physical format and the data to be presented were reported as a percentage of the overall target group. Statistically significant scores were taken into account for the final results.

### 3.2.3. Research stages

In the first phase a thorough literature review was carried out. On the basis of the selected information, a general profile of the target group was made in relation to the existing scientific results. The sample for the research was selected and questionnaires were applied in online and paper pencil system. After the application of the questionnaires, the sample was re-selected. The end of the research included the analysis of statistical data and the creation of the final report.

### 3.2.4. Research objectives

In terms of research objectives, the following lines of inquiry were pursued:

- O1: Examining resilience levels by department, occupation and age group.
- O2: Correct perception of events that happen to them.

- O3: Ability to manage emotions and behaviours while on duty
- O4: Relating functionally in all environments
- O5: Correct ability to assess their limits in terms of their level of resilience
- O6: How participants' lifestyles are influenced by their job

### 3.2.5. Research results

General

In the following section, the level of resilience of the target group will be analysed in terms of three categories: age of the participants (20-30 years, 31-40 years, 41-50 years and 51-65 years), the department to which they belong (Financial-Administrative, ISU, Ambulance Service, Emergency Situations, UPU, Dispatch and Home Consultation), the occupation within the department (Assistant, Nurse, General Nurse, Economist, Manager, Firefighter-Paramedic, Volunteer, Ambulance Driver, Ambulance Driver, Operator). This analysis was necessary in order to see which categories are at risk and which are at the opposite end of the scale of the categories with a good level of resilience to a major event.

The components that were investigated in the research were: Perception, Emotional and Behavioural Management, Relationship, Self-assessment of Resilience and Lifestyle. These comprised items to assess the following dimensions as follows:

*Perception*: how respondents perceive their life as meaningful, personal values are in line with their private life, notice the importance of their job to others, focus on the overall positive aspects and have the ability to be aware of how they express and manage their emotions. (Example item: ,,Work is in line with my values"

*Emotional and behavioural management*: how concretely respondents deal with pleasant/unpleasant situations, awareness of the limits of behavioural readiness to do their job, whether they are impacted by borderline situations (death, disasters, dangerous situations), how they behave and emotionally manage the borderline situation (I think I am a victim of circumstances).

*Re-assessment*: the existence of a support person in the vicinity of the person, whether the job affects their private life, whether there is a specialist (psychologist) in the workplace, whether they feel they need a specialist at work, the level of trust and support they receive in the community (I think it would be useful to talk to a psychologist after each difficult assignment)

*Self-assessment of resilience*: valuing success and integrating the experience of failure in a workable way, ability to adapt to change, ability to cope with difficulties in the workplace, how they stay resilient no matter what difficulty arises, the value they place on the job, knowledge of the techniques and coping methods to deal with difficult situations, ability to solve a problem on their own, preference to receive support from others( Sample item: I adapt easily to changes and easily accept what I cannot change)

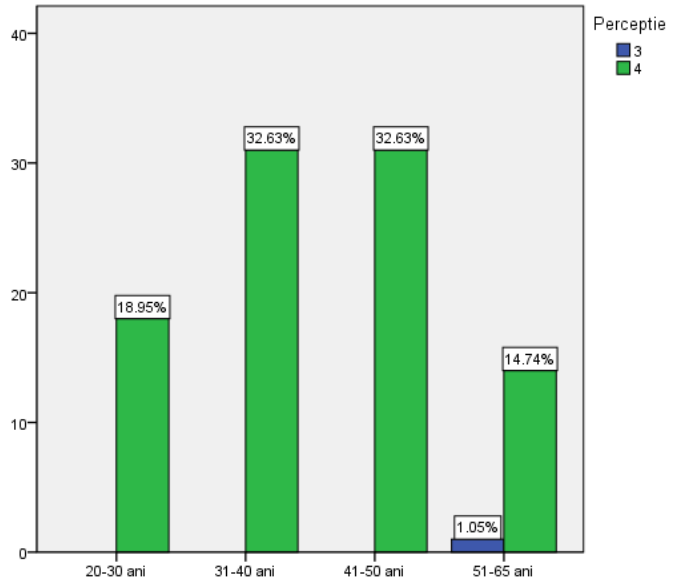
*Lifestyle*: the importance one attaches to one's own life, the ability to be aware of right and wrong, the ability to put oneself first, awareness of one's capabilities and strengths, self-confidence (Example item: My life is important and I take care of myself)

3.2.6. Participants' response to the dimensions investigated

(1- represents low level of resilience, 2- medium to good level of resilience, 3- good level of resilience, 4- high level of resilience)

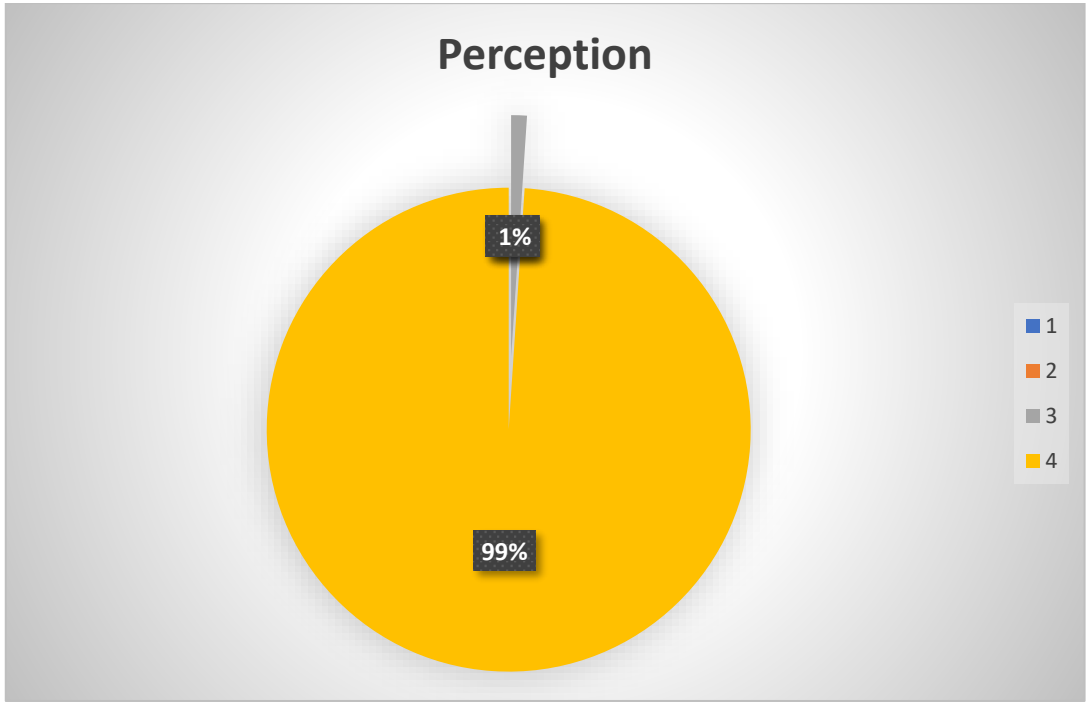
A. Age category and components of resilience

1. *Perception and Age (Level of perception of reality that the medical staff has)*

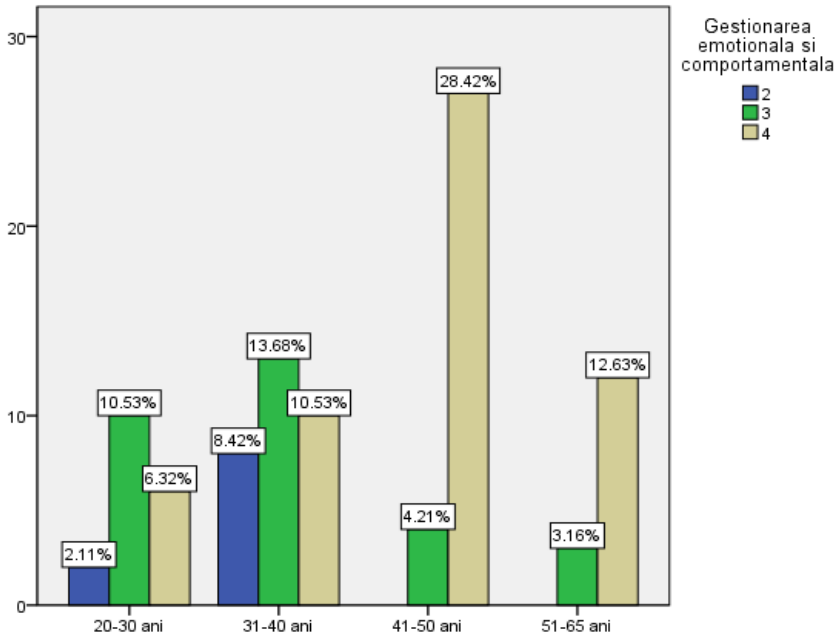


In terms of perception, the age group 20-30 with a percentage of 18.95% shows a high level of resilience. In the age category 31-40 32.63% of the participants show an increased level of resilience. In the age category 41-50, 32.63% of participants showed an increased level of resilience. In the 51-65% category 0.60% show a low to critical level of resilience, 1.05% show a good level of resilience and 14.74% show an increased level of resilience.

In conclusion, in terms of perceptual ability as a sub-division of resilience in relation to age: 98.95% show a high level and 1.05% show a good level of resilience.



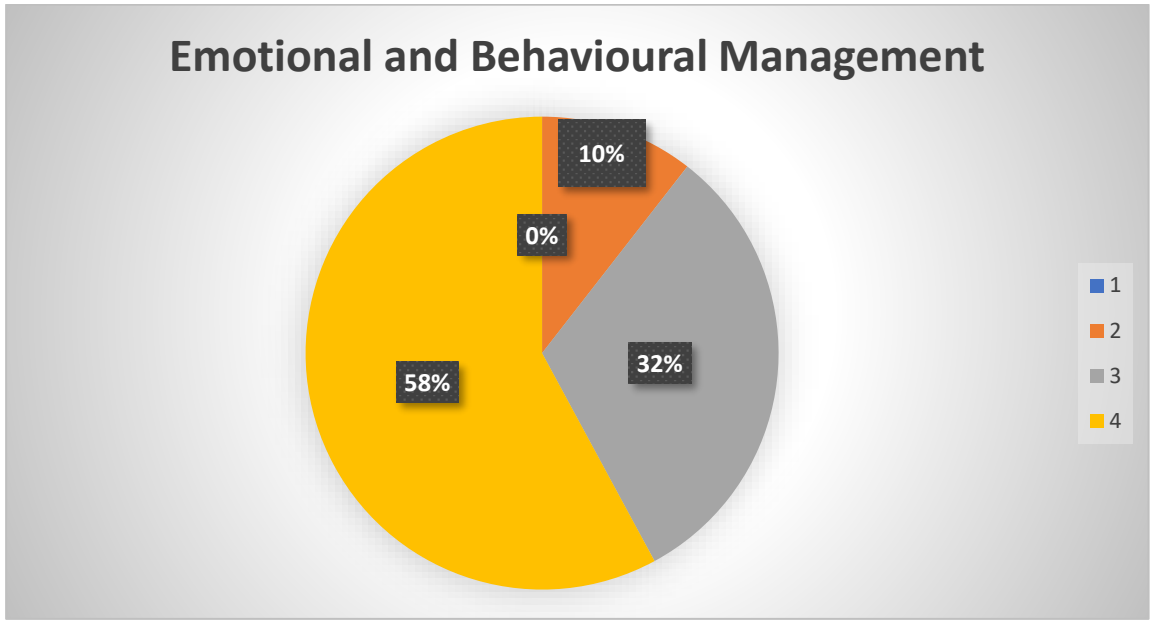
2. *Age and Emotional and Behavioural Management*




Regarding Emotional and Behavioural Management the age group 20-30 with a percentage of 6.32% shows a high level, 10.53% shows a good level, 2.11% shows an average to good level. In the age category 31-40 years 10.53% of the participants show an increased level, 13.68% show a good level and 5.42% show an average to good level. In the 41-50 age

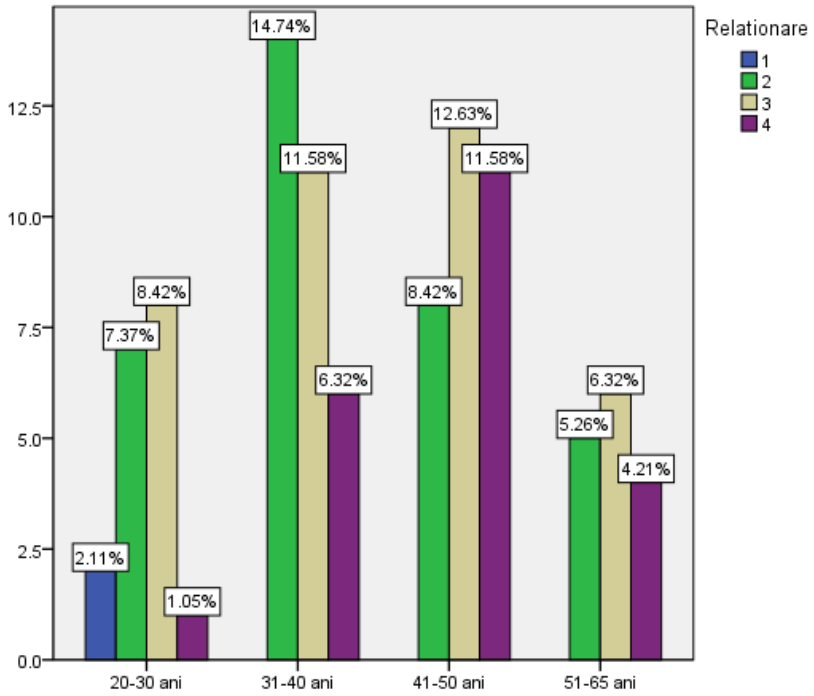
category, 28.42% of participants had an increased level, 4.21% a medium to good level. In the category 51-65 years old, 12.63% show an increased level, 3.16% show an average to good level.

In conclusion, in terms of GEC as a sub-division of resilience: 57.89% show an increased level, 31.58% % show a good level, 10.53% show an average to good level.




.

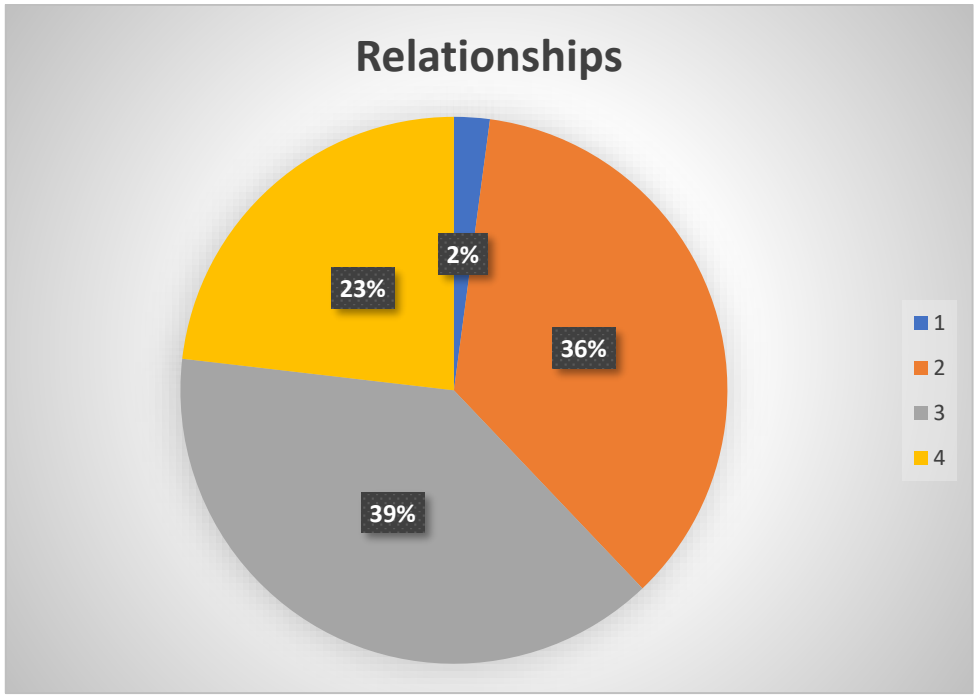
3. *Age and relationships*



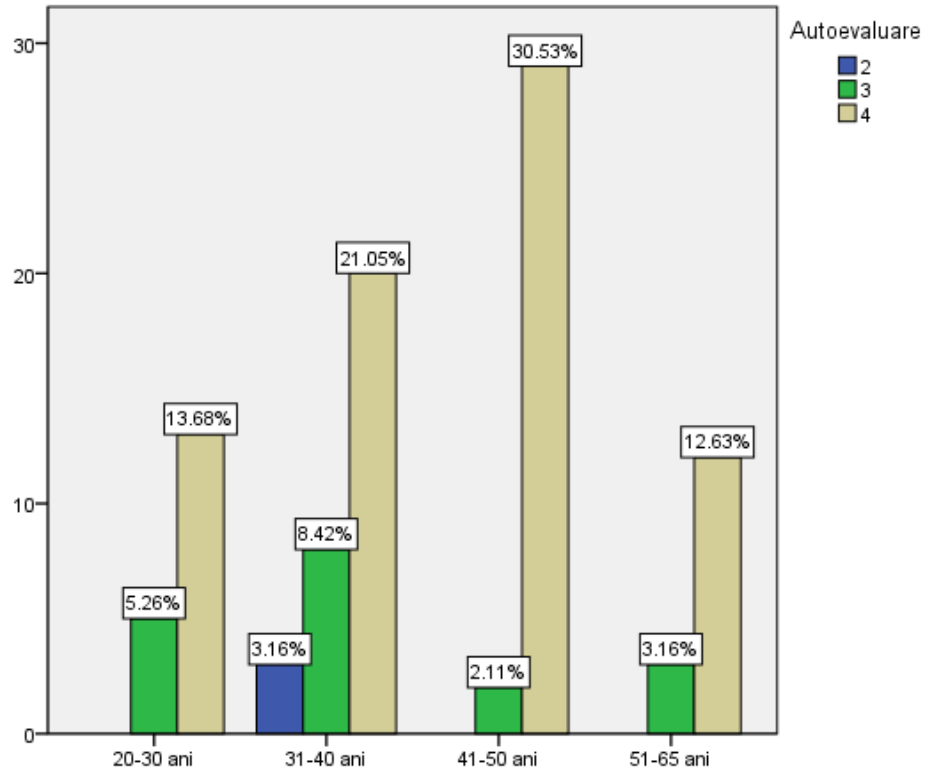

As regards the age group 20-30, 1.05% of them have a high level, 8.42% have a good level, 7.37% have a medium to good level and 2.11% have a low level. In the age category 31-40 years 6.32% of the participants show an increased level, 11.58% show a good level and 14.47% show an average to good level. In the 41-50 age category, 11.58% of participants had a high level,

12.63% a good level and 8.42% a medium to good level. In the 51-65% category, 4.21% show an increased level, 6.32% show a good level, 5.26% show an average to good level.

In conclusion, in terms of relatedness as a sub-division of resilience: 15.32% show a high level, 38.74% % show a good level, 45.05% show a good to medium level and 0.90% show a low level.



