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A rezíliencia elméletek mint az egyén és a közösségek alapvető képességének vizsgálata a krízishelyzetek és természeti katasztrófák kapcsán

The examination of theories of resilience as an essential individual and common ability with regard to crisis and natural disasters

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Absztakt:

A reziliencia fogalmát számottevő elmélet és tudományág használja a mérnöki tudományoktól az ökológián át egészen a pszichológiáig. A kifejezés átfogó alkalmazhatóságának oka azzal magyarázható, hogy segítségével általános rendszerszinten értelmezhető az egymástól eltérő anyagok vagy struktúrák sokkszerű változások során megnyilvánuló adaptív ellenállóképessége. Továbbá ezen jelenség úgy is értelmezhető, mint egy szervező-erő, azaz az érintett rendszer egyensúlya a vele szemben megnyilvánuló erőhatások eredményeként megbomlik, és egy másik szinten újraépítve áll ismét helyre.Kétségkívül a fogalmat a pszichológiai alapú értelmezése határozza meg a leginkább, mely szerint a reziliencia olyan képesség, amely az egyént alkalmassá teszi arra, hogy megküzdjön a magas fokú stresszel és traumatikus helyzettel. Ennek értelmében rendkívül eredményesen használható az olyan krízishelyzetek során, mint a természeti katasztrófák, melynek idején elengedhetetlen az egyének és közösségek megfelelő rugalmas ellenállóképességre épülő gyakorlat alkalmazása. A tanulmány részletesen bemutatja a rezílienca elméletének alapjait és irányelveit, melyet a legeredményesebb gyakorlatba való beillesztés érdekében, mind a prevenció, mind a rehabilitációs folyamatok tekintetében a rezíliencia mérésnek lehetőségeivel egészít ki.

Kulcsszavak: rezíliencia, krízishelyzet, természeti katasztrófák, rugalmas és gyors reagálás, rugalmas ellenállóképesség, prevenció, segélyszervezetek válaszreakciói

Abstract:

The term resilience is used in many disciplines from engineering to ecology and psychology. The reason for the wide applicability of the term is that it can be used to explain the adaptive resistance of different materials or structures to shocks at a general system level. In a broader sense, however, this phenomenon can also be seen as an organising force, namely a kind of system that is destroyed by some forces acting against it and is reorganised and restored at another level. It is beyond doubt that the phenomenon can mostly be defined as a psychological term, as resilience is the ability to cope with high levels of stress and traumatic situations. Numerous theories, supported by empirical research data, have been put forward on the emergence, preconditions and functioning of reactive behaviour. Therefore, it can be used very effectively in crisis situations such as natural disasters, when it is essential to apply practices based on the adequate resilience of individuals and communities. The study presents in detail the foundations and guidelines of the resilience theory, which is complemented by the possibilities of measuring resistance in both prevention and rehabilitation processes in order to be incorporated into the most effective practice.

Keywords: resilience, crisis, natural disasters, flexible response, adjustable adaptivity, prevention, aid management

1. INTRODUCTION

Numerous theories have come to light, and an understanding of the development, prerequisites and function of resilient behavior has been developed, supported by several empirical research data. Masten sought an explanation within the individual by focusing on personality characteristics. According to Masten's observations, traits that characterize a resilient individual include active coping, flexible response, resourcefulness, self-efficacy, sense of coherence, ego control, emotional intelligence, optimism, ability to cognitively reinterpret negative events, social competence, and search for social support [1].

In a leading approach in psychology, resilience is approached from the perspective of threatening factors and protective mechanisms that influence the development of the individual in a negative direction [2]. The ratio of these factors to each other is also an important factor. However, research has not yet clarified the exact systemic relationship between the opposing factors. Risk factors are often interrelated, i.e. they do not occur in isolation but are extremely stressful for the individual, often coexisting with parental alcoholism, material deprivation and emotional neglect.

