

The relationship between locus of control, personal behavior, self-efficacy and resilience

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Abstract

The present research was designed to explore on the one hand the relationship between the locus of control and personal behavior, and on the other part the association between resilience and self-efficacy. Four instruments were used: Rotter's Locus of Control Scale, Personal Behavior Inventory, the Resilience Scale, and the Self-Efficacy Scale. The study was attended by 41 subjects aged between 22 and 58 years ($M=28.6$, $SD=3.44$).

The general conclusion that comes out of the study is that there is a relationship between the locus of control and resilience.

Keywords: *Locus of control, resilience, personal behavior, self-efficacy.*

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I. INTRODUCTION

More and more attention has been paid to the concept of resilience lately, especially as it is experienced in many areas of life (from mechanics or economics to social sciences). Applied in the area of mental and physical health, resilience shows us how living beings succeed - despite exposure to risks, stress, or atypical situations – in maintaining a normal functioning state, and avoid serious psychiatric disorders.

As all our activities are constantly generated, outlined, or altered by our thoughts, it is essential to be able to develop our ability to be resilient in order to achieve good levels of performance (resulting in a sense of satisfaction). It is precisely for this reason that we find it important to carry out research that will deepen the theme of resilience in order to understand this phenomenon and how it can develop.

Resilience comes with three characteristics: the presence of a significant risk, threat, adversity (stressful situations, demanding social conditions etc.), the presence of internal protection factors, attributes (including qualities), external resources to counteract risk factors and the process of positive adjustment or avoiding a negative result. Thus, we can say that resilience represents the mechanism of efficient mobilization of internal and external resources in order to adapt to stress or optimal management of significant sources of stress or trauma (Windle, 2011). The American Psychological Association defines resilience as “the appropriate adaptation process to confronting traumas, adversities, tragedies, threats, or other important stress sources such as family or relationship problems, serious health problems, financial or work stressors” (Newman, 2005).

As mentioned above, there may be some predictive factors for resilience such as the following:

- Genetic factors: genes correlated with neuropeptide Y, with noradrenergic, dopaminergic and serotonergic systems, as well as genetic polymorphism within the hypothalamic-pituitary-cortico-adrenal axis (Donner, 2012);
- Optimism: seen as a positive emotion, a successful attitude, to see life from the perspective of trust (Warner, 2012);
- Active coping style: it has more effective social results than the avoidant, more passive style. The best things happen when we act in this direction (Chesney, 2006);
- Cognitive flexibility: by replacing negative thoughts with positive ones, as a kind of cognitive restructuring (McRae, 2012);
- Mindfulness: focus on present moments, recognition and acceptance of lived emotions, thoughts and bodily sensations (Thompson, 2011);

- Prosocial behavior: such as altruism, contributes significantly to the recovery process after a trauma (Staub, 2008);
- Internal system of values: healthy beliefs and values well imprinted in the personality structure will cause achievement of goals (Lee and al., 2013);
- Social support, especially by observing the behavior of a resilient role model, can lead to the adoption of beneficial behaviors in the process of integration and adaptation (Ozbay, 2008);
- Exercise: it is especially beneficial to positively influence the level of self-esteem, general disposition and certain cognitive functions (Winter, 2007);
- Locus of control: a relevant criterion that influences the extent to which a person is affected by the stressful event is the degree of control the person has over the stressor (Southwick, 2012). It seems that believing that we can influence the events around us improves resilience (Rutter, 2013).

The need to study the predictive factors of resilience results from its importance for various areas, in particular aiming to provide a significant contribution to the prevention and treatment of stress-related disorders. Cicchetti (2010) considers that understanding the dynamics of neurobiological mechanisms, risk and protection can make important contributions to the development of prevention models.

Another area in which it could be used may be the pharmacological one and results can help improve treatments for stress-related illnesses, taking into account neurochemical factors (Cohen, 2013). The results may contribute most in the field of psychology, to the development of preventive interventions based on the development of predictable factors. It may be useful for psychotherapeutic interventions as well.

