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## IMPRESSUM

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## Challenges regarding the competitiveness of the Hungarian public service – the issue of personnel replenishment

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### Abstract

In the pursuit of competitiveness, among the development directions of the public service, personnel development in Hungary has a prominent role, which is supported by the project "*Strategic support for the supply of personnel of the competitive public service*". Its purpose is, on the one hand, the development of HR management tools for attracting, integrating, and keeping the public service career, and on the other hand, the development of government, organizational and personal public service competencies that ensure the operating conditions of the career path. The project aims to ensure the supply of personnel for the public service, in the triple unit of *recruitment - integration - retention*. To this end, *career guidance, mentoring system, and support for talent management* are the selected target areas in which the implementers have made important commitments. The first results of the developments are already visible, but sustainability is also an important aspect, which can guarantee the competitiveness of the public service in the long term.

**Keywords:** public service, personnel replenishment, career orientation, mentoring, talent management

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## 1. Comprehensive concept for competitive public service and replenishment of public service human resources

Although we often talk about competitive public service and the competitiveness of public service, even today it is not clear how competitiveness can be interpreted in the case of the public service. The uncertainty is even more true if the question is posed in the way that the relationship between the contribution of civil servants and the competitiveness of a country can be demonstrated in an exact way. The difficulty of interpretation is usually caused by the fact that in the case of the public service there is no competitive situation in the market sense, because there is a lack of market competition and individual profit making. Instead, serving the public interest, equalizing social differences, equal access to public services, etc. are formulated as goals. Competition manifests itself in another sense, usually in the form of a struggle for resources. The results achieved in this, however, are degrading economic competitiveness.<sup>1</sup>

According to the *Public Service Development Strategy*, competitiveness in public service must be achieved by the simultaneous application of four aspects:

1. *In terms of public service*, competitiveness means that, on the one hand, state operation requires lower costs for citizens, businesses and other organizations, and on the other hand, it is more efficient in terms of internal operation.
2. *In an economic sense*, the criterion of competitiveness should mean that the state should not hinder the life of businesses, but should rather help them, more so than in other countries. This means, on the one hand, the development of the service nature, and, on the other hand, the reduction of the administrative burden to the lowest possible extent.
3. *In a social sense*, public service is competitive if it not only facilitates but also helps the everyday life of the population, but at least does not hinder it in any way. Priority should be given to helping people's relationship with work, as well as the part of their lives related to starting a family and maintaining a family. In this case too, the focus is on the implementation of service-based operation.
4. *From the point of view of legislation*, public service is competitive if the system of legal regulations provides a stable, interpretable, and enforceable environment for all actors. The

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<sup>1</sup> Hazafi, Zoltán: A stratégiai munkaerő-tervezés és a HRM-fejlesztés szerepe a versenyképes közszolgálat utánpótlásának biztosításában. In: *PRO PUBLICO BONO – Magyar Közigazgatás*, 2017/2, 48–83.

over-regulation of certain areas and procedures must be reduced, a more transparent, compact and liveable legal environment must be created and maintained with the means of deregulation, and quality legislation must be kept in mind.<sup>2</sup>

There is a need for trained, dedicated staff in the civil service, so it is crucial to ensure succession, to put the right people into the public service and to retain a professional workforce. The Public Service and Public Service Development Strategy 2014-2020, created in this spirit, emphasizes the need to attract talented young people to the civil service careers and integrate them to career paths, as well as the need to develop the selection and further training system of public service managers and the importance of developing a professional management culture. All this can ensure high-quality, competitive public services and the achievement of organizational goals, as well as the creation of attractive working conditions for those who come from outside.<sup>3</sup>

To implement the strategy, the project entitled “*Strategic support for the staffing of the competitive public service*” was established. The aim of this was to develop human resource management tools for attracting, integrating, and maintaining a career in the public service, and to develop governmental, organizational, and personal public service competencies that ensure the operating conditions of careers.<sup>4</sup>

Considering the triple goal system of creating a competitive workforce, the following detailed developments were targeted:

1. *Career attraction:*

- a. internal law enforcement and public service knowledge are included as optional subjects in the secondary school curriculum,
- b. new policing and public service professional qualifications are being prepared,
- c. a new system is being developed for the selection of those who are preparing for a professional career, the focus of which is competence,
- d. public service careers are promoted at various events.