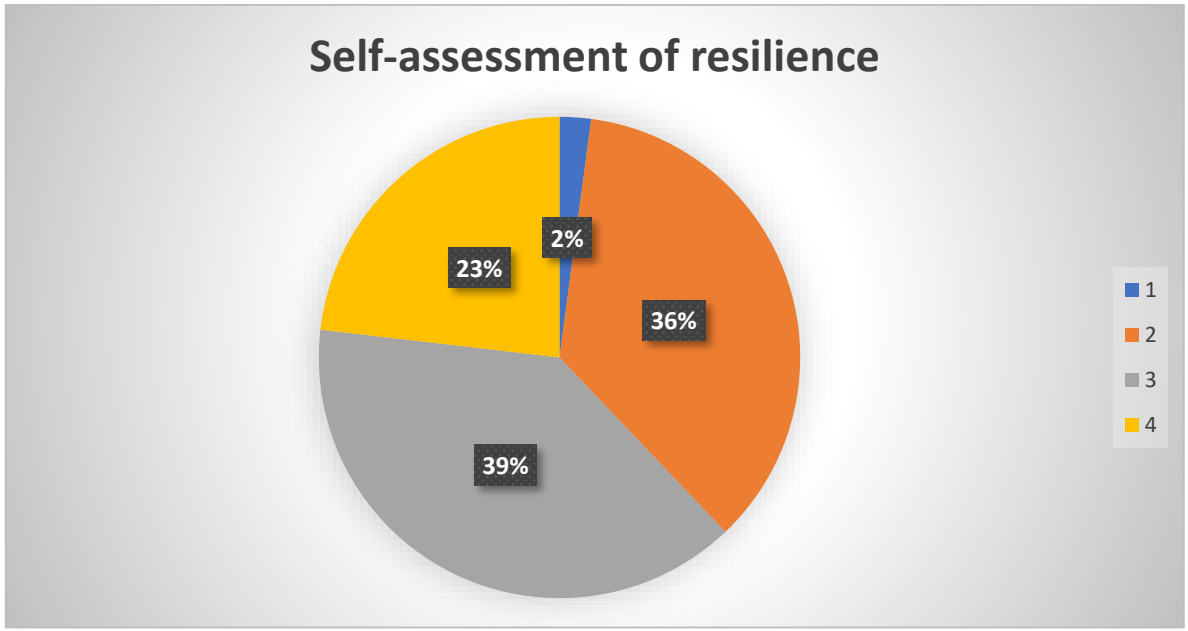
*4 Resilience self-assessment and age*



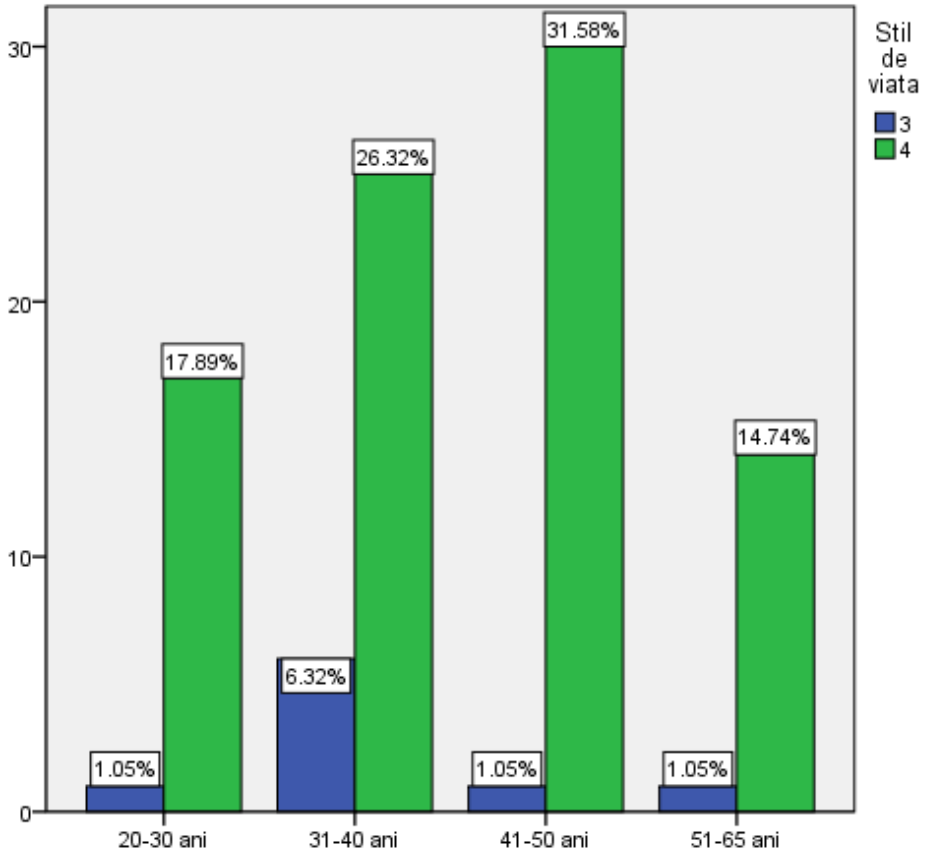

Regarding the Self-assessment of resilience age group 20-30 with a percentage of 13.68% shows a high level, 5.26% shows a good level. In the age category 31-40 years 21.05% of the participants show an increased level, 8.42% show a good

level and 3.16% show an average to good level. In the 41-50 age category, 30.53% of participants had an increased level, 2.11% a good level. In the 51-65% category, 12.63% show an increased level, 3.16% show a good level.

In conclusion, in terms of Self-assessment of resilience as a sub-division of resilience: 77.89% show an increased level, 18.95% show a good level, 3.16% show a good to average level.



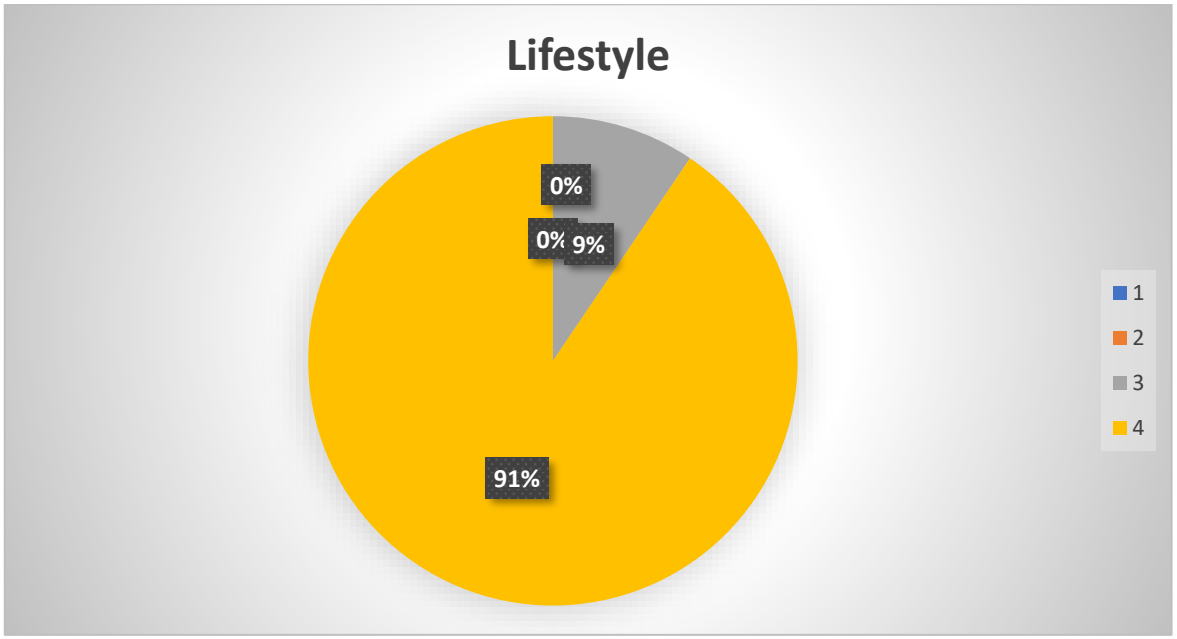
5. *Lifestyle and age*




Regarding the Lifestyle dimension, the age category 20-30 with a percentage of 17.89% shows a high level, 1.05% shows a good level. In the age category 31-40 years 26.32% of the participants show an increased level, 6.32% show a good level. In

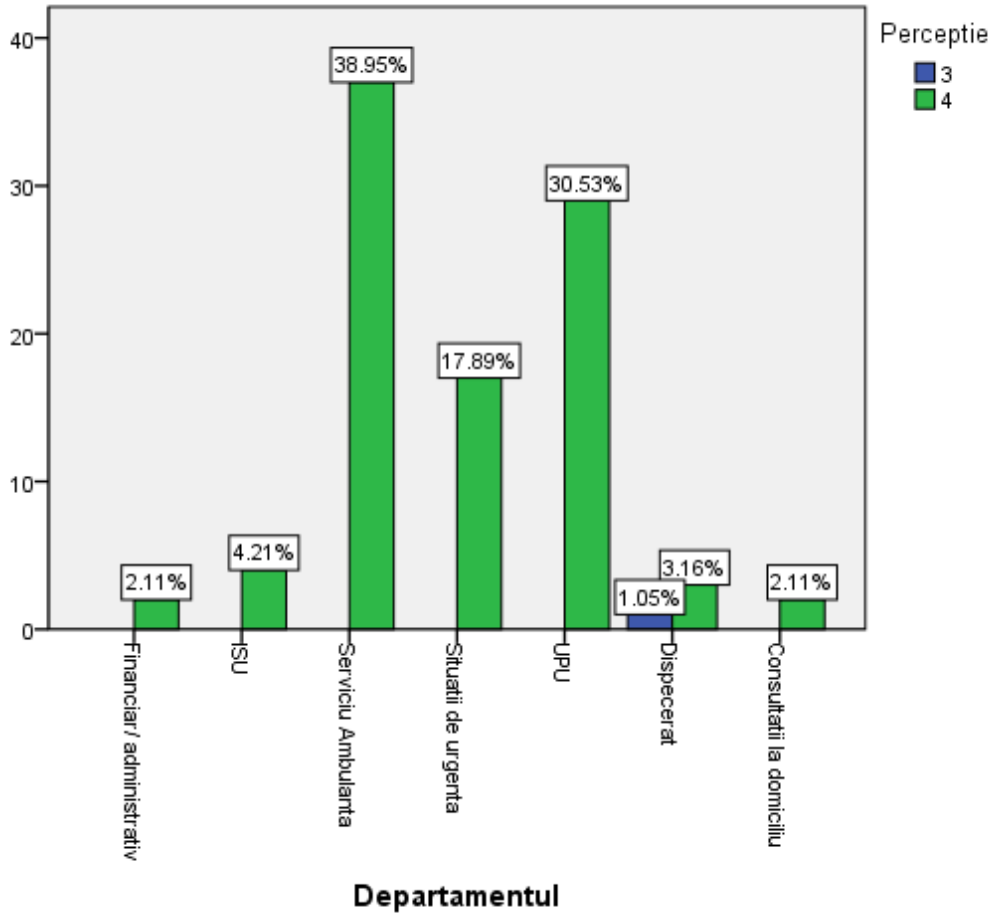
the 41-50 age category, 31.58% of participants have an increased level, 1.05% a good level. In the category 51-65 years old, 14.74% show an increased level, 1.05% show a good level.

In conclusion, in terms of lifestyle as a sub-division of resilience: 77.89% show an increased level, 18.95% show a good level and 3.16% show a good to average level.



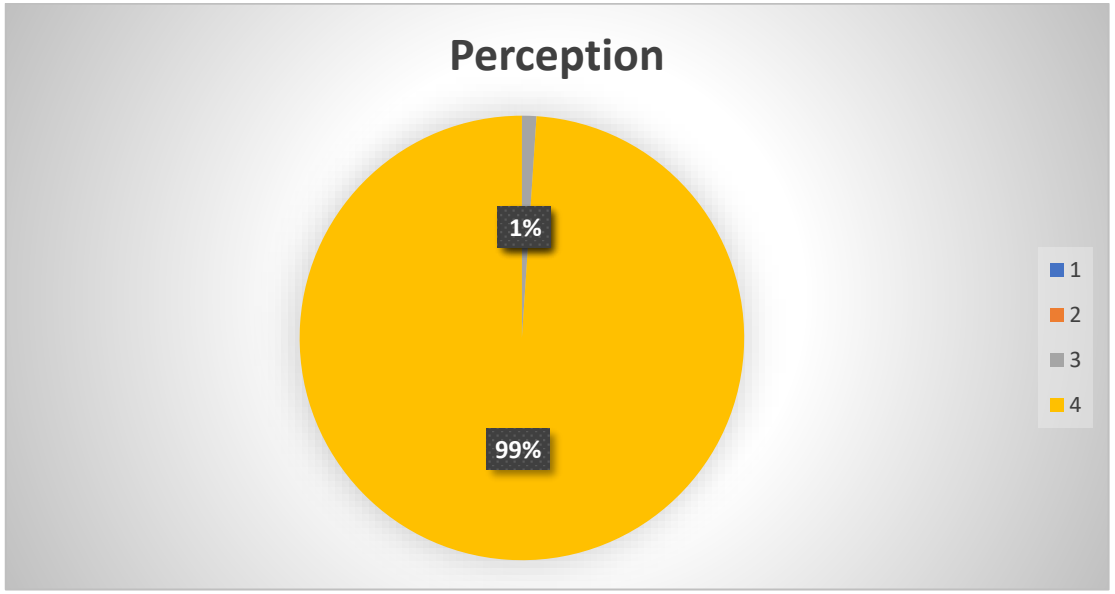
B. Analysis of results for the Department and components of resilience

*1. Department and Perception*

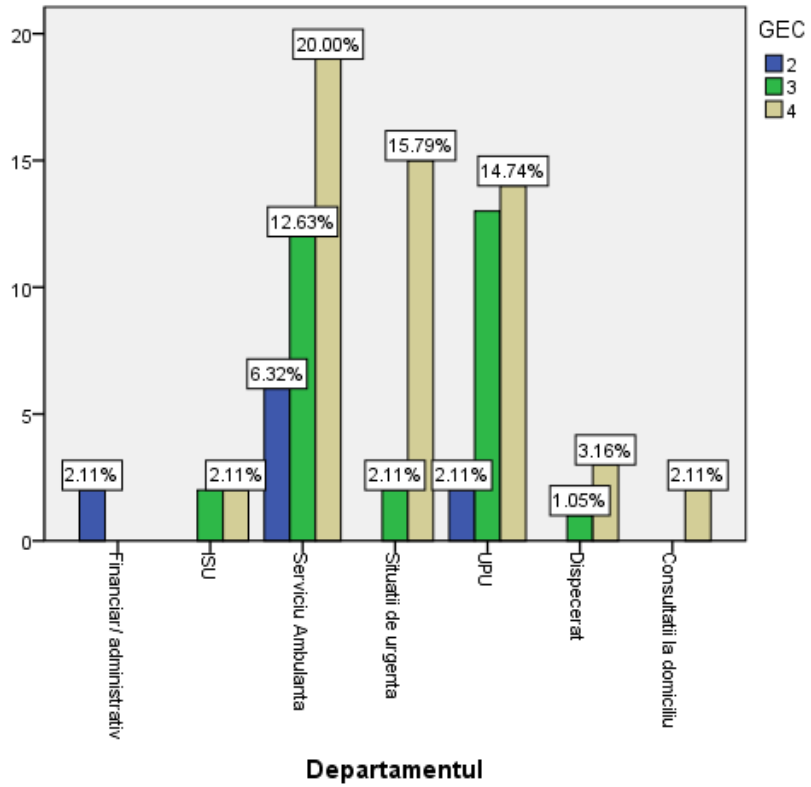


As for the department, in the category Financial Administrative, 2.11% show an increased level. In the ISU category we find 4.21% respondents with high level. In the Ambulance Service category, 38.59% show a high level. In the category Emergency Situations 17.89 show a high level. In the UPU category 30.53% show a high level In the dispatch category 3.16% show a high level and 1.05 show a good level. In the home consultation category 2.11% show a high level.

In conclusion, regarding the perception as a sub-division of resilience reported at department level we find the following results: 98.94% show a high level, 1.05% show a good level.



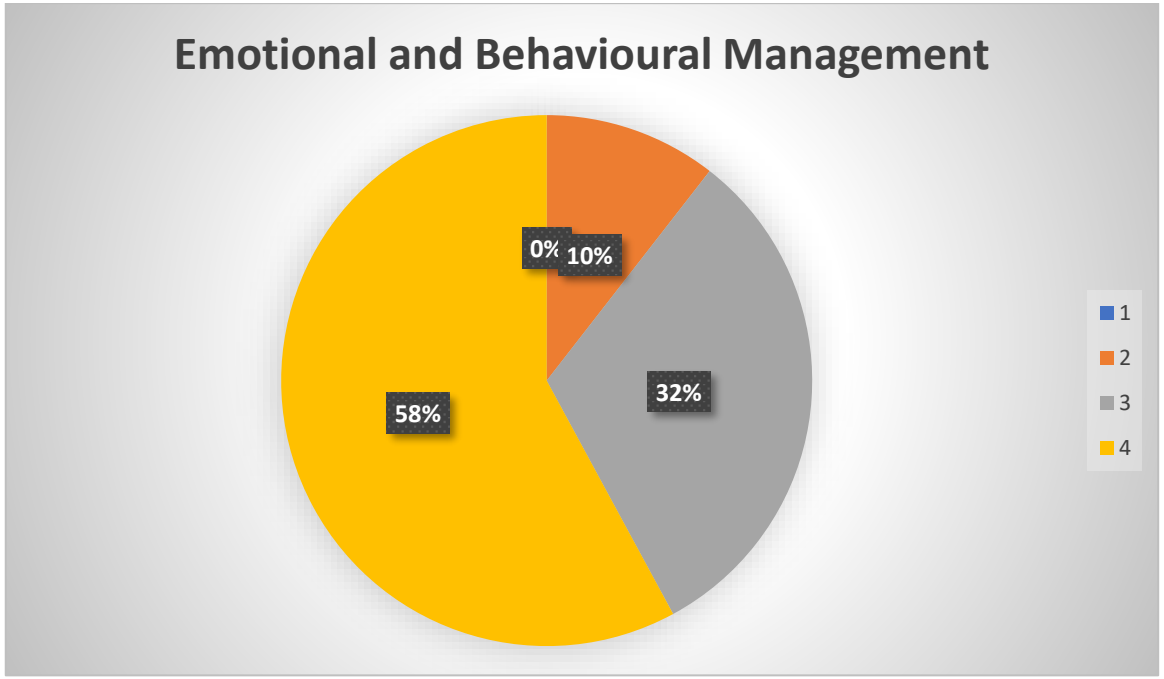
*2. Department and Emotional and Behavioural Management*



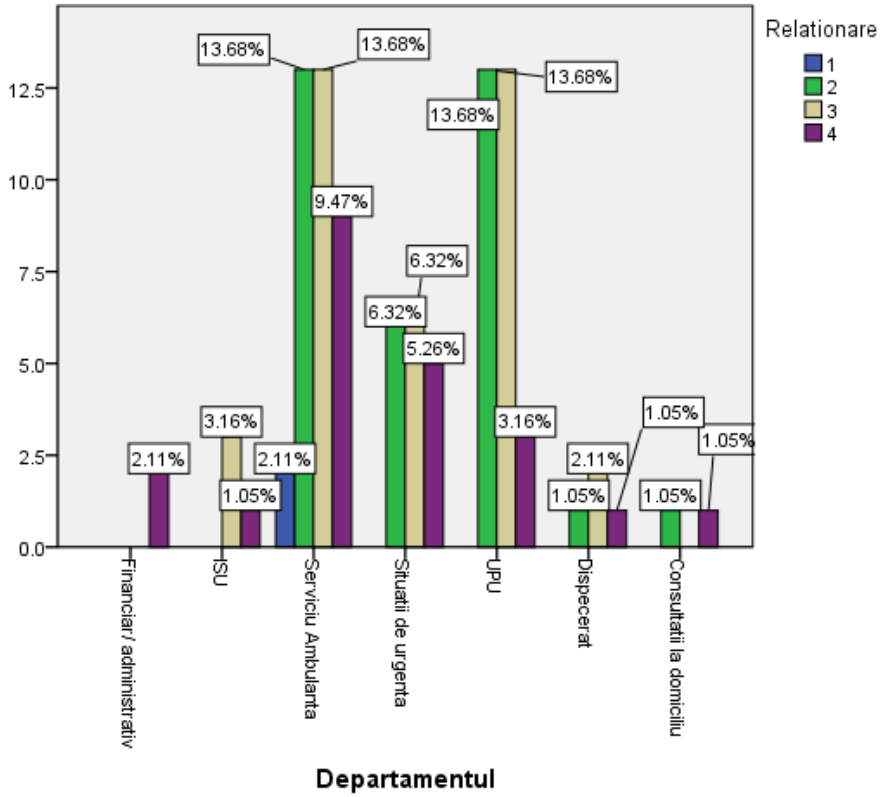

In terms of Emotional and Behavioural Management, in the Financial Administrative category, 2.11% show a high level. In the ISU category we find 2.11% respondents with high level. In the Ambulance Service category, 20.00% show a high

level, 12.63 show a good level and 6.32 show a medium to good level. In the category Emergency Situations we meet 15.79% of respondents with an increased score and 2.11 with a good level. In the UPU category 14.74% score high, 13.68% score good, 2.11% score medium to good and there are no respondents with a low score. In the Dispatch category 3.16% show a high level and 1.05% show a good level. In the category Home consultations 2.11% show a high level.