The evolution of resilience studies

The first resilience studies focused on children under the influence of risk factors, a good example being the longitudinal study by Werner and Smith (1982) who studied the resilience of 698 children born in 1955, from Kauai Island. They have been subjected to several risk factors, proving that there is a process that leads to resilience at different ages despite risk factors. Smith (2006) considers resilience as the success with which a person manages risk factors.

Garmezy's research (1993) has highlighted the ability of children to adapt well to stressful situations despite the stressful events they have experienced, even though the natural course of their development seemed threatened, not only in terms of positive personality traits, but also the protective family environment and social support systems.

Lachman's research (2004) demonstrates that adults are better prepared to manage stressful situations, being able to develop or implement effective stress-reduction strategies.

Current research emphasizes the discovery of predictable factors in developing and maintaining resilience in stressful situations.

In some studies, resilience and the locus of control are known to be factors that affect students' academic progress. Thus, a study by Ahmadi and colleagues in 2017 aimed to investigate the relationship between students' resilience and their source of control, with their academic performance at the Paramedical School of Alborz University of Medical Science.

Another study conducted by Souri and Hasanirad in 2011 aimed to examine the relationship between resilience, optimism and psychological well-being. 414 medical students (213 males and 191 females) were selected using cluster sampling and were asked to complete the Ryff Scale of Psychological Welfare (RSPWB), the Connor-Davidson Resilience Scale (CD-RISC) and his test Scheier and Carver's Life Orientation (LOT). The results have shown that resilience is able to predict psychological well-being, and optimism has played a minor role in mediating the relationship between resilience and psychological well-being. Also the results have shown that psychological well-being is influenced by personal characteristics, such as resilience and individual optimism, regardless of the degree of resilience, providing some levels of psychological well-being (Souri, & Hasanirad, 2011).

II. METHOD AND HYPOTHESES

1. Research hypotheses

The general hypothesis assumes that there is a relationship between the locus of control, self-efficacy, personal behavior and resilience.

Specific hypotheses are as follows:

- Hypothesis 1: It was hypothesized that there is an association between self-assessed self-efficacy and resilience;
- Hypothesis 2: It was hypothesized that there is an association between the external locus of control and self-efficacy and negative resilience;
- Hypothesis 3: It was hypothesized that there is an association between the internal locus of control and self-efficacy and resilience;
- Hypothesis 4: It was hypothesized that there is an association between personal behavior, self-efficacy and resilience.

2. Participants and procedure

The sample of the research comprises 41 respondents, 33 female and 8 male, all students at Titu Maiorescu University, the Faculty of Psychology and Master's Programme of Clinical Psychology. The 41 subjects have ages between 22 and 58 years ($M=28.6$, $SD=3.44$).

The assessment process was based on paper and pencil questionnaires and the data were collected in February 2019. The subjects completed the questionnaires in usual conditions in the class. They were not rewarded for participating in this research and at the same time all confidentiality requirements have been met.

3. Instruments

3.1. Rotter's Locus of Control Scale (Rotter, 1966).

The questionnaire was developed in a first version in 1966, containing 60 items. By correlating the results from the LOC scale to the Marlowe-Crowne Social Desirability Scale, items that correlated significantly were removed (Rotter, 1966; Reynolds, 1982). The final version of the questionnaire contains 29 items, of which 23 directly target LOC, and 6 items were included by the author to make the test more ambiguous (1, 8, 14, 19, 24 and 27).

Each item contains two statements, one referring to internality, the other to externality. The subject is asked to indicate which of the two statements best expresses his conviction (Rotter, 1975; Smith, Trompenaars, & Dugan, 1995).