The complexity of the phenomenon of resilience already influences the first phase of research, as the choice of a definition that is appropriate to the research objectives has an impact on the choice of evaluation methods to be applied and on the subsequent interpretability and generalisability of the results obtained. But almost every component of the phenomenon under investigation is associated with a set of options that have yet to be standardised. The studies that have explored this topic also emphasise the complexity of the phenomenon, which has a significant impact on the results of resilience-based studies. Therefore, the aim of this study was to illustrate the complexity of the phenomenon and to raise questions for its evaluation in order to help initiate and substantiate research with a domestic resilience focus. In addition to the problem statements on the interpretation and evaluation of the phenomenon, the presentation and consolidation of further research findings on the problem can help to define research directions and carry out research.

2. THEORETICAL BACKGROUND OF RESILIENCE

Resilience has become a much-used scientific term of the early 21st century, almost a buzzword, seemingly suitable to describe and explain the functioning of any system, to remedy existing theoretical and practical problems, that can be inserted into almost any of the current scientific and political discourses for the reader and decision-maker who needs a modern approach. However, despite its fashionable overuse, resilience is still a valuable, even inescapable concept in modern thinking, which has fertilised the tools and approaches of basic and applied research in many fields, from ecology to security studies, from political science to government strategies, from child psychology to social sciences, and the implementation of resilience-based strategies has in many cases produced demonstrable practical results.

Resilience is one of the terms that has no exact equivalent in English, and this also indicates the absence or incompleteness of the concept. In the past, it was generally translated as resilience, in the sense of the ability to withstand and recover from adverse natural and human-induced stresses and changes, and in this context, it was mostly used in a positive sense. Even if the resilience-based approach has not yet spread in Hungarian scientific discourse, the term is already used in a number of practical applications, and a consensus seems to be emerging on the Hungarian adoption of the Latin word. It is therefore justified to use this form in scientific and professional literature [3].

Ecology was one of the cradles and experimental fields of resilience thinking. After initial heated professional debates, from the 1970s onwards, the resilience approach - in particular the integrative or evolutionary type of resilience - gradually penetrated other disciplines and fertilised their approaches. One strand of influence across traditional disciplinary boundaries can be found in general system's theory, or even in the development of heuristic theoretical models of ecology. The latter area is the product of the panarchy model developed by Gunderson and Holling [4], which explains the transformations of human and natural systems in a unified system, or the panarchy model developed by Costanza et al. [5] for the unification of different concepts to describe and understand human and natural processes. Another branch of the effect can be found in various disciplines and applied research, such as anthropology, where the authors [6] used it as a basis for challenging Rappaport's theory, which, as a result of research in Papua New Guinea, also described culture as an equilibrium state [7], or in the interdisciplinary study of property rights. In ecology, one of the pioneering fields of resilience research, C.S. Holling's work has provided the basis for understanding the stability and variability of these complex systems. Before the advent of Holling and his colleagues, ecological systems were viewed by researchers as linear, reductive systems where recovery was expected to come from targeted interventions to counteract adverse changes. Holling recognised that, on the one hand, the rate of change of the components of a system can vary by several orders of magnitude, making it impractical to detect complex changes, and on the other hand, these components interact in complex ways, so that interventions that are only rapid and radical can lead to unplanned processes and states; thirdly, the system itself, wherever the horizon of analysis is drawn, is adaptive and changing, and so its recovery should not be measured against an imagined baseline.

Among the disciplines that deal with human beings, psychology is worth mentioning, which as early as the 1950s referred to resilience as a capacity to cope with trauma [8]. However, the contribution of ecological thinking seems to have been more significant for the theoretical underpinning of the report, which began to address the issue primarily in terms of the relationship between the living environment and human activity.