In conclusion, in terms of GEC as a sub-division of resilience reported at department level we find the following results: 57.89 show a high level, 31.57 show a good level, 10.52 show a medium to good level.



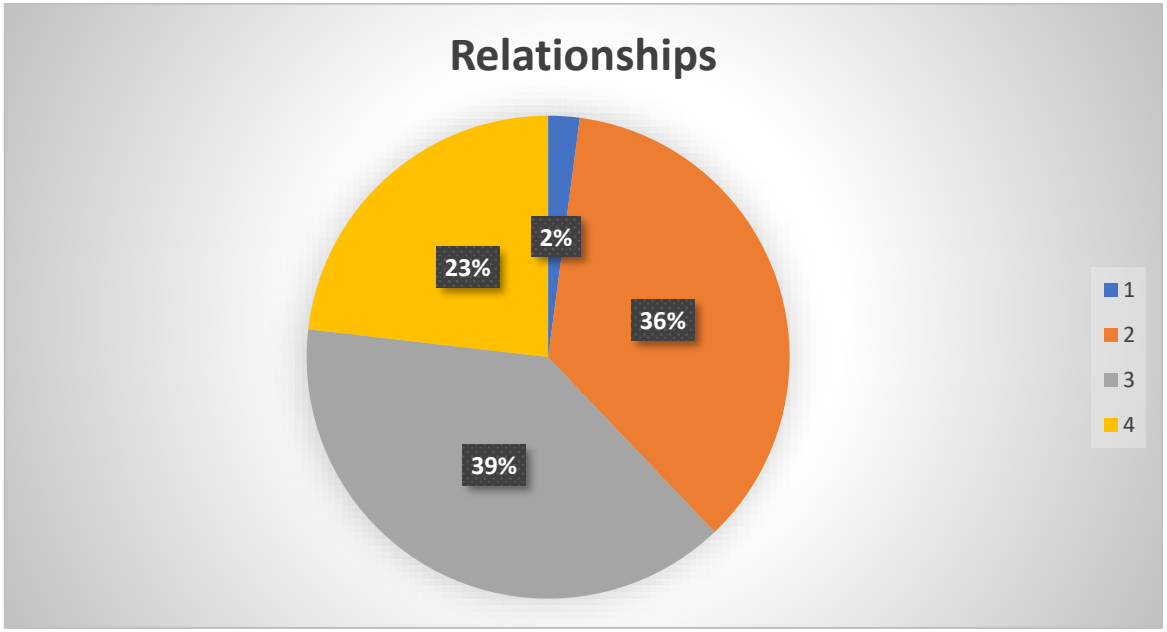
*3. Department and Relationships*



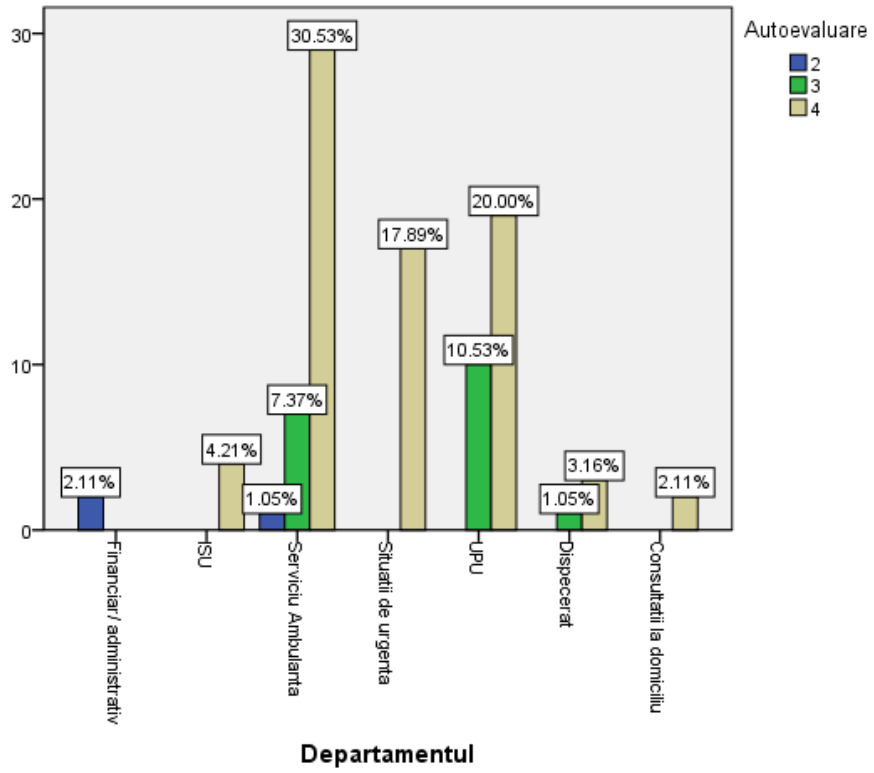

In terms of Reporting, in the Financial Administrative category, 2.11% show a high level. In the ISU category we find 1.05% respondents with high level and 3.16% respondents with good level. In the Ambulance Service category, 9.47% show a high level, 13.68% show a good level, 13.68% show a medium to good level and 2.11% show a low level. In the category

Emergency Situations we find 5.26% of respondents with a high level, 6.32% of respondents with a good level and 6.32% of respondents with a medium to good level. In the UPU category 3.16% show a high level, 13.68% a good level, 13.68% show a medium to good level. In the Dispatch category 1.05% show a high level and 2.11% show a good level and 1.05 a medium to good level. In the category Home consultations 1.05% show a high level and 1.05% show a good level.

In conclusion, in terms of Relating as a sub-division of resilience reported at department level we find the following results: 15.09 have a high level, 38.46 have a good level, 45.59 have a medium to good level and 0.89% have a low level.



*4. Department and Resilience Self-Assessment*

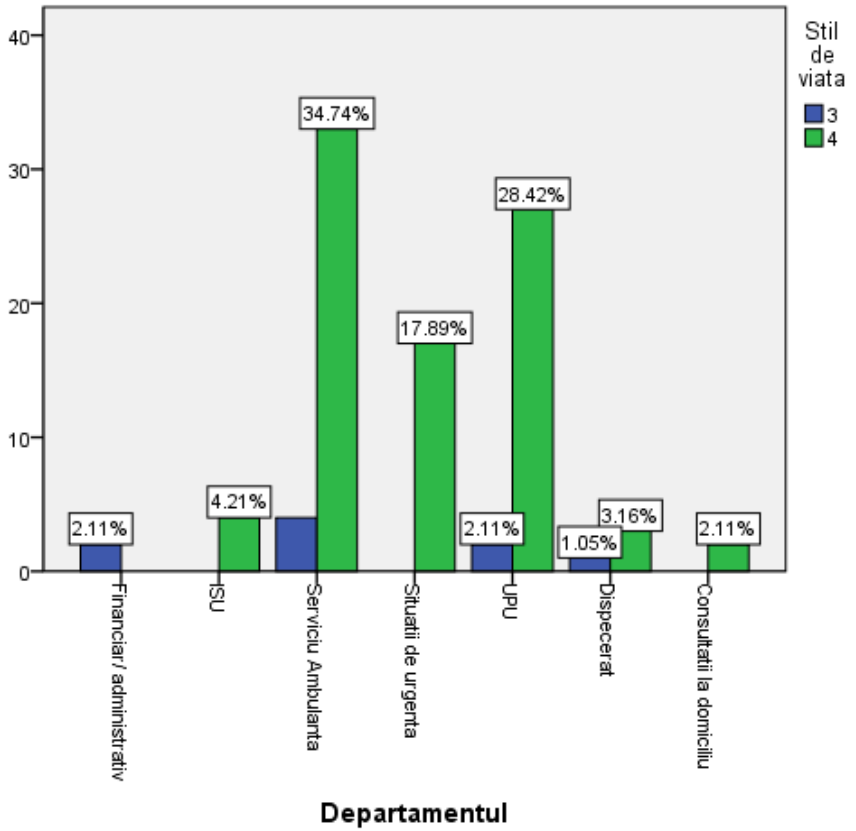



In terms of the Resilience Self-Assessment, in the Financial-Administrative category, 2.11% are average to good. In the ISU category we find 4.21% respondents with a high level. In the Ambulance Service category, 30.53% show an increased

level, 7.37% show a good level, 1.05% show a medium to good level. In the category Emergency Situations we find 17.89% of respondents with an increased level. In the UPU category 20.00% show a high level, 10.53% a good level. In the Dispatch category 3.16% show a high level and 1.05% show a good level. In the category home consultations 2.11% show a high level.

In conclusion, in terms of the Relationship as a sub-division of resilience reported at departmental level we find the following results: 77.89% have a high level, 18.94% have a good level, 3.15% have a medium to good level.

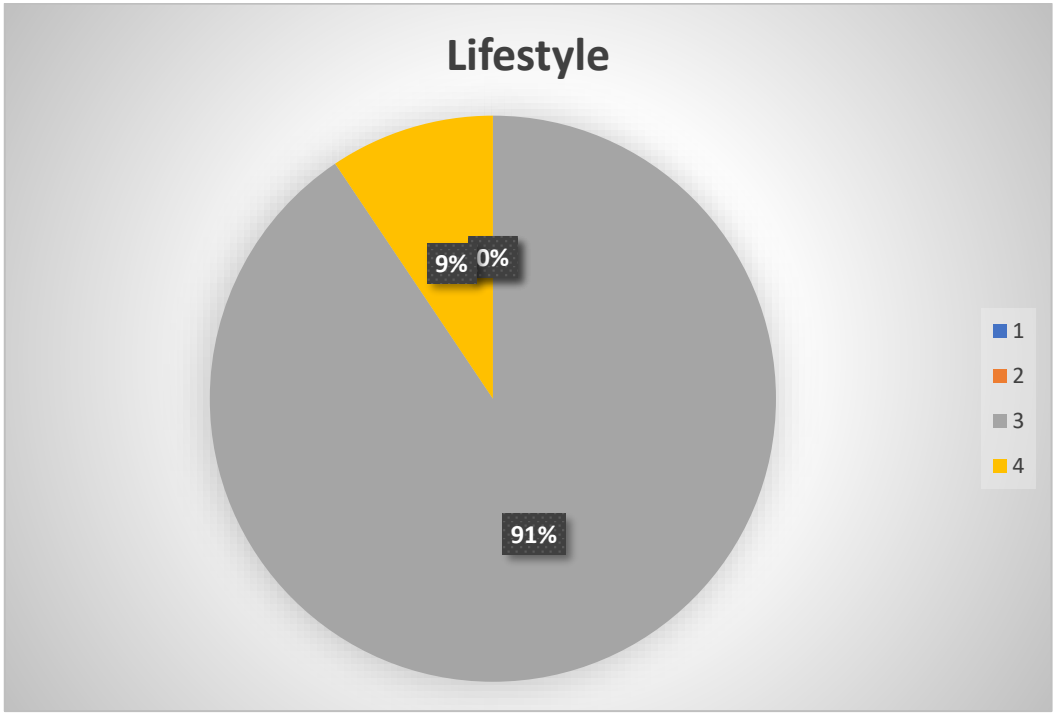
*5. Department and Lifestyle*




In terms of Lifestyle, in the Financial Administrative category, 2.11% are high. In the ISU category we find 4.21% respondents with high level. In the Ambulance Service category, 34.74% have a high level, 4.21% have a good level. In the

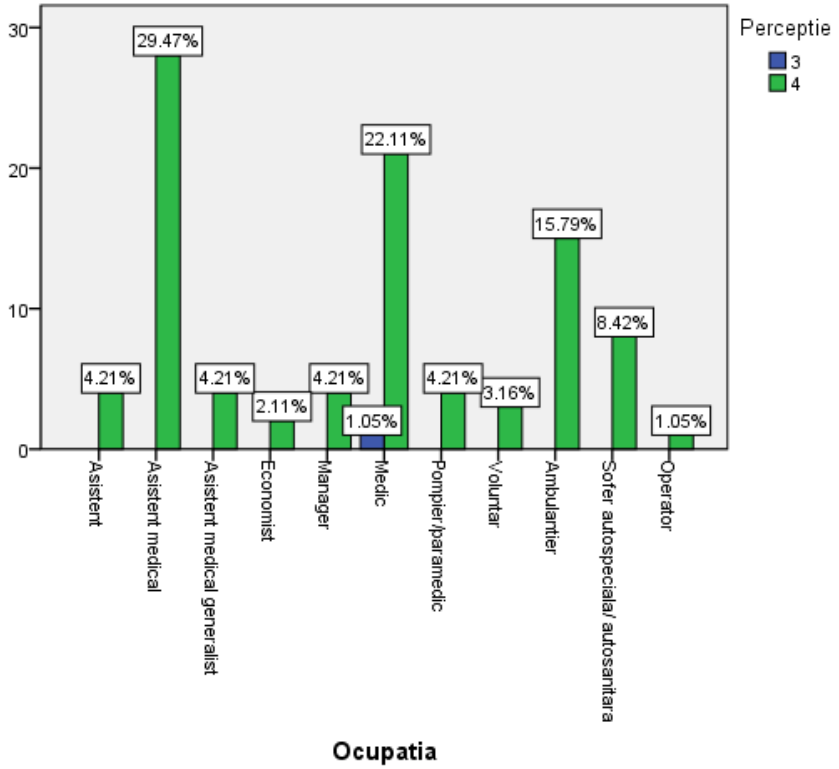
category Emergency Situations we find 17.89% of respondents with a high level. In the Dispatch category 3.16% have a high level and 1.05 a good level. In the category Home consultations 2.11% show a high level.

In conclusion, in terms of Lifestyle as a sub-division of resilience reported at departmental level we find the following results: 90.52% have a high level, 9.4% have a good level.



*C . Analysis of results on occupation and subdivisions of resilience*

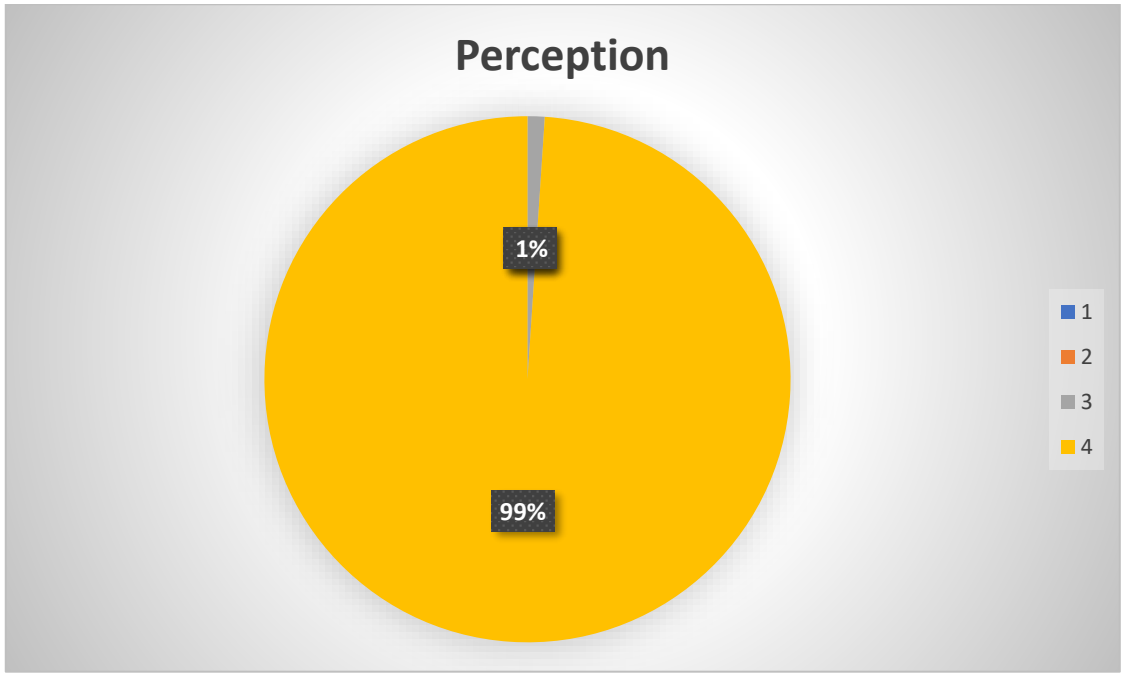
1. *Perception and Occupation*



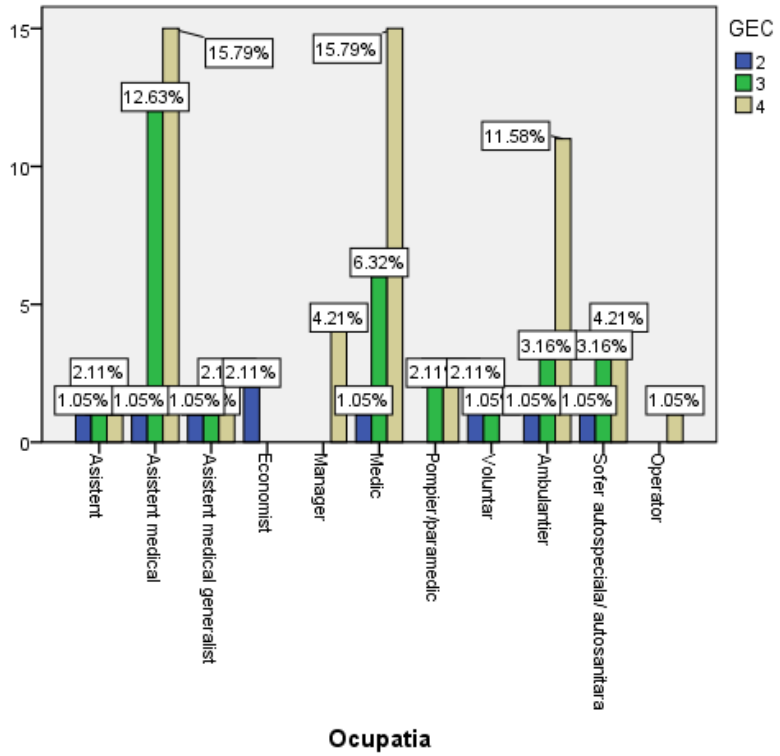

In terms of Perception, in the category Nurse we find 4.21% with high level, in the category Nurse we find 29.47% respondents with high level. In the category General Nurse 4.21 respondents with high level. In the category Economist we find 2.11% of respondents with high level. In the Manager category, 4.21% show a high level. In the category Doctor 22.11% show a high level and 1.05% show a good level. In the Firefighter-paramedic category 4.21% show a high level. In the

Volunteer category, 3.16% present a high level. In the Ambulance category 15.79% show a high level. In the category Driver - ambulance 8.42% have a high level. In the category Operator 1.05% have a high level.

In conclusion, as far as Perception as a sub-division of resilience related to the level of occupation is concerned, we find the following results: 99.94 have a high level, 1.05 have a good level.