3.2. Personal Behavior Inventory – Who controls your destiny? (Collins and al., 1973, in Janda, 2000).

US psychologist Barry Collins and his colleagues were intrigued by this conceptualization and argued that the internal-external dimension was more complex than Rotter (1966, 1975) had suggested. Their test, the Personal Behavior Inventory, was developed to explore their ideas further. They concluded that there were four dimensions relevant to how we view the world, the first of which they called “Other-Direction”.

People with high scores on this scale feel pressured to conform to the expectations of others. Their low self-esteem causes them to experience anxiety about saying or doing something that might displease those around them. Consequently, they feel rather powerless to control the direction of their lives.

The second dimension is called “Inner-Direction”, and as the items suggest, people with high scores on this scale have an inner plan or a “psychological gyroscope”, to use Collins's term, which guides their behavior. These people have a clear sense of the direction they want their lives to take, and they believe they have the resources to get there.

“Lack of Constraints” is the third dimension. People with high scores on this scale may be characterized as being creative and free spirited. Collins and his colleagues (1973) speculated that such people may be self-actualized in that they have the flexibility to be spontaneous and to adapt to a wide variety of situations.

Finally, the fourth dimension is “Predictability of Behavior”, which includes the behavior of oneself as well as the behavior of others. People with high scores on this scale have more confidence in their ability to make sense of the world.

Regardless of whether they are outer- or inner-directed, they believe their lives are understandable and hence, safe.

People with low scores on this scale tend to view life as more chaotic and hence, dangerous. They have difficulty feeling confidence in the consequences of their actions (Janda, 2000).

3.3. *The Resilience Scale – How well do you cope with traumatic life events? (Abraído-Lanza, 1997).*

The Resilience Scale was developed by Anna Abraído-Lanza and her colleagues at the Columbia School of Public Health. They have developed this scale to use in research on Latino women suffering from arthritis, but it is clear that it also has important implications for those who suffer from other illnesses or have gone through difficult times (Abraído-Lanza, 1997).

There are questions about positive changes within the scale. It has been demonstrated that people can be resilient and suffer at the same time. Abraído-Lanza said that although women who eventually became resilient were not significantly different from those before their illness, only three years later they were considerably changed.

Then the resilient had self-esteem and a self-efficacy higher than the others, and they experienced significantly more positive emotions and significantly fewer negative emotions. Clearly, people may be blooming and developing as a result of illness or trauma. Testing is done by adding up the answers given to all 20 items.

3.4. *The Self-Efficacy Scale – How efficient are you as a person? (Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, & Rogers, 1982).*

Albert Bandura, psychologist at Stanford University, has called self-efficacy one of the most powerful determinants of behavioral change (Bandura, 2006). It causes people to accomplish their goals and face obstacles. The Scale of Self-Efficacy was developed by Mark Sherer, James Maddux and colleagues as a tool for therapists in measuring progress in treatment (Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, & Rogers, 1982).

During research, they found that among veterans in alcohol treatment, those with the sense of self-efficacy had a more successful career; they were getting trained and had a higher military degree than their colleagues with a lower score (Maddux, Sherer, & Rogers, 1982).

Self-efficacy is important to everyone, and those who do not have it can greatly improve their lives by developing this feature. The sense of self-efficacy develops through the awareness that their own efforts have been responsible for their successful experiences (Tschannen-Moran, & Hoy, 2007).

III. RESULTS

After processing and analyzing the data obtained through the Pearson Correlation statistical technique, we obtained the following:

- External orientation correlates negatively from a statistic point of view with: internal orientation ($r=-.945^{**}$; $p=.000$); resilience ($r=-.400^{**}$; $p=.010$); general self-efficacy ($r=-.338^{*}$; $p=.031$); self-efficacy ($r=-.384^{*}$; $p=.013$); and it correlates positively with other-direction ($r=.415^{*}$; $p=.007$) and with personal behavior ($r=.430^{**}$; $p=.005$). Therefore, the more open to the knowledge of the environment we are, the more oriented towards the exterior our personal behavior will be.
- Internal orientation correlates negatively with: age ($r=-.345^{*}$; $p=.027$); external orientation ($r=-.945^{**}$; $p=.000$); other-direction ($r=-.355^{*}$; $p=.023$); personal behavior ($r=-.423^{*}$; $p=.006$); and correlates positively with resilience ($r=-.355^{*}$; $p=.023$); general self-efficacy ($r=.324^{*}$; $p=.039$); self-efficacy ($r=.386^{*}$; $p=.013$). As we age, we are more prone to be oriented towards ourselves.
- Resilience correlates negatively with exterior orientation ($r=-.400^{**}$; $p=.010$); and positively with: internal orientation ($r=.355^{*}$; $p=.023$); general self-efficacy ($r=.492^{**}$; $p=.001$); self-efficacy ($r=.428^{**}$; $p=.005$). It seems that resilience is related closely to the internal orientation and self-efficacy.
- General self-efficacy correlates negatively with: external orientation ($r=-.338^{*}$; $p=.031$); other-direction ($r=-.537^{**}$; $p=.000$); and correlates positively with: internal orientation ($r=.324^{*}$; $p=.039$); resilience ($r=.492^{**}$; $p=.001$); self-efficacy ($r=.907^{**}$; $p=.000$); inner direction ($r=.445^{**}$; $p=.004$). Self-efficacy is related to our own efforts, hence on our inner direction.
- Special self-efficacy correlates positively with self-efficacy ($r=.567^{**}$; $p=.000$).
- Self-efficacy correlates negatively with: external orientation ($r=-.384^{*}$; $p=.013$) and with other-direction ($r=-.467^{**}$; $p=.002$); and it correlates positively with: internal orientation ($r=.386^{**}$; $p=.013$); resilience ($r=.428^{**}$; $p=.005$); general self-efficacy ($r=.907^{**}$; $p=.000$); special self-efficacy ($r=.567^{**}$; $p=.000$); inner-direction ($r=.382^{*}$; $p=.014$).
- Other-direction correlates negatively with: internal orientation ($r=-.355^{*}$; $p=.023$); general self-efficacy ($r=-.357^{**}$; $p=.000$); self-efficacy ($r=-.456^{**}$; $p=.002$); inner-direction ($r=-.381^{*}$; $p=.014$); and it correlates positively with: exterior orientation ($r=.415^{**}$; $p=.007$); personal behavior ($r=.643^{**}$; $p=.000$). Most of the time we need to socialize and interact with the environment for self-knowledge.
- Inner-direction correlates negatively with other-direction ($r=-.381^{*}$; $p=.014$); and it correlates positively with: resilience ($r=.445^{**}$; $p=.004$); self-efficacy ($r=.382^{*}$; $p=.014$);

- Lack of Constraints correlates positively with personal behavior ($r=.488^*$; $p=.001$). The fewer the constraints on the consequences, the more our behavior can tend to delinquency and anti-social action.
- The behavior predictability correlates positively with personal behavior ($r=.382^*$; $p=.014$). Not always behavior can be predictable, but we need to analyze the subject using the anamnesis.
- Personal behavior correlates negatively with internal orientation ($r=-.423^*$; $p=.006$); and it correlates positively with: external orientation ($r=.430^{**}$; $p=.005$); other-direction ($r=.643^{**}$; $p=.000$); lack of constraints ($r=.488^{**}$, $p=.001$); behavior predictability ($r=.382^*$; $p=.014$). Since people are bio-psycho-social and axiological beings, we need to “feed” on new information, and this is also achieved through interaction with fellow people.

IV. DISCUSSIONS AND CONCLUSIONS

The present research was designed to explore the relationship between the two components: first, the locus of control, self-efficacy and personal behavior, and the second, the resilience. The study was attended by 41 subjects.