The apparent impact of humans transforming the environment in the second half of the 20th century has focused attention on issues of habitat survival and sustainability. Observations have raised questions about the extent to which ecosystems can recover from certain crises or disasters and whether they can recover at all. One line of approach to a very specific problem is the concept of resistance - but it soon became clear that it is not necessarily suitable for describing real-world processes. It was at this point in the relevant thinking that the term resilience emerged, which carries not only the aspect of resistance but also that of resilience. The definitions vary considerably depending on the field of application and the authors, but there is a fundamental dichotomy in meaning - this is also illustrated by the lack of a one-word equivalent in Hungarian, as two synonyms in Hungarian are used: flexible resilience [9]. The narrative that links the capacity for resistance and openness to adaptation with the phrase of resilience in discourses of resilience also expresses a deeper and difficult-to-reconcile duality of human needs. It is rooted in the value of security and change, in a tensioned need for both, a contradiction that is difficult to resolve. Resilience in narrative terms is about the search for permanence, to preserve and anchor identity.

The desired response to environmental challenges is to bounce back (to the original or a fairly similar) state. Flexible adaptability, on the other hand, focuses on and builds on the capacity for renewal derived from the necessity of change. In this context, more emphasis is given to the emergence and creation of new qualities, to the search for development opportunities, and the idea of self-progression in an uncertain and dynamically changing environment, rather than to the search for and preservation of constants.

3. ON THE VISUAL METAPHORS OF RESILIENCE

In addition to the specificities of public and academic discourses, it is also worth briefly discussing the visual representations that accompany or replace the notion of resilience. The psychological literature, as I will point out at several points in this paper, seems to approach the relevant narrative essentially from the perspective of the psychological security of the self, and it is mainly from this aspect that the question is approached. In contrast, other discourses, which are more concerned with the macro level of human relations, are not necessarily so clear-cut.

We can only refer to it here, but in recent years there has been a lively debate on the issue, in which resilience is no longer presented unilaterally as a positive concept. Some argue that the notion of resilience under neoliberal ideology is also used by political actors to shift responsibility for providing for the basic needs of citizens to the individual - in this sense, the notion becomes the opposite of security in terms of the consequences of its use [10]. We might add that such an alternative reading of resilience seems to be more at the macro level (researchers dealing with the micro level of social relations seem to be less concerned with this aspect of the phenomenon) and that there is a parallel trend, which, in the light of discourse theory, can be called securitisation. The essence of these is that political agents, in the course of their communication, identify a real or non-real threat, magnify it if necessary, and at the same time frame the related narrative by placing themselves in the position of the agent providing the solution.

4. MEASURING OF RESILIENCE

In empirical social research practice, researchers seeking to measure the resilience of people and groups of people use a variety of methods and measurement tools. One of the most widely used - perhaps based on a psychological approach - is the so-called Connor-Davidson Resilience Scale [11], of which several versions of varying lengths are in circulation. Both the 25- and 10-item versions are also used in Hungary [12].

Connor–Davidson Resilience Scale items	All		Adolescents (n = 41)		Adults (n = 57)		p-value
	mean	SD	mean	SD	mean	SD	
1. adapt when changes occur	2.21	1.37	2.27	1.29	2.18	1.44	0.84
2. one close and secure relationship	2.55	1.43	2.56	1.38	2.55	1.48	0.91
3. fate or God helps me	3.22	1.17	3.13	1.23	3.30	1.21	0.25
4. deal with everything	2.59	1.66	2.49	1.05	2.67	1.24	0.33
5. past success gives confidence	2.81	1.11	2.85	0.96	2.77	1.21	0.98
6. try to see humorous side	2.38	1.32	2.56	0.90	2.25	1.42	0.38
7. coping with stress make me stronger	2.37	1.40	2.63	1.04	2.14	1.59	0.20
8. bounce back	2.44	1.44	2.29	1.27	2.54	1.55	0.27
9. most things happen for reason	3.02	1.10	3.07	1.03	2.98	1.16	0.86
10. best effort	2.99	1.06	2.78	1.08	3.14	1.03	0.11
11. achieve my goals	3.09	1.11	2.95	1.12	3.19	1.11	0.23
12. even when hopeless do not give up	3.03	1.11	2.95	1.09	3.09	1.12	0.48
13. times of stress know where to find help	2.87	1.24	2.63	1.38	3.04	1.12	0.21
14. under pressure stay focused	2.52	1.11	2.39	0.97	2.61	1.21	0.28
15. prefer to take lead	2.56	1.12	2.59	0.87	2.54	1.28	0.76
16. not easily discouraged	2.71	1.19	2.56	1.14	2.82	1.23	0.23
17. think of myself as strong person	2.95	1.14	2.78	1.17	3.07	1.12	0.22
18. make unpopular decisions	2.25	1.26	2.46	1.05	2.09	1.39	0.20
19. handle unpleasant feelings	2.62	1.16	2.51	1.16	2.70	1.16	0.41
20. act on hunch	2.50	1.13	2.56	0.98	2.46	1.24	0.97
21. strong sense of purpose in life	3.17	1.06	2.88	1.05	3.39	1.01	0.01*
22. feel in control	2.74	1.23	2.49	1.23	2.93	1.21	0.07
23. like challenges	2.62	1.32	2.49	1.21	2.72	1.39	0.28
24. work to attain goals	3.06	1.08	2.98	0.99	3.12	1.15	0.31
25. take pride in achievements	3.03	1.23	3.03	1.15	3.04	1.31	0.65