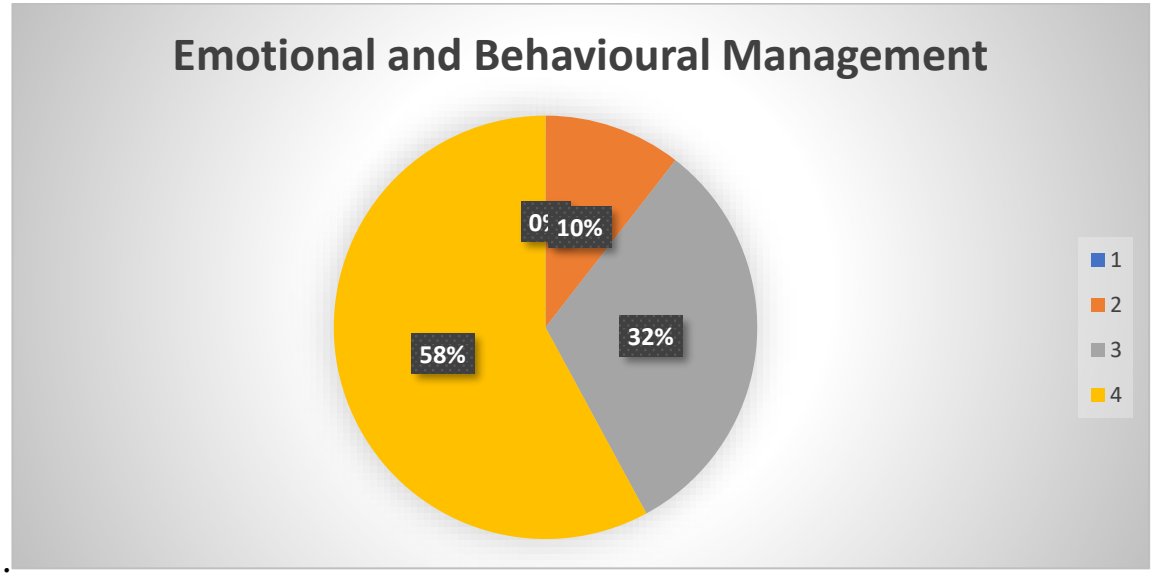
2. *Occupational and Emotional and Behavioural Management*



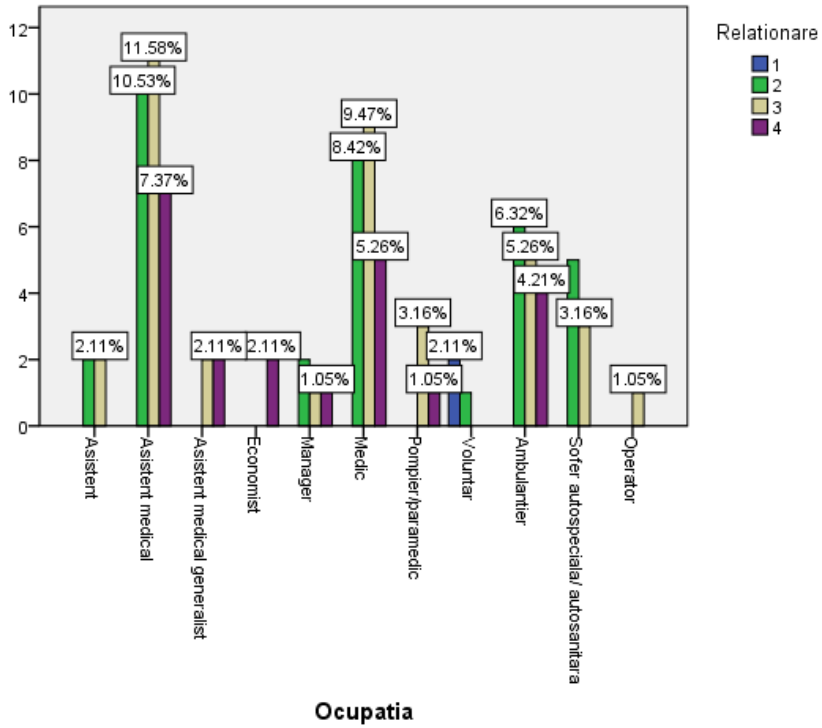

In terms of Emotional and Behavioural Management, in the Assistant category 2.11% show a high level, 1.05% show a good level, 1.05% show a medium to good level. In the category Nurse we find 15.79% respondents with high level, 12.63% respondents with good level and 1.05% of respondents with medium to good level. In the category General Medical Assistant, 2.11% have a high level, 2.08% have a good level and 1.05% have a medium to good level. In the Economist category, 2.11% of respondents have a medium to good level. In the Manager category, 4.21% have a high level. In the category Doctor 15.79%

have a high level, 6.32% have a good level and 1.05 a medium to good level. In the Firefighter-paramedic category 2.11% have a high level and 2.11% have a good level. In the Volunteer category, 2.11% show a good level and 1.05 show a medium to good level. In the Ambulance category 11.58% have a high level, 3.16% have a good level and 1.05% have a medium to good level. In the category driver - ambulance 4.21% have a high level and 3.16% a good level. In the Operator category 1.05% have a high level and 0.30% a good level.

In conclusion, in terms of Emotional and behavioural management as a sub-division of resilience related to the level of occupation, we find the following results: 58.89% have a high level, 31.57 have a good level, 10.52% have a medium to good level.



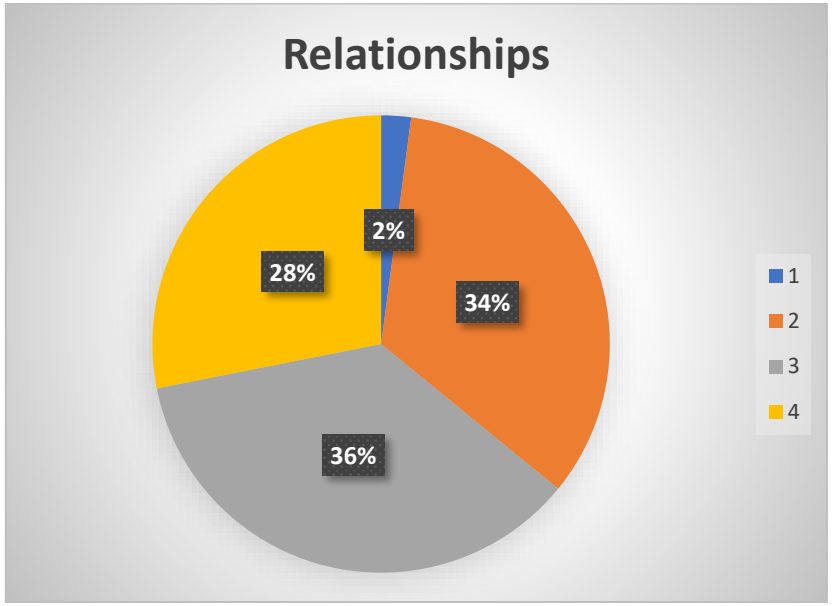
*3. Occupation and Relationships*



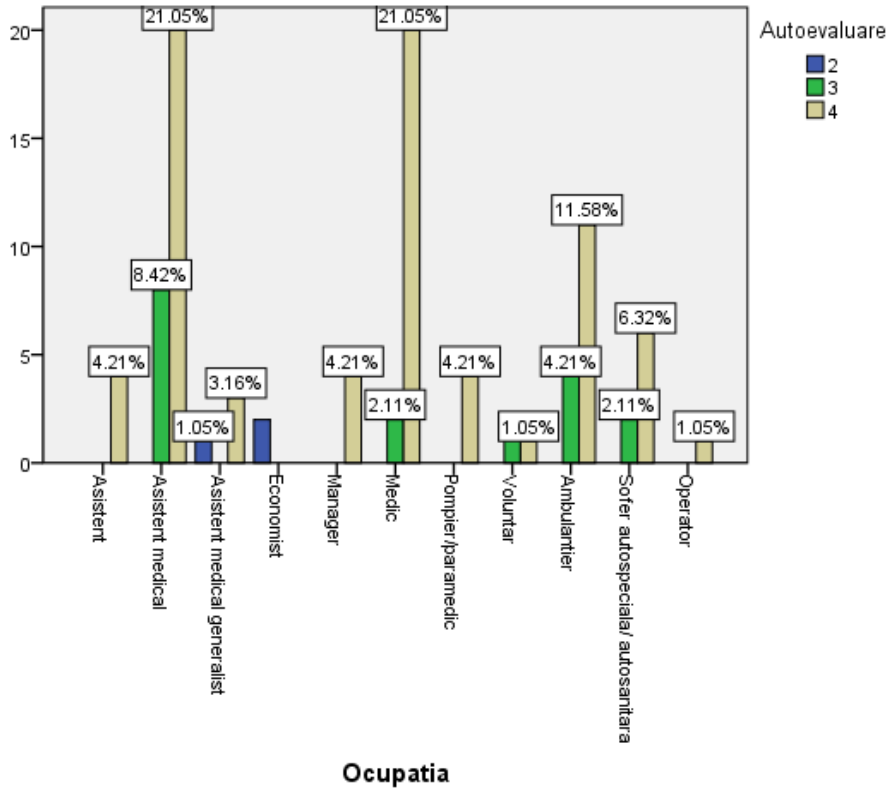

In terms of Relating, in the category Assistant 2.11% show a high level, 2.11% show a good level. In the category Nurse we find 7.37% respondents with high level, 10.53% respondents with good level and 10.57% of respondents with medium to good level. In the category General Medical Assistant, 2.11% show a high level, 2.10% show a medium level. In the Economist category, 2.11% of respondents have a high level. In the Manager category, 1.05% have a high level, 1.03% have a good level. In the Doctor category 5.26% have a high level, 9.47% have a good level and 8.42 a medium to good level. In the Firefighter-

Paramedic category 2.11% have a high level and 3.16% have a good level. In the Volunteer category, 1.04% have a medium to good level and 1.04% a low level. In the category Ambulance driver 4.21% show a high level, 5.26% show a good level, 6.32% show a medium to good level. In the category Ambulance driver 3.16% show a good level. In the Operator category 1.05% have a high level.

In conclusion, in terms of Relating as a sub-division of the resilience related to the level of the occupation we find the following results: 28.01% have a high level, 35.84% have a good level, 33.68% have a medium to good level and 2.1% have a low level.



*4. Occupation and Resilience Self-Assessment*

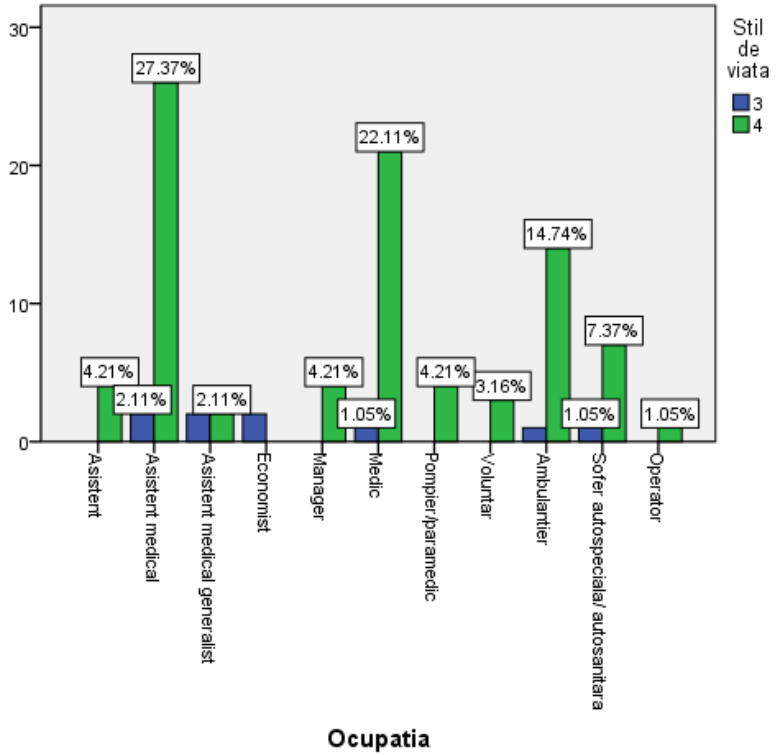



In terms of the Resilience Self-Assessment, in the Assistant category 4.21% show a high level. In the category Nurse we find 21.05% respondents with high level, 8.42% respondents with good level. In the category of general nurse, 3.16% show a high level, 1.05% show a medium to good level. In the Economist category we find 1.05% of respondents with a medium to good level. In the Manager category, 4.21% have a high level. In the Doctor category 21.05% have a high level, 2.11% have a

good level. In the Firefighter-paramedic category 4.21% show a high level. In the Volunteer category, 1.05% show a high level and 1.05% a medium to good level. In the Ambulance category 11.58% show a high level, 4.21% show a good level. In the category ambulance driver 6.32% have a high level, 2.11% have a good level. In the category Operator 1.05% have a high level.

In conclusion, with regard to the Self-assessment of resilience as a sub-division of resilience related to the level of occupation, we find the following results: 77.89% have a high level, 18.94% have a good level, 3.15% have a medium to good level.

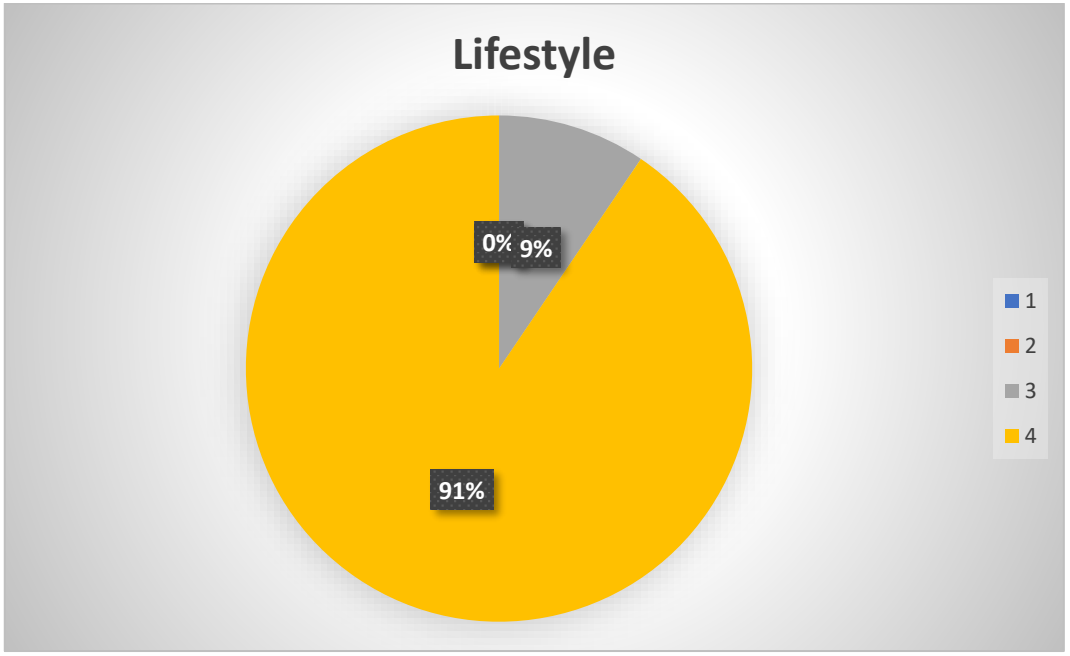
4 *Occupation and Lifestyle*




In terms of Lifestyle, in the category Assistant 4.21% show a high level. In the category Nurse we find 27.37% respondents with high level, 2.11% respondents with good level. In the category General Medical Assistant, 2.11% show a high level, 2.10% show a good level. In the Economist category we find 2.11% of respondents with a good level. In the Manager category, 4.21% have a high level. In the Doctor category 22.11% show a high level and 1.05% show a good level. In the

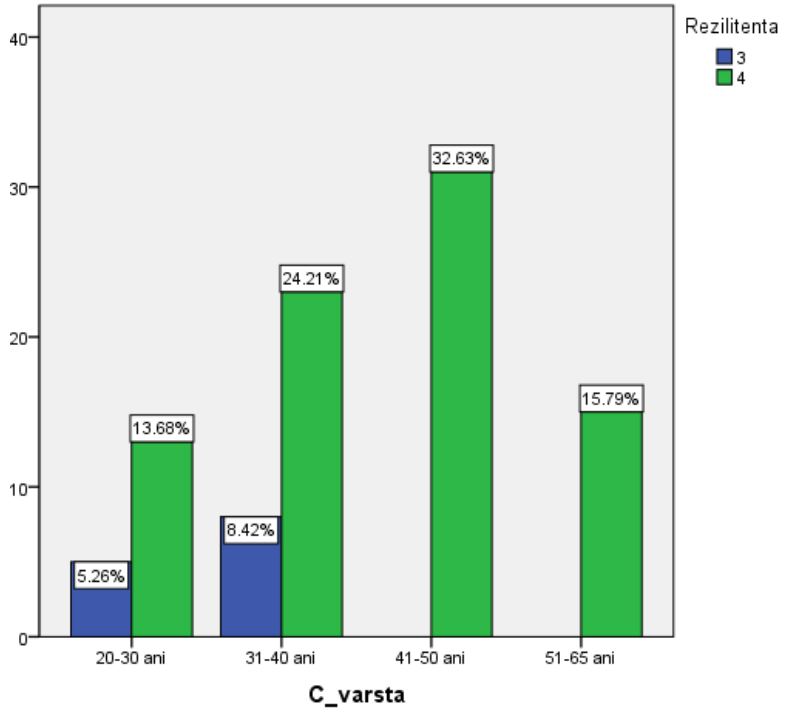
Firefighter-paramedic category 4.21% show a high level. In the Volunteer category, 3.16% show a high level. In the Ambulance category 14.74% show a high level, 1.03% show a good level. In the category driver of a self-medical vehicle 7.37% have a high level, 1.05% have a good level. In the category Operator 1.05% have a high level.

In conclusion, in terms of Lifestyle as a sub-division of resilience related to the level of occupation, we find the following results: 90.52% have a high level, 9.47% have a good level.



*CONCLUSIONS*

In this chapter resilience is measured as a general psychological construct and scores are reported at the level of age categories, departments and occupations. By cumulating on each sub-domain each final score could be observed. Significant scores were taken into account.

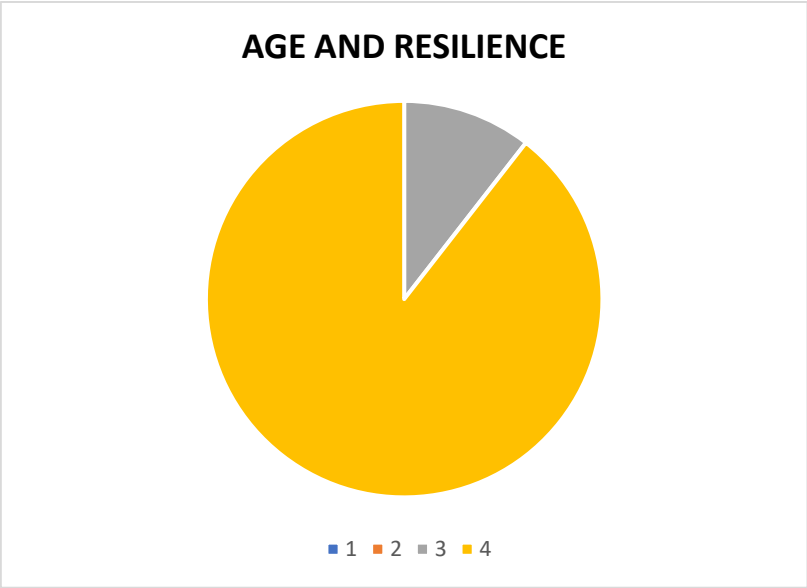



In terms of age, the majority of participants show a high level of resilience. No categories with significant risk scores were recorded. In terms of the age category 20-30 years, 5.26% have a good level of resilience and 13.68% have a high level of resilience. The age category 31-40 contains 24.21% who have a high level of resilience and 8.42% have a good level of

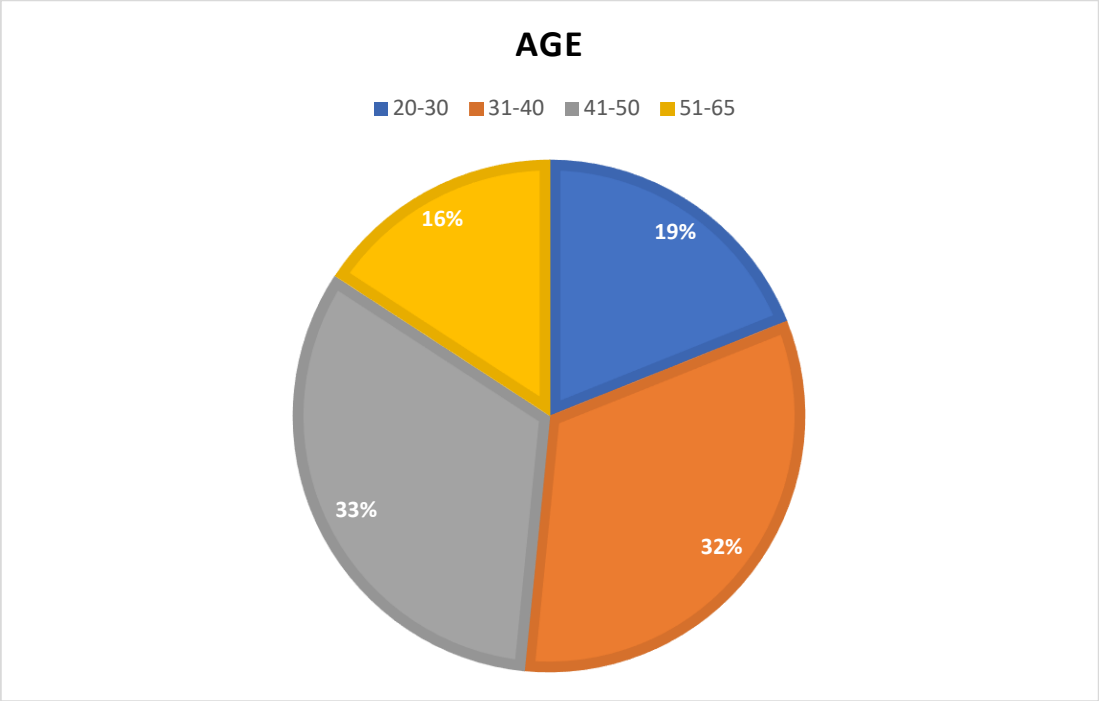
resilience. The highest scores are found in the 41-50 age group where 21.63% have a high level of resilience. There are no other resilience levels within this category. The age category 51-65 years contains 15.79% showing an increased level of resilience. In conclusion, the age category with the best overall scores is respondents aged 41-50. A possible explanation could be work experience and psychological normalisation of situations at work. It can be seen how the level of resilience improves with age. The scores were analysed cumulatively from 100% of all participants.