The first hypothesis: “There is an association between self-assessed self-efficacy and resilience” is supported by the conclusion that self-efficacy correlates positively with resilience ($r=.428^{**}$; $p=.005$), general self-efficacy ($r=.907^{**}$; $p=.000$) and special self-efficacy ($r=.567^{**}$; $p=.000$). Also, the hypothesis is bidirectional, the resilience correlates positively with self-efficacy ($r=.428^{**}$, $p=.005$). This is explained by the fact that when a person has the conviction that he can achieve his goals; the level of resilience he demonstrates is significant, because he is aware of the resources at his disposal.

Self-efficacy consists in convincing a person that he possesses certain cognitive and motivational capacities, which he can mobilize in order to achieve the proposed goals. Increased self-efficacy is associated with an in-depth motivation and increase of the real possibilities of the individual to find useful solutions (Pajares, 1997).

The results obtained for the second hypothesis showed negative significant correlations between external orientation and resilience ($r=-.400^{**}$; $p=.010$), and also between external orientation and self-efficacy ($r=-.384^*$; $p=.013$). These results can be explained by the fact that people with an external locus of control are socially passive, non-resilient to social pressure, more negative in evaluations of self, less creative, inflexible in finding solutions, often reacting by avoidance, passive-aggression or anxiety (Ionescu, 2013).

Low self-efficacy is associated with failure, sobriety, depression and anxiety (Iamandescu, 1993).

For individuals with excessive worries, failure in personal achievements can be an overwhelming blow that leads to depression.

The third hypothesis is supported by the positive correlations between internal orientation and resilience ($r=.355^*$; $p=.023$), internal orientation and self-efficacy ($r=.386^*$, $p=.013$). These are explained by the following types of internal locus of control: social activism, resistance to social pressure, more optimistic people in self-assessment, creative and flexible solutions, interpersonal relationships are effective and constructive.

Also, the more we age, the more we focus on our own person. This is also demonstrated in studies by Campbell-Sills, Forde, & Stein (2009) and Gillespie, Chaboyer, & Wallis (2009).

The fourth hypothesis has been tested from the perspective of identifying prosocial behavior (such as altruism), contributing significantly to post-traumatic recovery (Staub & Vollhardt, 2008).

Negative correlations between personal behavior and resilience ($r=-.423^*$; $p=.006$) and positive correlations between personal behavior and external orientation ($r=.430^{**}$; $p=.005$) were obtained. Since people are bio-psycho-social and axiological beings, we need to self-redeem and to continually enrich ourselves with new information, and this is also achieved through interaction with fellow people. Therefore, the more open to the knowledge of the environment, the more personal our behavior will be.

At the same time, correlations between personal behavior and predictability of behavior and lack of constraints on behavior were calculated and a significantly positive correlation between personal behavior and predictability of behavior was obtained ($r=.382^*$, $p=.014$), respectively a significantly positive correlation between personal behavior and lack of constraints on behavior ($r=.488^*$; $p=.001$). Studies have shown that 93% of human behavior is predictable, regardless of age or gender, and very few of the population are spontaneous, most of them following familiar patterns (Barabási, 2010). The lack of constraints on behavior makes us tend to delinquency and antisocial actions. Self-efficient people are able to transform constraints into opportunities and thus succeed in progressing.

Limits

This research has a limited number of participants, which requires caution when interpreting the results obtained.

First of all, the small number of participants (41 subjects) does not allow us to generalize the results on an entire population. Also, there is a disproportion between the two sexes in the research (20% are male participants and 80% are female participants) so that the study cannot be interpreted as equal or majority in a male population.

It should also be borne in mind that research has been based on self-evaluation questionnaires, which may mean that there may be a lack of objectivity and self-discernment.

For future studies, it is expected to track the results for a larger number of participants and / or an equal gender distribution.

At the same time, the formulation and implementation of a project through which the proposed change is to be made: eliminating the solutions that maintain the problem (by educating future generations - psycho education) and the suitability of the techniques to the individual's own universe (individual psychotherapy), increasing resilience and self-efficacy.

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