Fig. 1: Connor- Davidson Resilience Scale Items (Source: [13])

This scale is inherently tailored for use in clinical practice, and this essentially sets the boundaries within which the results should be interpreted. As can be seen from the statements, the scale focuses on individual-level abilities and the inner world, feelings, and self-image of the individual (according to the scope of the discipline that is at the forefront of its development). In line with this, the obvious purpose of its measurement is to assess – cross-sectionally – the abilities (and deficits) of the individual under investigation to draw conclusions about the current psychic resources and state of the person (to assess the necessary therapy). Resilience is obviously not a two-stage concept, which is either present or absent, but can have countless degrees and forms of manifestations, especially in the case of complex systems and evolutionary-type resilience. In the context of community resilience, Longstaff et al. have attempted to provide a unified framework for capturing aspects of resilience and thus its discernibility [14].

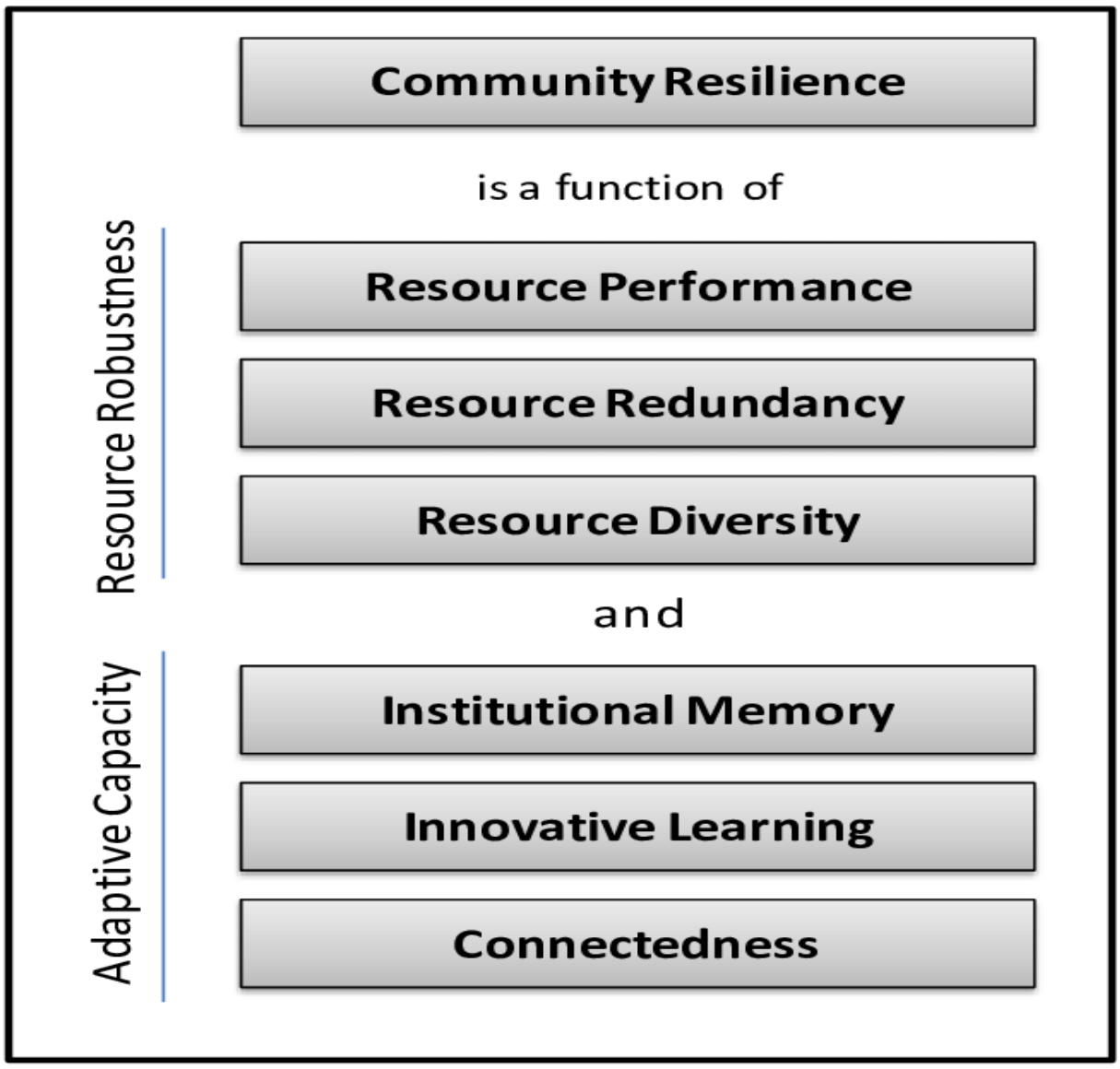

Fig 2: Longstaff frame for adaptive capacity and the resource robustness. (Source: [15])

The two fundamental aspects, according to the authors, are resource security and adaptive capability, and each fundamental aspect has three to three constituent aspects. While the proposed framework cannot be directly applied to measure the degree of resilience, its undeniable value is to enumerate and organise the different aspects and components of community resilience, each of which is exemplified by the authors, in five different community domains: ecology, economy, physical infrastructure, civil society and governance.

Summarizing the examples given by the authors for each area, we obtain the following complex table, which is suitable for comparing the characteristics of each area with respect to resilience, at least at the example level. Longstaff originally examined the issue of resilience from the perspective of security research but later extended his investigations to a general level.

5. SUMMARY

Crises and disasters can, among other things, remind us that resilience is not only essential as an individual capacity but also as a resource for communities and societies. Resilience can be seen as a complex capacity that an entity (individual, community, society) can exercise through its actions, communication or functioning in order to (or with the result of) maintain its internal integrity (through solidarity at the meso- and macro-level), to maintain its external boundary-forming autonomy (identity), and to be able, in terms of its organisation, to re-organise itself in response to the events and circumstances of the system of circumstances given to it as its environment or to ensure the continuity and sustainability of its own existence by creating new qualities. [16] In the practice of empirical social research, the experience of resilience can be considered to be that experience that is typically shared and narrated at the individual level and through communication, and thus, among other things, accessible to the researcher through direct questioning, and which is observable, which is based on the necessarily (inter)subjective (and thus relative) experience of the existence and, in particular, use of resilience. Based on the scientific knowledge (literature on the subject) produced across the various disciplines, the factors that have an impact – positive or negative – on resilience, and that influence it in some way (directly), can be called resilience regulators.

In conclusion, the notion of resilience, while not emerging out of nowhere, seems to have stimulated a narrative around it that has encouraged both broad and academic thinking about the challenges of our time, many of which are global in origin or scope [17].

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