As a general conclusion regarding the level of resilience reported by age group:

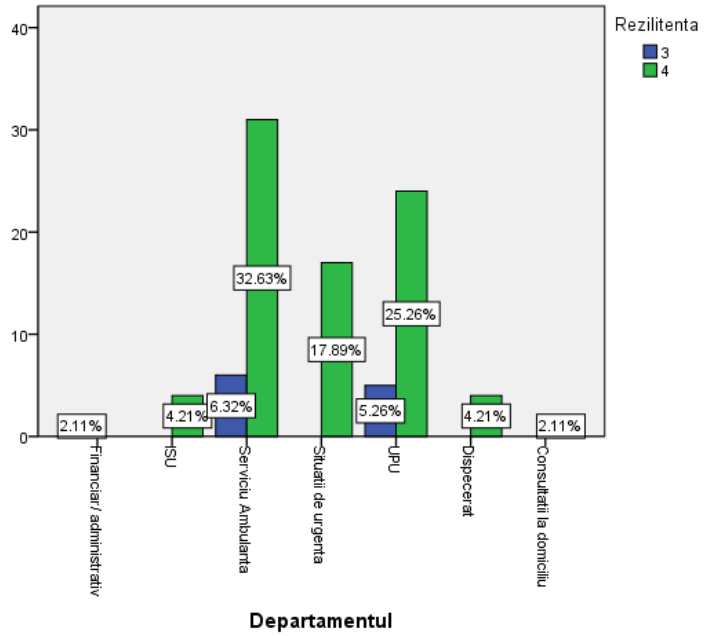
89.47% of respondents show a high level and 10.53% of respondents show a good level.



Resilience was analysed in terms of the age of the target group in order to observe trends of increasing or decreasing resilience. The youngest respondent was aged 20 and the oldest was 65. The categories 41-50 and 31-40 had approximately equal numbers of respondents (32.63%), followed with 18.95% by the category 20-30 years old, the last category, the age group 51-65 years old, representing 15.79% of the respondents.



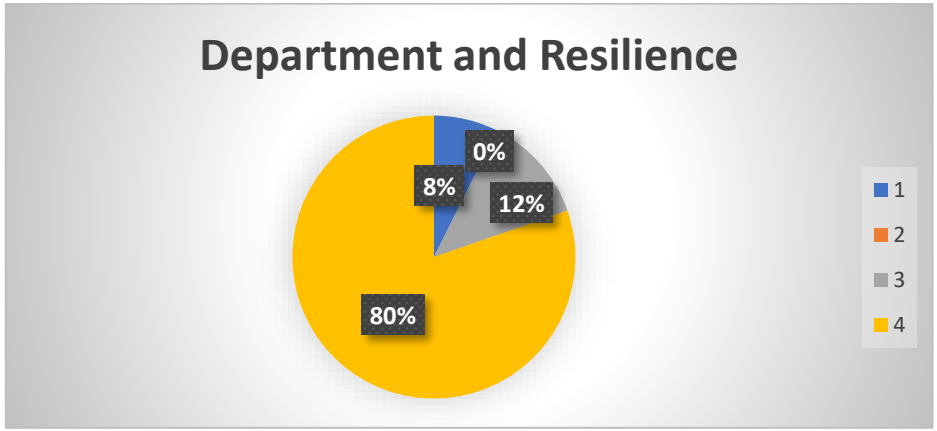
Department



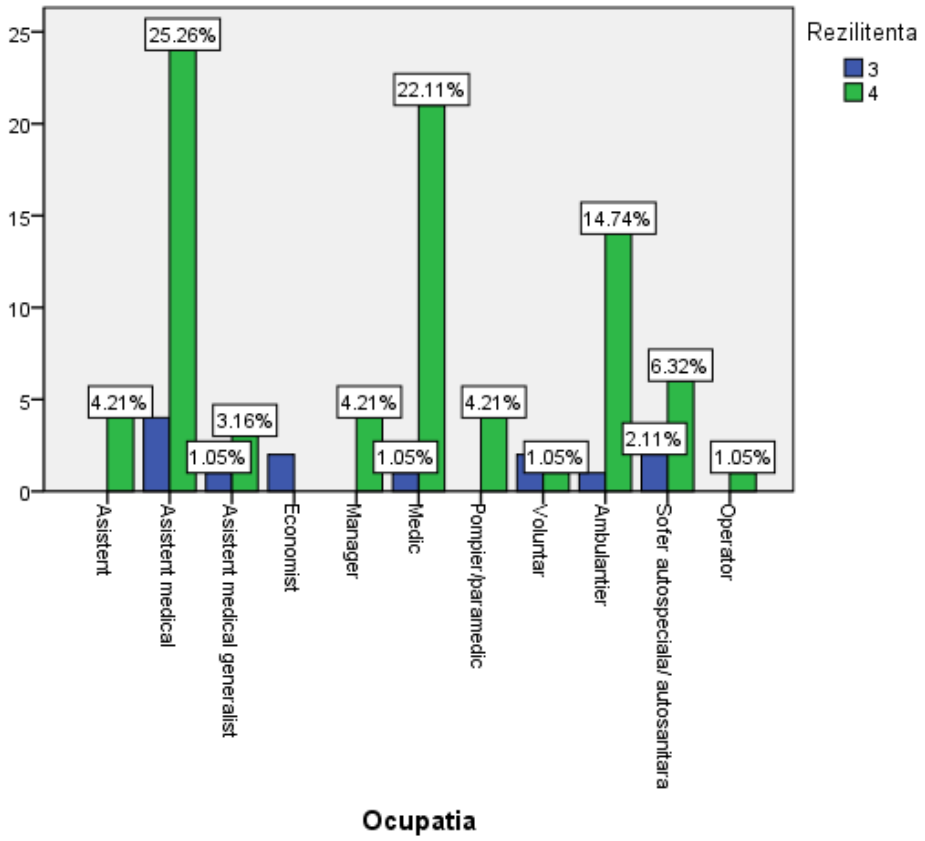

In terms of the department they belong to, the highest level of resilience is found within the department: ambulance service with 32.63% of all participants having a high level of resilience. The rest of the respondents in this category show a good level of resilience and there is no critical score. In the 2nd place is the UPU department with a percentage of 25.26% of the total respondents having a high level of resilience, the rest of the participants having a medium level (5.26%). These are followed by the Emergency Situations department (17.89%), ISU (4.21%), Dispatch (4.21%) and Home Consultation (2.11%) and the Finance-Administrative department scored high with 2.11%. Similar to the analysis based on age categories, the

assessment in terms of resilience level by department was analyzed cumulatively from a total score of 100% of unequally distributed participants. The distribution of participants is due to the number of respondents but also due to the number of certain positions and the number of people in certain departments compared to others. As a general conclusion the Ambulance Service department has the highest level of resilience compared to the other departments. One explanation could be that they have developed this high level due to the nature of their work, being among the first to come into contact with situations requiring a high degree of resilience, thus developing over time strategies to be able to cope professionally and psychologically. It should be noted that there were no statistically significant critical scores in the sample.

As a general conclusion regarding the level of resilience in relation to the department we obtained the following results: 86.31% of respondents show a high level, 13.68% of respondents show a good level and there are no statistically significant critical scores.



Ocupation




As for the occupation with the highest level of resilience 25.26%, it is represented by Nurses. The rest of the participants in this category (4.21%) show average scores. The second highest resilience score group with 22.11% are Doctors. In this category a percentage of more than 1.05% of the total score respondents scored at a good level, with no overall critical

scores. The ranking according to high scores is followed by: ambulance drivers (14.47%), ambulance drivers (6.32%), nurses (4.21%), paramedics (4.21), operators (1.05%), volunteers (1.05%), economists (1.05%). Similar as in the case of age category and department the scores were analysed from an aggregate of 100% participants of the target group.

As a general conclusion regarding the level of resilience related to occupation we find the following results: 86.31% of respondents show a high level, 13.69% of respondents show a good level. In terms of occupation there were no statistically significant critical scores recorded.

## 3.3. Italy

### 3.3.1. Research on psychological resilience conducted on a sample in Italy

The Psychological Resilience for Emergency Responders project aims to detect psychological resilience in emergency medical workers and all those who routinely face critical situations in their professional lives. To achieve this, experts in the project constructed a questionnaire for the psychological resilience survey. The questionnaire is in English and translated into the different languages of the participating nations: Italian, Greek and Romanian. In order to ensure comprehensive data collection in a period of Covid-19 restrictions, we digitised the questionnaire and collected data using a Google Form, disseminated to members of the target group.

Once data collection was complete, we created a data matrix that included the subjects in the row and all variables in the column. To analyze the data and complete the statistics we used JASP software which allows us to calculate all the statistical tests needed to analyze and evaluate a psychological questionnaire.

### 3.3.2. Descriptive statistics

In research, descriptive statistics is considered the set of indicators that have the function of summarizing data within a sample. The purposes are to provide a clear view to the researcher and practitioner of the overall trend of the data. The data collected for this analysis includes a sample of 679 participants, which allows researchers to have good statistical power

because it is a large sample. Descriptive statistics include central trend indicators or those data that summarize the trend of the sample. As a central trend indicator we decided to use the mean, which can be seen in the following table:

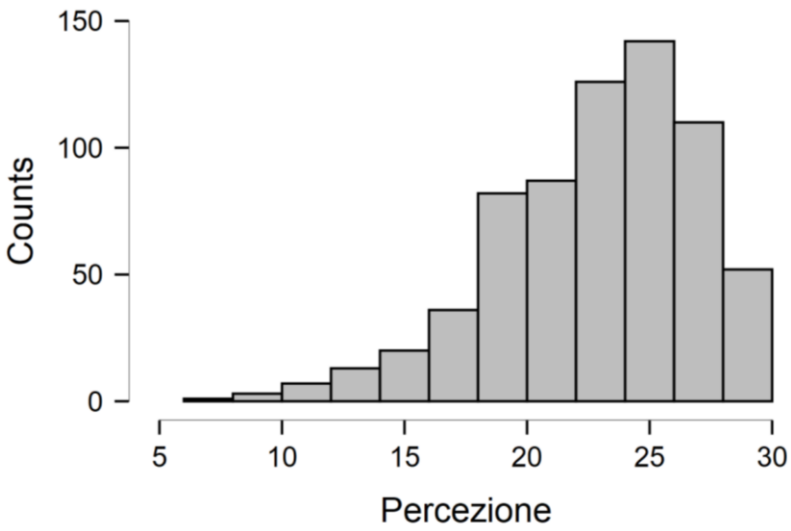
Tabel 1. Statistici descriptive eșantion Italia

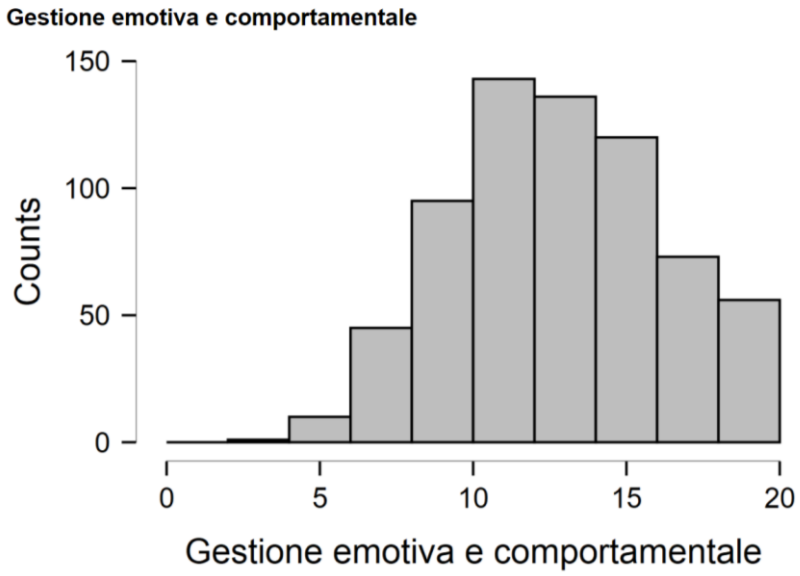
| | Percepție | Gestionare emoțională și comportamentală | Relații | Rezilienta | Stil de viață |
|---|---|---|---|---|---|
| Date valide | 679 | 679 | 679 | 679 | 679 |
| Date lipsă | 0 | 0 | 0 | 0 | 0 |
| Media | 23.355 | 13.315 | 21.542 | 30.138 | 20.398 |
| Deviație standard | 4.124 | 3.443 | 4.328 | 5.373 | 3.420 |
| Minim | 8.000 | 4.000 | 6.000 | 11.000 | 6.000 |
| Maxim | 30.000 | 20.000 | 30.000 | 40.000 | 25.000 |
| 25° percentilă | 21.000 | 11.000 | 19.000 | 27.000 | 19.000 |
| 50° percentilă | 24.000 | 13.000 | 22.000 | 30.000 | 21.000 |
| 75° percentilă | 26.000 | 16.000 | 24.000 | 34.000 | 23.000 |

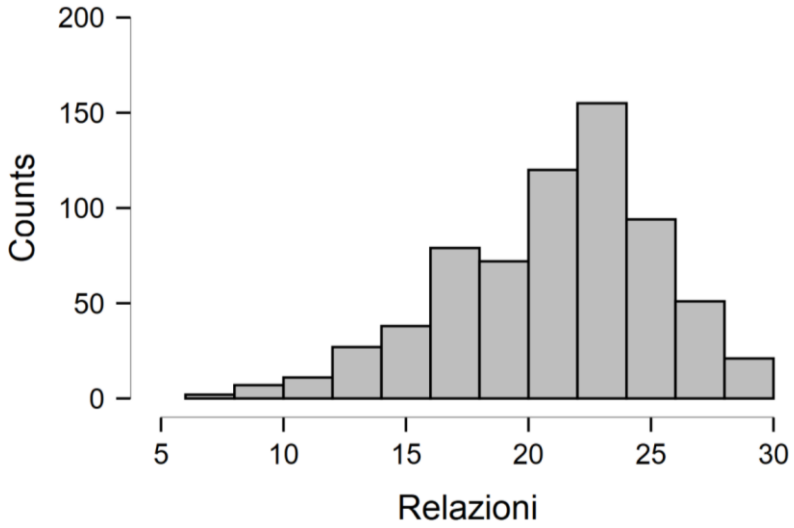
As can be seen from the table, the averages are quite close to the highest point, thus:

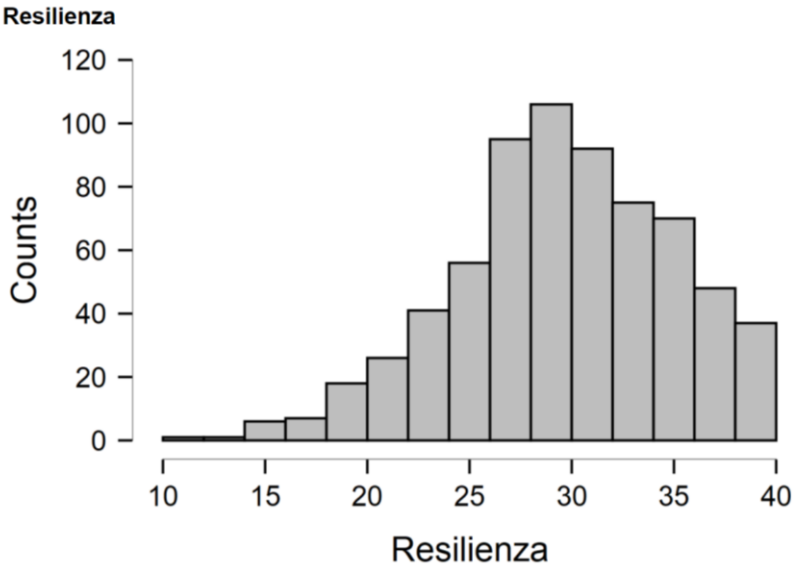
- The mean of the perception scale is 23.35 and the maximum is 30
- The mean on the emotional and behavioural management scale is 13.31, and the maximum is 20

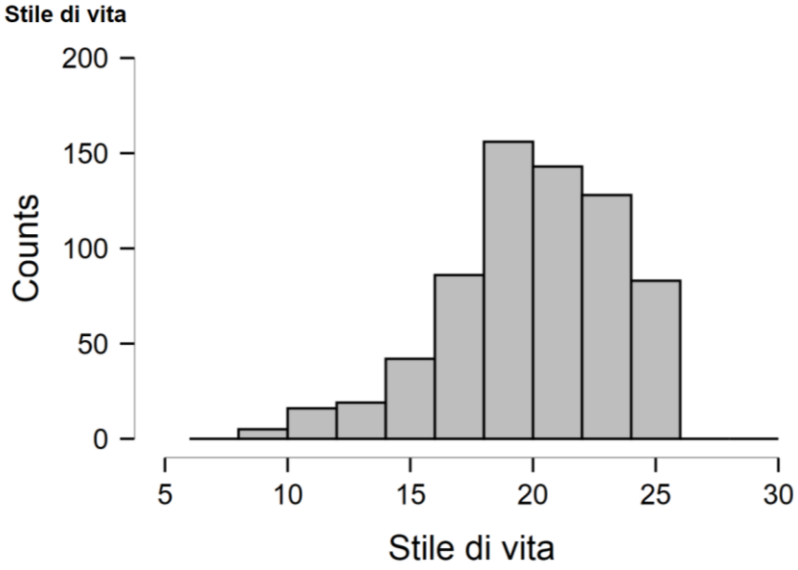
- The average of the Relationships scale is 21.54, and the maximum is 30
- Resilience scale mean is 30.14 and the maximum is 40
- The mean of the Lifestyle scale is 20.39 and the maximum is 25 These data lead us to assume that the psychological resilience of the sample analysed is high on all the scales analysed. This can also be deduced from the histograms for each of the scales.




Counts
200
150
100
50
0
5
10
15
20
25
30
Relazioni


Resilienza
Counts
120
100
80
60
40
20
0
10
15
20
25
30
35
40
Resilienza


Stile di vita
Counts
200
150
100
50
0
5
10
15
20
25
30
Stile di vita

As can be seen from the histograms plotted, the data are "right-biased", i.e. participants gave positive and encouraging responses more often. Responses of low psychological strength are rare. Further analysis can be conducted as part of percentile detection. Percentiles are a specific type of position index. Percentiles indicate the score that divides the data according to certain sample proportions. Percentiles, in particular, divide the sample into one hundred parts. In this particular analysis we decided to detect: 25th percentile: this is the score below which 25% of the lowest scoring data falls and above which 75% of the highest scoring data falls. Usually this indicator is used to identify low scores. In fact, if a particular participant scores below the 25th percentile, they can be said to have a low level of psychological resilience compared to the sample being analysed. As an example, we can look at the descriptive statistics table and see that the 25th percentile of the "perception" scale equals 21. This means that only 25% of the participants scored less than 21. So, if one were looking at the data of a single emergency operator and finding a score of 15 on the perception scale, one would necessarily conclude that the participant has a low level of perception compared to the trend in the overall sample data.

50th percentile: this is the score that divides the 50% of the data with the lowest score from the 50% with the lowest scores. The 50th percentile also corresponds to a central index of trend called the median. This indicator is used as a central reference in the analysis of a sample and provides additional data on the arithmetic mean. Usually the added value of this indicator comes from the fact that it is less affected by outliers. Outliers are also defined as outliers and minority data that are positioned very differently from the sample trend. In order to check for outliers, we should observe in the representation

of the data individual subjects that differ greatly from the mean score. If we look at the histograms of the analysed variables, we can see that the data are well merged together and there are not many data far from the mean.

Dates

| |
|---|
| 8000 |
| 8500 |
| 9000 |
| 9200 |
| 9800 |
| 10000 |
| 11000 |
| 11200 |
| 11500 |
| 12500 |
| 13000 |
| 13200 |
| 13300 |
| 1000000 |

The arithmetic average can be affected by any outliers. In the case of the median, on the other hand, the central date is simply detected. That number which divides the population equally. The fact that the lowest or highest values are very far from the central point is irrelevant, because the median (or percentiles) are simply indices of position. By rearranging a variable's data in ascending order, the median value is simply the one at the center. If we had 5 data, it would be third, if we had 11 data it would be sixth, and so on. In the case of distributions with an even number of data, the two middle values are considered and averaged.

| |
|---|
| 8000 |
| 8500 |
| 9000 |
| 9200 |
| 9800 |
| 10000 |
| 11000 |
| 11200 |
| 11500 |
| 12500 |

| |
|---|
| 13000 |
| 13200 |
| 13300 |
| 1000000 |

As far as our sample is concerned, we can see that this problem does not arise, as if we were comparing means and medians, they are very similar. Therefore, we consider both values valid and usable, in fact:

- The average of the perception scale is 23.35, the median is 24
- Emotional and behavioural management scale mean is 13.31, median is 13
- The mean of the relationship scale is 21.54 and the median is 22
- The mean of the resilience scale is 30.14 and the median is 30
- The mean of the lifestyle scale is 20.39 and the median is 21 Finally, the 75th percentile can be defined as the value below which the 75% lowest score is found and above which we find 25% of the subjects with the highest level of psychological resilience. Typically, the 75th percentile is used to identify individuals with high scores who therefore share well the traits measured by the scale.

3.3.3. Standardisation and statistical rules

In the previous paragraph we observed the data for the sample of Italian participants and analysed the significance of central tendency indices (mean and median) and position indices (percentiles). Central tendency and position indices are used in psychometrics for standardisation purposes and are also called statistical norms. The rules are used to compare a participant's score against the overall trend and to answer the following questions:

- Did the participant score average compared to the general population?
- Is the participant's score significantly higher than the general population?
- Is the participant's score significantly lower than the general population? To do this we can take the descriptive statistics table used previously and reorganize it using the following graph.

| | Minim | Percentile 25 | Percentile 50 | Percentile 75 | Maxim |
|---|---|---|---|---|---|
| Perception | 8 | 21 | 24 | 26 | 30 |
| Emotional and behavioural management | 4 | 11 | 13 | 16 | 20 |
| Relationship | 6 | 19 | 22 | 24 | 30 |
| Resilience | 11 | 27 | 30 | 34 | 40 |
| Lifestyle | 6 | 19 | 21 | 23 | 25 |

a) All data below the 25th percentile can be defined as low psychological resilience scores.

b) Near average scores are defined as all data between the 25th and 75th percentiles.

c) High psychological resilience scores are those data above the 75th percentile.

Analysing the statistical norms of this sample we can see that the scale used discriminates better against low scores, as the means are already closer to the maximum point than to the minimum. For example, some scales already have a median very close to the maximum. If we consider the "Lifestyle" scale, the median is 21 and the maximum is 25. There are only 4 points difference between the median and the maximum. This means that participants tended to give very high scoring answers on this scale.

While this may be encouraging in terms of the psychological resilience of the respondents, from another point of view, this could have metric implications. In fact, if we were to use this instrument to detect improvement in psychological resilience, we would need to consider that on some scales there would be little physical room for improvement. If the median is 21 and the maximum is 25, we would have only 4 points of room to detect improvement, perhaps too little to draw information about possible significant improvement following training. For this reason, additional indicators should be considered to analyse improvement in psychological resilience to training. Instead, this tool effectively detects low

psychological resilience scores and is therefore suitable for assessing at-risk individuals for critical emergency management, as there is a very wide range of scores in which 25% of the population has low psychological resilience.

### 3.3.4. Internal validity by correlation indices

Pearson's correlation is an indicator that has the function of detecting the relationship between two variables. This indicator is used to understand whether the concepts detected by a particular instrument are connected in some way. This index can have a score between -1 and +1. Scores close to 0 are called null correlation and indicate that there is no correlation between the variables under consideration. If we take completely unrelated concepts, we should expect zero correlation. For example, creativity and anxiety do not appear to be related concepts and we would expect no correlation in this case. Positive scores that are positioned towards +1 are instead called positive correlations and indicate that the variables go hand in hand, when one variable increases, we expect the other to increase. Similar and related concepts should produce positive correlations. For example, we expect self-esteem and psychological well-being to be positively correlated. Negative scores that are positioned towards -1 are instead called negative correlations and are usually found in opposite, antagonistic variables. In these cases, when one variable increases, the other decreases. For example, we expect a negative correlation between stress and job performance. When we are stressed, we work worse.

Table 2 – Correlations between psychological resilience scale values and age.

| Variable | | Età | Percezione | Gestione emotiva e comportamentale | Relazioni | Resilienza | Stile di vita |
|---|---|---|---|---|---|---|---|
| 1. Età | Pearson's r | — | | | | | |
| | p-value | — | | | | | |
| 2. Percezione | Pearson's r | 0.168 | — | | | | |
| | p-value | < .001 | — | | | | |
| 3. Gestione emotiva e comportamentale | Pearson's r | 0.148 | 0.361 | — | | | |
| | p-value | < .001 | < .001 | — | | | |
| 4. Relazioni | Pearson's r | −0.185 | 0.241 | 0.092 | — | | |
| | p-value | < .001 | < .001 | 0.016 | — | | |
| 5. Resilienza | Pearson's r | 0.163 | 0.633 | 0.621 | 0.186 | — | |
| | p-value | < .001 | < .001 | < .001 | < .001 | — | |
| 6. Stile di vita | Pearson's r | 0.100 | 0.587 | 0.314 | 0.106 | 0.531 | — |
| | p-value | 0.009 | < .001 | < .001 | 0.006 | < .001 | — |

In Table 2 we can see the correlations between all variables. In row and column we find all the variables analysed and for each of the pairs of variables we can read two data:

- Pearson's r: corresponds to the correlation index between variables

- P-value: index of statistical significance. This index allows us to say whether the correlation is significantly positive or negative. The p-value is the probability of error accepted to validate a hypothesis. Conventionally, all tests with a p-value less than .05 are considered significant, corresponding to a risk of accepting the hypothesis of less than 5%. This second test

is necessary because it takes into account, among other factors, the number of participants. In fact, a small number of participants could produce statistically weak results, they could actually be data that occur by pure coincidence or chance. If, on the other hand, we involve many participants, in this case 679, the likelihood of that correlation occurring by chance is very rare. Looking at the correlation table, we see that all p-value scores are less than .05 and therefore all are significant. This type of analysis is performed in the context of validating our questionnaire for internal validity checking. Given that our test measures all facets of psychological resilience, thus sub-elements of the same construct, we should expect correlations to be positive. Indeed, it would be odd for sub-elements of the same construct to be different and opposed to each other. Looking at the table, all subscale correlations are positive and significant, ranging from a low of 0.092 (between "emotional and behavioral management" and "relationships") to a high of 0.633 (between "resilience" and "perception."). In this sense, internal validity is confirmed as all the resilience variables analysed correlate positively with each other. A question that could be asked is whether some of these correlations are too high or too low. The statistical significance, as mentioned above, is affected by the sample size. With a large sample, correlations that are actually very low could become significant. The correlation of 0.092 between emotional and behavioural management, although significant, is actually close to zero and therefore close to the concept of a null correlation. So it is very weak, the concepts seem to be partially independent of each other. Also, the very high correlations might lead one to suspect that the variables are so similar to each other that they could be defined as the same concept. This doubt could be placed on the high correlation between "relationships" and "resilience". We also correlated the variable 'age' with the test scales to understand whether there was an

association between these concepts. We can see that age seems to be a protective factor for resilience, as it correlates positively with all resilience variables except the variable 'relationships'. This could be due to the fact that older people are also expected to have more years of experience in the job and therefore to have developed higher resilience characteristics. On the other hand, there is a negative correlation with the 'relationships' variables, indicating that social support of older people is low. Consistent with research on this topic, there is therefore a higher risk of isolation for older people.

### 3.3.5. Reliability of measurements

To detect the reliability level of the scales we used Cronbach's Alpha. This index is used to measure the internal consistency of scales that have a non-binary scoring system. Our test has a scale from 1 to 5 and therefore it is necessary to apply this test. According to Nunnally and Bernstein's (1970) Psychometrics Sciences text, the minimum reliability level to be considered is .70. This is satisfied by most of the psychological indicators analyzed and can be summarized as follows:

Table 3 – Reliability of measurements

| Scala | Alpha di Cronbach |
|---|---|
| Managing emotions and behaviours | 0.685 |
| Perception | 0.746 |
| Linking | 0.565 |
| Resilience | 0.763 |
| Lifestyle | 0.794 |

From the table we can see that the two scales that did not get the desired score are "relationships" 0.565 and "management of emotions and behaviours" 0.685. For this reason, the overall reliability of the scale was checked, taking into account the internal consistency of all items together. The overall Cronbach's alpha for all questions equals 0.863 and is therefore largely satisfactory in terms of reliability, as it is certainly higher than the minimum of 0.70.

## 3.3.6. Appendix - Detailed responses and single item frequencies

## Frequency table

Frequency for: I believe my life is meaningful and worth living

| I believe my life is meaningful and worth living | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 5 | 0.736 | 0.736 | 0.736 |
| 2 | 15 | 2.209 | 2.209 | 2.946 |
| 3 | 65 | 9.573 | 9.573 | 12.518 |
| 4 | 143 | 21.060 | 21.060 | 33.579 |
| 5 | 451 | 66.421 | 66.421 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for:My work is consistent with my values

| My work is consistent with my values | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 49 | 7.216 | 7.216 | 7.216 |
| 2 | 43 | 6.333 | 6.333 | 13.549 |
| 3 | 118 | 17.378 | 17.378 | 30.928 |
| 4 | 198 | 29.161 | 29.161 | 60.088 |
| 5 | 271 | 39.912 | 39.912 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: What I do in my job is important to others

| What I do in my job is important to others | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 31 | 4.566 | 4.566 | 4.566 |
| 2 | 38 | 5.596 | 5.596 | 10.162 |
| 3 | 76 | 11.193 | 11.193 | 21.355 |
| 4 | 169 | 24.890 | 24.890 | 46.244 |

Frequency for: What I do in my job is important to others

| What I do in my job is important to others | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 5 | 365 | 53.756 | 53.756 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: I notice new and positive things more than negative things

| I notice new and positive things more than negative things | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 28 | 4.124 | 4.124 | 4.124 |
| 2 | 64 | 9.426 | 9.426 | 13.549 |
| 3 | 220 | 32.401 | 32.401 | 45.950 |
| 4 | 218 | 32.106 | 32.106 | 78.056 |
| 5 | 149 | 21.944 | 21.944 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: I am aware of my negative feelings and do not allow them to control me

| I am aware of my negative feelings and do not allow them to control me | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 31 | 4.566 | 4.566 | 4.566 |
| 2 | 57 | 8.395 | 8.395 | 12.960 |
| 3 | 194 | 28.571 | 28.571 | 41.532 |
| 4 | 267 | 39.323 | 39.323 | 80.854 |
| 5 | 130 | 19.146 | 19.146 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: I know how to express and manage emotions

| I know how to express and manage emotions | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|

Frequency for: I am aware of my negative feelings and do not allow them to control me

| I am aware of my negative feelings and do not allow them to control me | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 15 | 2.209 | 2.209 | 2.209 |
| 2 | 54 | 7.953 | 7.953 | 10.162 |
| 3 | 226 | 33.284 | 33.284 | 43.446 |
| 4 | 270 | 39.764 | 39.764 | 83.211 |
| 5 | 114 | 16.789 | 16.789 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: I consider myself a victim of circumstances

| I consider myself a victim of circumstances | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 309 | 45.508 | 45.508 | 45.508 |
| 2 | 178 | 26.215 | 26.215 | 71.723 |
| 3 | 116 | 17.084 | 17.084 | 88.807 |
| 4 | 60 | 8.837 | 8.837 | 97.644 |
| 5 | 16 | 2.356 | 2.356 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: I face unpleasant situations constantly

| I face unpleasant situations constantly | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 16 | 2.356 | 2.356 | 2.356 |
| 2 | 27 | 3.976 | 3.976 | 6.333 |
| 3 | 189 | 27.835 | 27.835 | 34.168 |
| 4 | 294 | 43.299 | 43.299 | 77.467 |
| 5 | 153 | 22.533 | 22.533 | 100.000 |
| Missing | 0 | 0.000 | | |

Frequency for: I consider myself a victim of circumstances

| I consider myself a victim of circumstances | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| Total | 679 | 100.000 | | |

Frequency for: I face pleasant situations constantly

| I face pleasant situations constantly | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 4 | 0.589 | 0.589 | 0.589 |
| 2 | 14 | 2.062 | 2.062 | 2.651 |
| 3 | 122 | 17.968 | 17.968 | 20.619 |
| 4 | 309 | 45.508 | 45.508 | 66.127 |
| 5 | 230 | 33.873 | 33.873 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: I received formal training to learn how to manage my condition when attending an emergency

| I received formal training to learn how to manage my condition when attending an emergency | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 123 | 18.115 | 18.115 | 18.115 |
| 2 | 105 | 15.464 | 15.464 | 33.579 |
| 3 | 152 | 22.386 | 22.386 | 55.965 |
| 4 | 165 | 24.300 | 24.300 | 80.265 |
| 5 | 134 | 19.735 | 19.735 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: I am used to seeing injured or dead people, disasters, dangerous situations

| I am used to seeing injured or dead people, disasters, dangerous situations | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 202 | 29.750 | 29.750 | 29.750 |

Frequency for: I am used to seeing injured or dead people, disasters, dangerous situations

| I am used to seeing injured or dead people, disasters, dangerous situations | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 2 | 138 | 20.324 | 20.324 | 50.074 |
| 3 | 146 | 21.502 | 21.502 | 71.576 |
| 4 | 97 | 14.286 | 14.286 | 85.862 |
| 5 | 96 | 14.138 | 14.138 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: Although I'm impressed when I participate in emergencies with casualties and disasters, I've learned to control myself

| Although I'm impressed when I participate in emergencies with casualties and disasters, I've learned to control myself | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 62 | 9.131 | 9.131 | 9.131 |
| 2 | 80 | 11.782 | 11.782 | 20.913 |
| 3 | 167 | 24.595 | 24.595 | 45.508 |
| 4 | 219 | 32.253 | 32.253 | 77.761 |
| 5 | 151 | 22.239 | 22.239 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: There is at least one person in my life with whom I can share everything, both good and bad.

| There is at least one person in my life with whom I can share everything, both good and bad. | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 66 | 9.720 | 9.720 | 9.720 |
| 2 | 47 | 6.922 | 6.922 | 16.642 |
| 3 | 61 | 8.984 | 8.984 | 25.626 |
| 4 | 145 | 21.355 | 21.355 | 46.981 |
| 5 | 360 | 53.019 | 53.019 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: There is at least one person in my life with whom I can share everything, both good and bad.

| There is at least one person in my life with whom I can share everything, both good and bad. | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|

Frequency for: Relationships with important people in my life suffer if I get emotionally charged at work

| Relationships with important people in my life suffer if I get emotionally charged at work | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 111 | 16.348 | 16.348 | 16.348 |
| 2 | 117 | 17.231 | 17.231 | 33.579 |
| 3 | 192 | 28.277 | 28.277 | 61.856 |
| 4 | 165 | 24.300 | 24.300 | 86.156 |
| 5 | 94 | 13.844 | 13.844 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: I can access a psychological service

| I can access a psychological service | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 111 | 16.348 | 16.348 | 16.348 |
| 2 | 61 | 8.984 | 8.984 | 25.331 |
| 3 | 143 | 21.060 | 21.060 | 46.392 |
| 4 | 147 | 21.649 | 21.649 | 68.041 |
| 5 | 217 | 31.959 | 31.959 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: I think it would be useful to talk to a psychologist after any difficult assignment

| I think it would be useful to talk to a psychologist after any difficult assignment | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 73 | 10.751 | 10.751 | 10.751 |
| 2 | 33 | 4.860 | 4.860 | 15.611 |
| 3 | 115 | 16.937 | 16.937 | 32.548 |

Frequency for: I can access a psychological service

| I can access a psychological service | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 4 | 179 | 26.362 | 26.362 | 58.910 |
| 5 | 279 | 41.090 | 41.090 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: I think it would be useful to be able to talk about how I felt and what happened after each difficult mission

| I think it would be useful to be able to talk about how I felt and what happened after each difficult mission | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 31 | 4.566 | 4.566 | 4.566 |
| 2 | 30 | 4.418 | 4.418 | 8.984 |
| 3 | 105 | 15.464 | 15.464 | 24.448 |
| 4 | 197 | 29.013 | 29.013 | 53.461 |
| 5 | 316 | 46.539 | 46.539 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: I trust my colleagues and superiors and can count on their support when I need it

| I trust my colleagues and superiors and can count on their support when I need it | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 88 | 12.960 | 12.960 | 12.960 |
| 2 | 105 | 15.464 | 15.464 | 28.424 |
| 3 | 202 | 29.750 | 29.750 | 58.174 |
| 4 | 175 | 25.773 | 25.773 | 83.947 |
| 5 | 109 | 16.053 | 16.053 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: I value my experiences and learn from both mistakes and successes

| I value my experiences and learn from both mistakes and successes | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 5 | 0.736 | 0.736 | 0.736 |
| 2 | 10 | 1.473 | 1.473 | 2.209 |
| 3 | 70 | 10.309 | 10.309 | 12.518 |
| 4 | 203 | 29.897 | 29.897 | 42.415 |
| 5 | 391 | 57.585 | 57.585 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: I adapt quickly to changes and easily accept what I cannot change

| I adapt quickly to changes and easily accept what I cannot change | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 23 | 3.387 | 3.387 | 3.387 |
| 2 | 54 | 7.953 | 7.953 | 11.340 |
| 3 | 145 | 21.355 | 21.355 | 32.695 |
| 4 | 258 | 37.997 | 37.997 | 70.692 |
| 5 | 199 | 29.308 | 29.308 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: I think I can cope with difficulties at work

| I think I can cope with difficulties at work | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 8 | 1.178 | 1.178 | 1.178 |
| 2 | 19 | 2.798 | 2.798 | 3.976 |
| 3 | 109 | 16.053 | 16.053 | 20.029 |
| 4 | 303 | 44.624 | 44.624 | 64.654 |

Frequency for: I think I can cope with difficulties at work

| I think I can cope with difficulties at work | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 5 | 240 | 35.346 | 35.346 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: I feel self-control even when I feel overwhelmed by work situations

| I feel self-control even when I feel overwhelmed by work situations | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 18 | 2.651 | 2.651 | 2.651 |
| 2 | 39 | 5.744 | 5.744 | 8.395 |
| 3 | 140 | 20.619 | 20.619 | 29.013 |
| 4 | 301 | 44.330 | 44.330 | 73.343 |
| 5 | 181 | 26.657 | 26.657 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: Appreciate the work they do

| Appreciate the work they do | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 32 | 4.713 | 4.713 | 4.713 |
| 2 | 38 | 5.596 | 5.596 | 10.309 |
| 3 | 104 | 15.317 | 15.317 | 25.626 |
| 4 | 186 | 27.393 | 27.393 | 53.019 |
| 5 | 319 | 46.981 | 46.981 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: I know techniques that allow me to overcome how I feel when I see injured or dead people and disaster situations

| I know techniques that allow me to overcome how I feel when I see injured or dead people and disaster situations | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|

Frequency for: Appreciate the work they do

| Appreciate the work they do | Frequency | Precent | Valid Precent | Cumulative Precent | |
|---|---|---|---|---|---|
| 1 | | 121 | 17.820 | 17.820 | 17.820 |
| 2 | | 90 | 13.255 | 13.255 | 31.075 |
| 3 | | 170 | 25.037 | 25.037 | 56.112 |
| 4 | | 155 | 22.828 | 22.828 | 78.940 |
| 5 | | 143 | 21.060 | 21.060 | 100.000 |
| Missing | | 0 | 0.000 | | |
| Total | | 679 | 100.000 | | |

Frequency for: I apply techniques that allow me to overcome how I feel when I see injured or dead people and disaster situations

| I apply techniques that allow me to overcome how I feel when I see injured or dead people and disaster situations | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 129 | 18.999 | 18.999 | 18.999 |
| 2 | 111 | 16.348 | 16.348 | 35.346 |
| 3 | 161 | 23.711 | 23.711 | 59.057 |
| 4 | 151 | 22.239 | 22.239 | 81.296 |
| 5 | 127 | 18.704 | 18.704 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: I prefer to find solutions myself

| I prefer to find solutions myself | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 29 | 4.271 | 4.271 | 4.271 |
| 2 | 63 | 9.278 | 9.278 | 13.549 |
| 3 | 193 | 28.424 | 28.424 | 41.973 |
| 4 | 223 | 32.842 | 32.842 | 74.816 |
| 5 | 171 | 25.184 | 25.184 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: I prefer others to find solutions

| I prefer others to find solutions | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 285 | 41.973 | 41.973 | 41.973 |
| 2 | 195 | 28.719 | 28.719 | 70.692 |
| 3 | 145 | 21.355 | 21.355 | 92.047 |
| 4 | 43 | 6.333 | 6.333 | 98.380 |
| 5 | 11 | 1.620 | 1.620 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: My life is important and I take care of myself

| My life is important and I take care of myself | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 10 | 1.473 | 1.473 | 1.473 |
| 2 | 30 | 4.418 | 4.418 | 5.891 |
| 3 | 122 | 17.968 | 17.968 | 23.859 |
| 4 | 247 | 36.377 | 36.377 | 60.236 |
| 5 | 270 | 39.764 | 39.764 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: I am aware of what is good and bad for me

| I am aware of what is good and bad for me | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 1 | 0.147 | 0.147 | 0.147 |
| 2 | 6 | 0.884 | 0.884 | 1.031 |
| 3 | 65 | 9.573 | 9.573 | 10.604 |
| 4 | 256 | 37.703 | 37.703 | 48.306 |
| 5 | 351 | 51.694 | 51.694 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: I am aware of what is good and bad for me

| I am aware of what is good and bad for me | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|

Frequency for: In a difficult situation, I think of my health first

| In a difficult situation, I think of my health first | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 39 | 5.744 | 5.744 | 5.744 |
| 2 | 90 | 13.255 | 13.255 | 18.999 |
| 3 | 220 | 32.401 | 32.401 | 51.399 |
| 4 | 174 | 25.626 | 25.626 | 77.025 |
| 5 | 156 | 22.975 | 22.975 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: I am aware of my skills and strengths

| I am aware of my skills and strengths | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 7 | 1.031 | 1.031 | 1.031 |
| 2 | 27 | 3.976 | 3.976 | 5.007 |
| 3 | 98 | 14.433 | 14.433 | 19.440 |
| 4 | 269 | 39.617 | 39.617 | 59.057 |
| 5 | 278 | 40.943 | 40.943 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

Frequency for: I trust myself

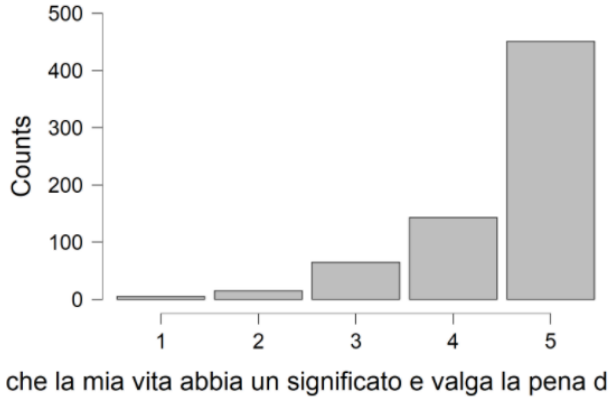
| I trust myself | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 1 | 7 | 1.031 | 1.031 | 1.031 |
| 2 | 25 | 3.682 | 3.682 | 4.713 |
| 3 | 78 | 11.487 | 11.487 | 16.200 |

Frequency for: I am aware of my skills and strengths

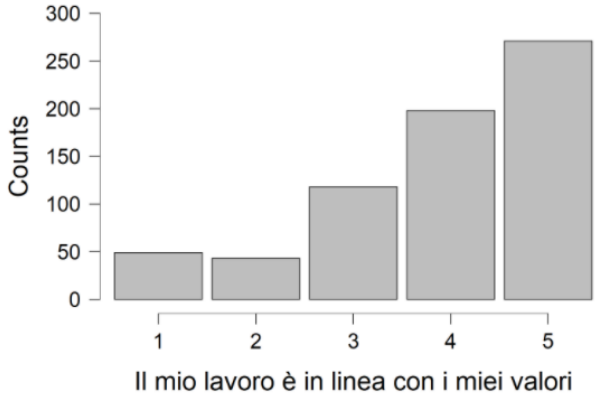
| I am aware of my skills and strengths | Frequency | Precent | Valid Precent | Cumulative Precent |
|---|---|---|---|---|
| 4 | 223 | 32.842 | 32.842 | 49.043 |
| 5 | 346 | 50.957 | 50.957 | 100.000 |
| Missing | 0 | 0.000 | | |
| Total | 679 | 100.000 | | |

**Distribution Plots**

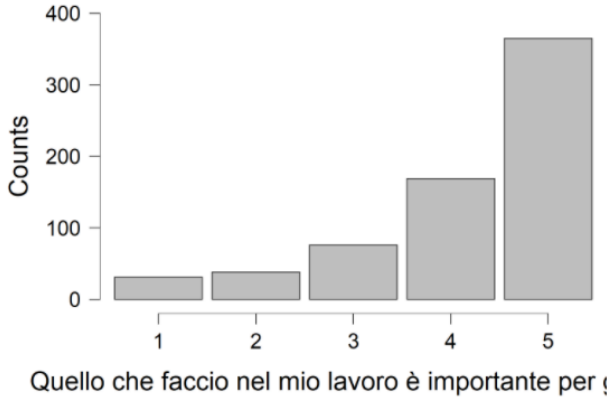
**Penso che la mia vita abbia un significato e valga la pena di essere vissuta**



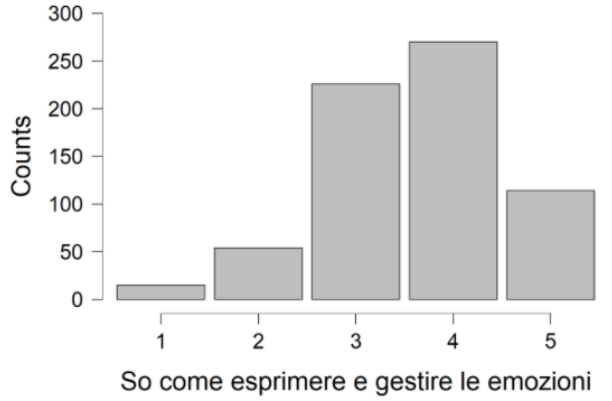

**Il mio lavoro è in linea con i miei valori**



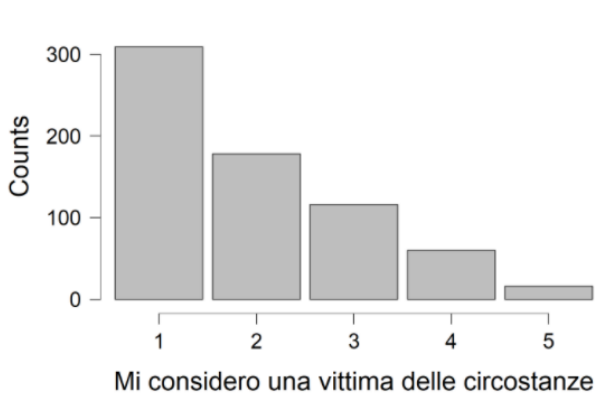

**Quello che faccio nel mio lavoro è importante per gli altri**



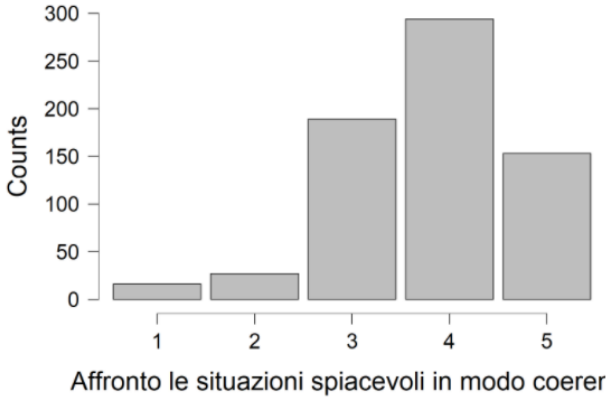

**So come esprimere e gestire le emozioni**

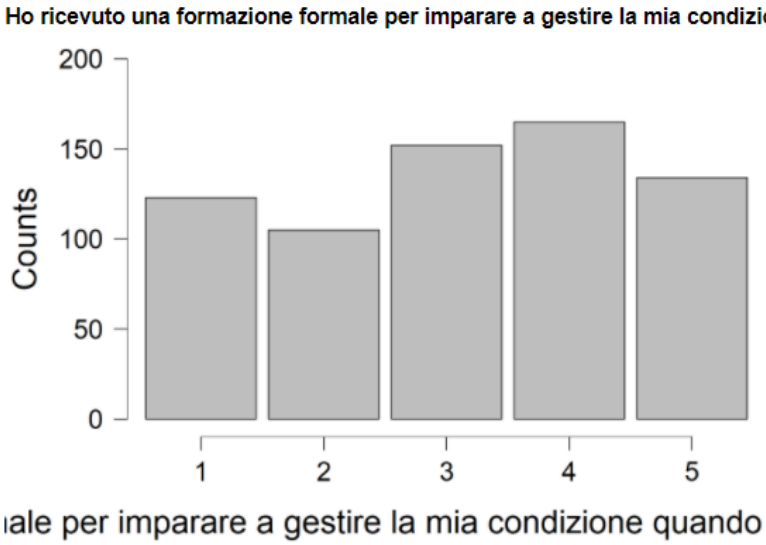



**Mi considero una vittima delle circostanze**




**Affronto le situazioni spiacevoli in modo coerente**




Ho ricevuto una formazione formale per imparare a gestire la mia condizione quando parteci
Counts
200
150
100
50
0
1
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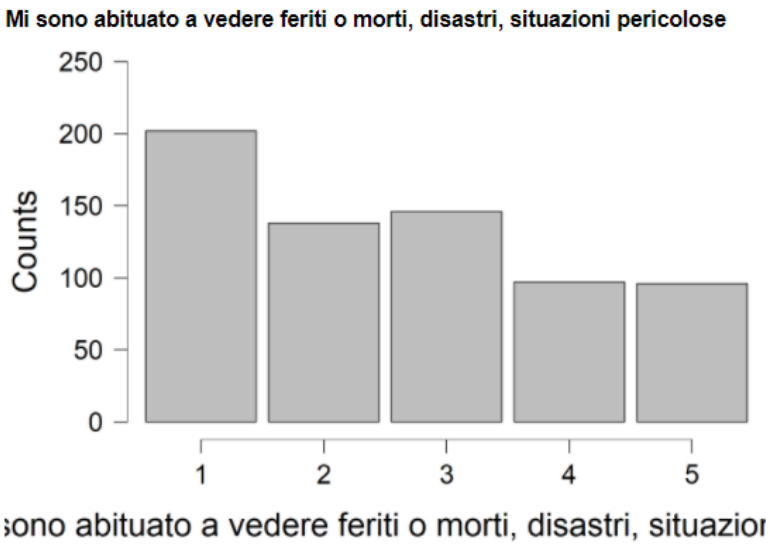
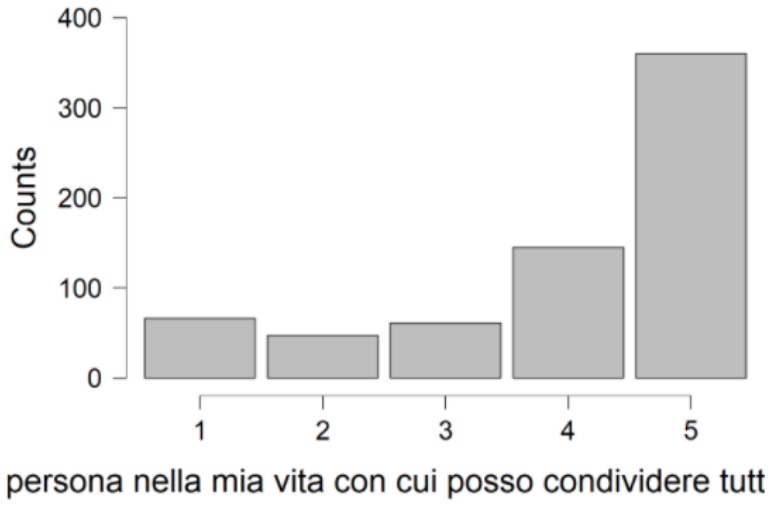
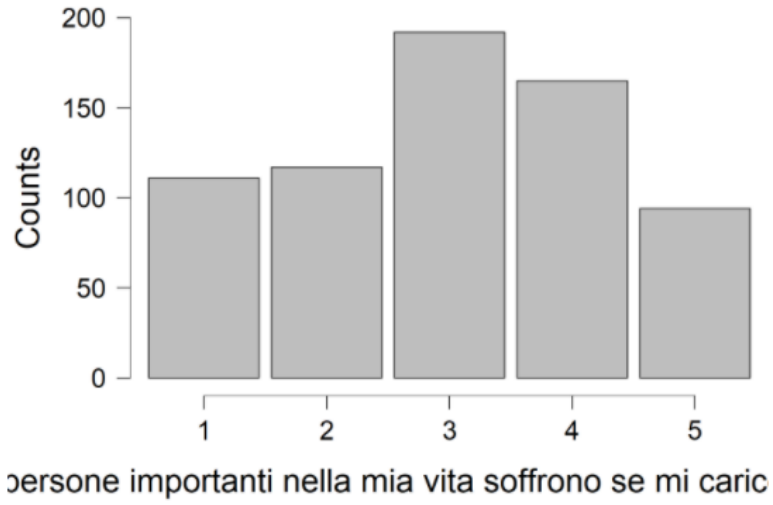
5
ıale per imparare a gestire la mia condizione quando


Mi sono abituato a vedere feriti o morti, disastri, situazioni pericolose
Counts
250
200
150
100
50
0
1
2
3
4
5
ɔono abituato a vedere feriti o morti, disastri, situazior


C'è almeno una persona nella mia vita con cui posso condividere tutto, sia il bene che il male.
Counts
400
300
200
100
0
1
2
3
4
5
persona nella mia vita con cui posso condividere tutt


Le relazioni con persone importanti nella mia vita soffrono se mi carico em
Counts
200
150
100
50
0
1
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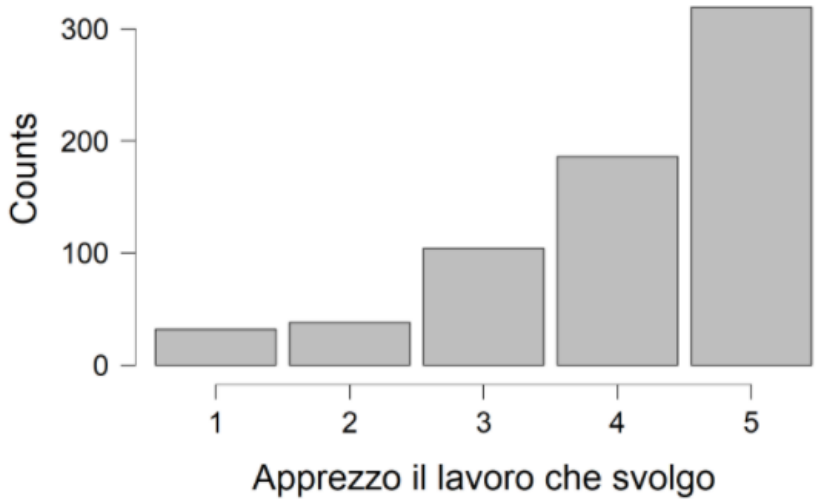
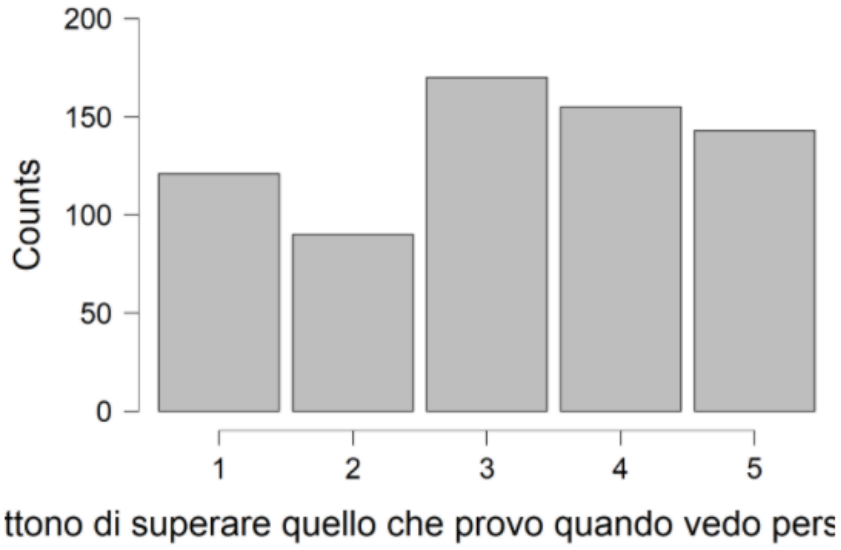
5
ɔersone importanti nella mia vita soffrono se mi caric

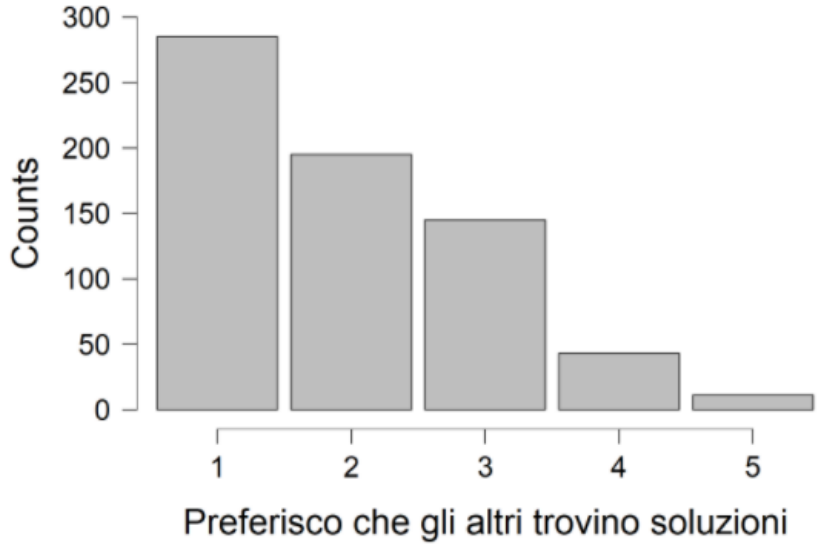
**Apprezzo il lavoro che svolgo**



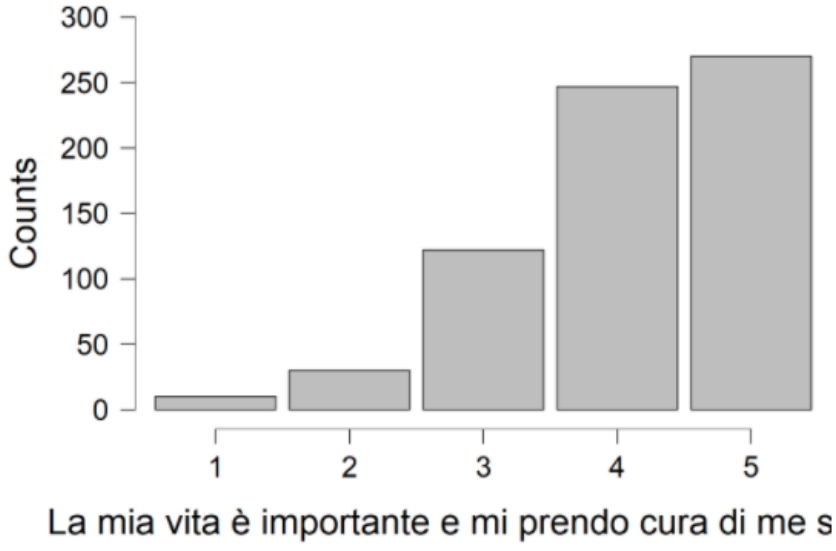

**Conosco tecniche che mi permettono di superare quello che provo quando v**

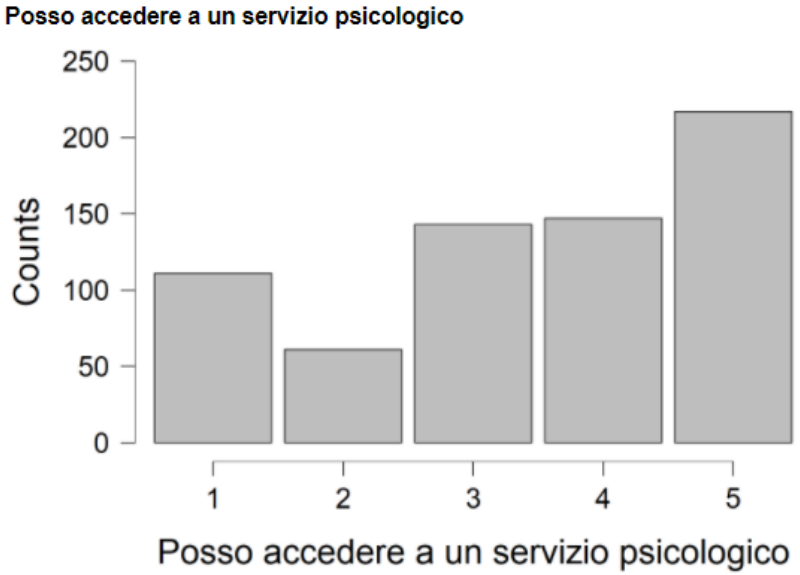



**Preferisco che gli altri trovino soluzioni**




**La mia vita è importante e mi prendo cura di me stesso**




Posso accedere a un servizio psicologico
Counts
250
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150
100
50
0
1
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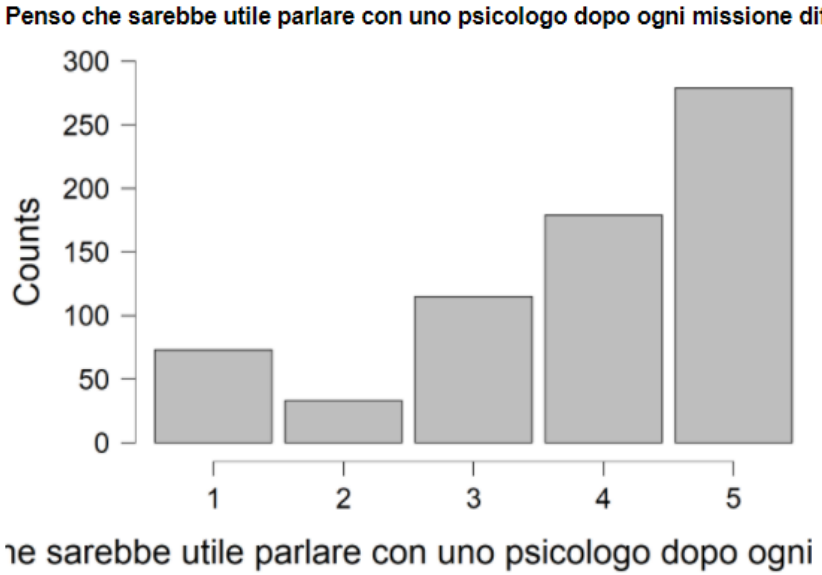
3
4
5
Posso accedere a un servizio psicologico


Penso che sarebbe utile parlare con uno psicologo dopo ogni missione difficil
Counts
300
250
200
150
100
50
0
1
2
3
4
5
ne sarebbe utile parlare con uno psicologo dopo ogni


Apprezzo le mie esperienze e imparo sia dagli errori che dai successi
Counts
400
300
200
100
0
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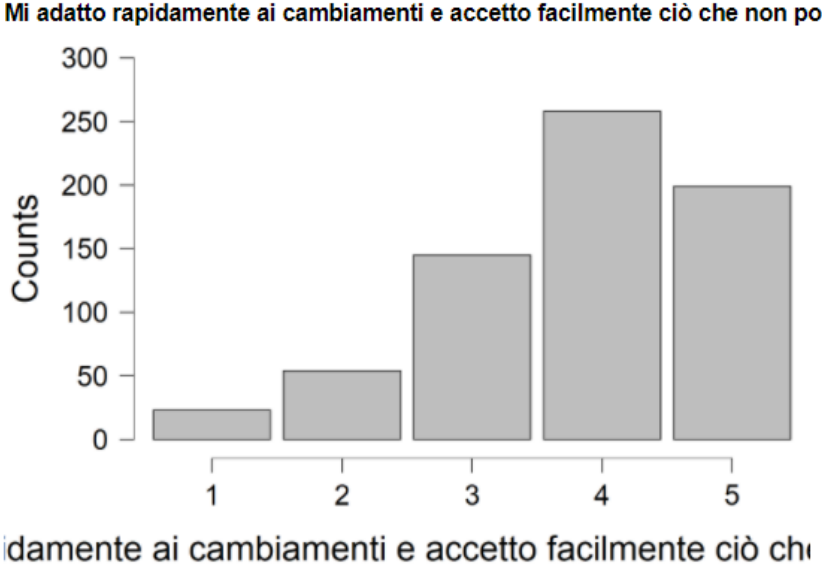
4
5
rezzo le mie esperienze e imparo sia dagli errori che


Mi adatto rapidamente ai cambiamenti e accetto facilmente ciò che non posso
Counts
300
250
200
150
100
50
0
1
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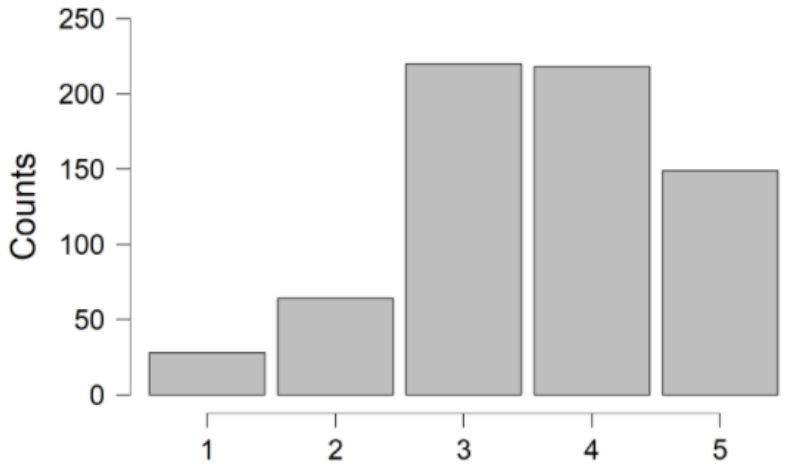
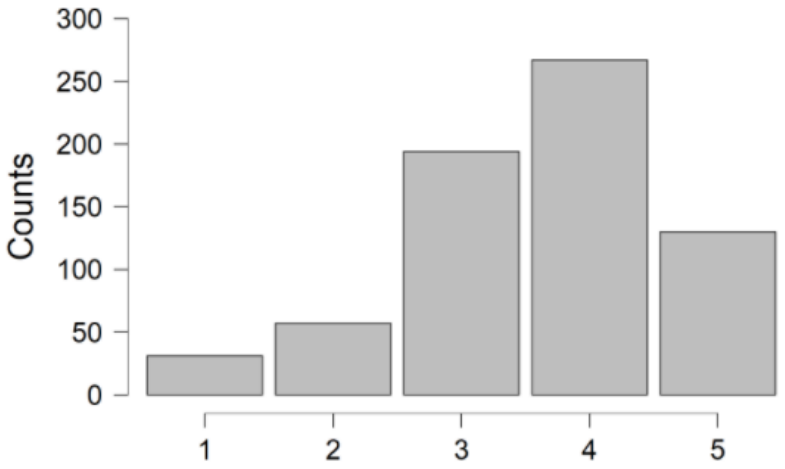
3
4
5
idamente ai cambiamenti e accetto facilmente ciò ch

**Noto cose nuove e positive più che cose negative**



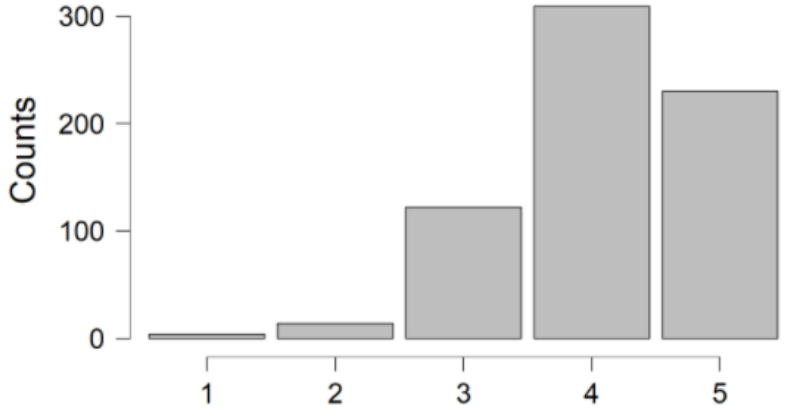

Noto cose nuove e positive più che cose negat

**Sono consapevole dei miei sentimenti negativi e non permetto loro di controllarmi**



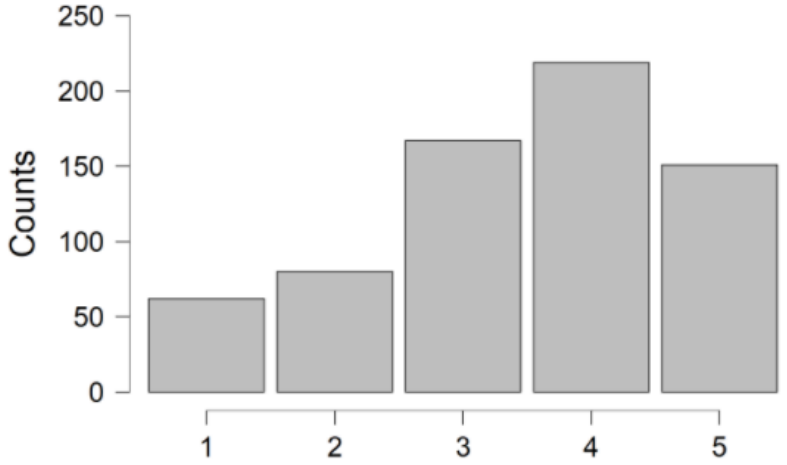

sapevole dei miei sentimenti negativi e non permetto

**Affronto le situazioni piacevoli in modo coerente**

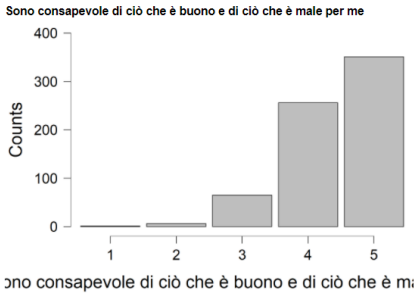


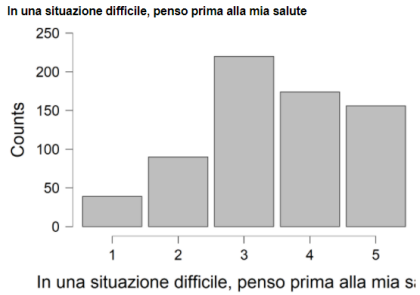

Affronto le situazioni piacevoli in modo coeren

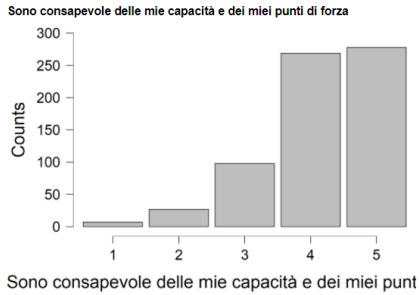
**Anche se sono colpito quando partecipo a situazioni di emergenza con vittime**

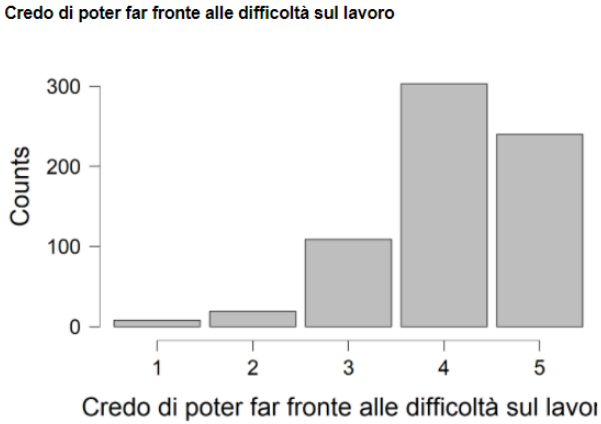


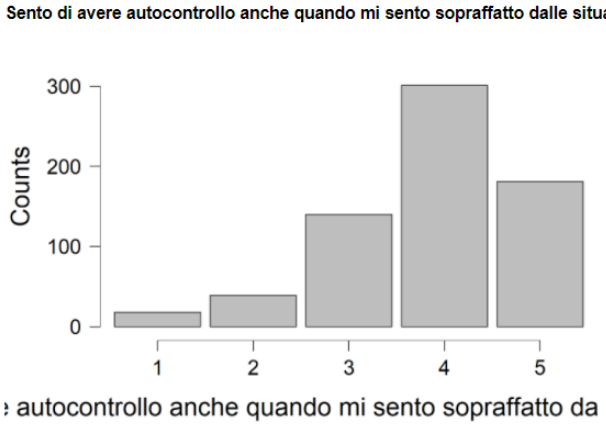

ndo partecipo a situazioni di emergenza con vittime e

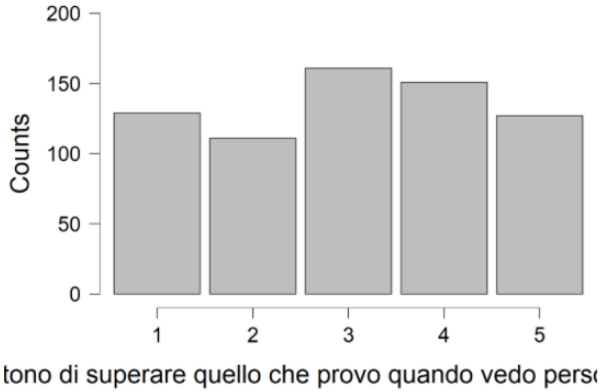

Sono consapevole di ciò che è buono e di ciò che è male per me
Counts
0
100
200
300
400
1
2
3
4
5
ono consapevole di ciò che è buono e di ciò che è ma

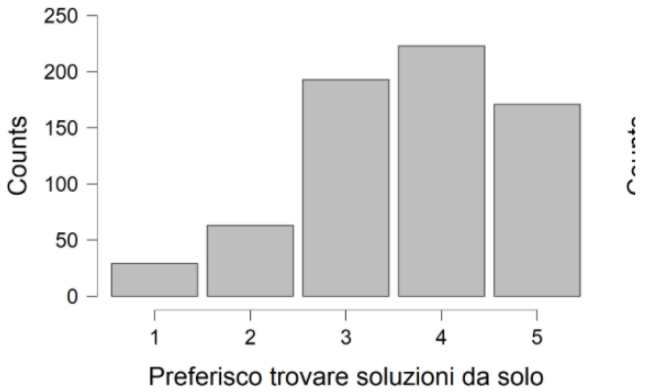

In una situazione difficile, penso prima alla mia salute
Counts
0
50
100
150
200
250
1
2
3
4
5
In una situazione difficile, penso prima alla mia sa


Sono consapevole delle mie capacità e dei miei punti di forza
Counts
0
50
100
150
200
250
300
1
2
3
4
5
Sono consapevole delle mie capacità e dei miei punt


Credo di poter far fronte alle difficoltà sul lavoro
Counts
0
100
200
300
1
2
3
4
5
Credo di poter far fronte alle difficoltà sul lavor


Sento di avere autocontrollo anche quando mi sento sopraffatto dalle situazioni lavorative
Counts
0
100
200
300
1
2
3
4
5
autocontrollo anche quando mi sento sopraffatto da


Applico tecniche che mi permettono di superare quello che provo quando vedo
Counts
0
50
100
150
200
1
2
3
4
5
tono di superare quello che provo quando vedo pers


Preferisco trovare soluzioni da solo
Counts
0
50
100
150
200
250
1
2
3
4
5
Preferisco trovare soluzioni da solo

# Chapter 4. General conclusions

The present research allowed us to investigate the facets of resilience at the level of age, department, occupation and individual item. This was chosen in order to understand where differences occur, what the level of resilience is by country and to understand the perspective of each culture. Although the overall scores show good and even very good results with high levels of resilience, in order to better understand where differences occurred, all variants and combinations of responses were analysed as each individual department/occupation has a defining role in the emergency system.

For Romania, no scores of 2 were present in the sample, similar to the responses of the counterpart sample in Cyprus. In Romania, a trend of decreasing levels of resilience with age could be observed. The 51-65 age group scored mostly at critical level. An example is the scores obtained on the Perception as a sub-division of resilience and Lifestyle dimension. In Romania, the young categories start out in the job with a high level of resilience, fluctuations appear along the way and begin to decline from the age category 41-50 where a number of critical level scores were recorded.

At the opposite pole is Cyprus as a normal increase in resilience levels can be observed with advancing age through experience. It also shows the majority of high level scores with small exceptions. For example in Emotional and Behavioural Management as a facet of resilience the lowest scores recorded were of medium level. Compared to Romania or Italy where there was a wider range of responses, Cyprus shows a high level of resilience.

Italy highlighted a different approach following the same statistical principles but following a punctual analysis in order to have a comprehensive perspective on the concept of Resilience in relation to the other 2 partner countries Cyprus and Romania. The Italian emergency service provides a realistic perspective on their job. It shows similarly to Cyprus a high level of resilience at emergency service level. This profession, for the human resource that makes it up, is an occupation in relation to their values. For example, there were high scores on the values item. Even if it presents high results in general, Italy regardless of the approach (age, category, item, occupation) obtained the lowest scores when the sample had to answer in relation to their habit of seeing situations with high emotional load, even traumatic.

In conclusion we can say that Italy has a fairly realistic view of their level of resilience in the emergency department. It shows high resilience and provides a point model in the analysis of resilience. Cyprus shows an optimistic outlook in terms of staff self-assessment, the results are mostly increased and with advancing age (or occupation) the level increases and is maintained. This being a real support for the younger generation working and needing the support of the experienced working generation. Romania can be placed somewhere behind the 2 partner countries but also shows a good level of resilience at the overall sample level. As a critical factor, different from the two partner countries with age and experience in departments the level of resilience starts to decrease. At the time of the evaluation the scores were good but it needs to be seen in the longer term how this might affect the departments' job performance.

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# Psychological RESILIENCE

## For Emergency Responders

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