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<sup>2</sup> *Közszolgálat- és Közszolgáltatás-fejlesztési Stratégia (2014-2020)*. Budapest, 2015. p. 9. [http://www.kormany.hu/download/8/42/40000/K%C3%B6zszolg%C3%A1lat%20fejleszt%C3%A9si\\_strat%C3%A9gia .pdf](http://www.kormany.hu/download/8/42/40000/K%C3%B6zszolg%C3%A1lat%20fejleszt%C3%A9si_strat%C3%A9gia.pdf)

<sup>3</sup> Belényesi, Emese – Kriskó, Edina: *A pályaeorientációs képzés szerepe a közigazgatás utánpótlásának biztosításában*. Tájékoztató kiadvány. Nemzeti Közszolgálati Egyetem, 2018.

<sup>4</sup> Szakács, Édua: *A pályakezdekők beillesztését támogató mentori rendszer bevezetésének lehetőségei a közszolgálatban*. Tájékoztató kiadvány. Nemzeti Közszolgálati Egyetem, 2018.

## 2. *Career inclusion:*

- a. a mentoring system is established at public service and law enforcement organizations,
- b. the law enforcement leader selection system will be further developed and introduced for positions performing management tasks, and with the appropriate transformations it will also be developed for public service.

## 3. *Career retention:*

- a. HR systems supporting career change and interoperability will be developed,
- b. the knowledge base and website of the public service human resources will be developed,
- c. the KÖZSZTÉR, i.e. organizational performance evaluation, is introduced,
- d. the KSZDR data repository system will be created, which will support personnel decisions and activities.<sup>5</sup>

Within the framework of the project, a national needs assessment research was carried out in 2018 in all three areas - attraction to public service careers, integration into careers, retention on track, as a result of which, several concepts have been developed. Some of them have already been implemented while some others are still in progress.

### ***1.1. Attracting to the public service career - career orientation***

The purpose of the needs assessment related to public service career guidance was to find out the opinions and needs of the relevant actors of career guidance, and then to provide direct input for setting up the public service career guidance system with the help of evaluative analysis and professional advice on the collected information.

Based on the results of the needs assessment research, it can be concluded that career guidance training in the public service is needed, but at the same time it must be properly promoted so that the information about it reaches the public service bodies and a wide range of citizens. The special characteristics of the track, the elements that are attractive, must be presented so that those truly attracted to the values that the public service represents could choose this career. In addition, it is

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<sup>5</sup> Hajnal, György: *A versenyképes közszolgálat személyzeti utánpótlásának stratégiai támogatása' Esettanulmány egy magyar ESZA támogatással megvalósult projektről az „ESZA-támogatások előrehaladásának értékelése a közigazgatásban” (PAPA) tanulmány keretében.* Az Európai Unió Kiadóhivatala, Luxemburg, 2020. <http://www.europa.eu/> (2021. július 14.)

worth introducing high school students as potential applicants to the diversity of jobs that are available in public service organizations.

Relevant actors and their role in public service career guidance training:

- *Public service managers* - organizational experience and expectations.
- *Public service HR professionals* - human resource management knowledge and experience.
- *Policy leaders (Ministry of the Interior)* - professional management.
- *University lecturers, researchers* - development of research results and methodology.
- *School leaders, teachers* - pedagogical knowledge and experience, direct contact with students.
- *Secondary school students* - target group of training, potential applicants.<sup>6</sup>

The introduction of the public service career guidance training in the secondary school education system, i.e., that of the elective subject of “*Public service knowledge*”, the emphasis should primarily be put on strengthening the practical professional knowledge that most career starters lack. Another important goal of the training is to develop analytical and synthesizing skills and social competencies, which will help students to integrate into their future workplace and to cooperate with colleagues and clients. Participation in public service career guidance training is certainly beneficial: it contributes to informed decision-making, and much more prepared young people can leave schools, which is beneficial not only to them, but to any employer.

### ***1.2. Integration into the public service career - mentoring system***

The purpose of the needs assessment related to integration into the public service career was to get to know the integration practices of the organizations and the good practices already in operation. In addition, it was important to learn about the organizations' practice regarding career starters and to map the organizational needs related to a possible mentoring program, the mentors' competencies, their selection and training.

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<sup>6</sup> Belényesi, Emese – Kriskó, Edina, 2018. i.m.



The methodology of the mentoring system was developed using the results of the needs assessment research. The duration of the mentoring process is 3 months, the stages and purpose of which are as follows:

- Stage 1 (1-2 weeks)
  - *Contacting* - helping the mentor and the mentee to get to know each other, establishing a relationship of trust, supporting the mentee's positive organizational reception.
  - *Orientation* - developing the mentee's basic knowledge of place and personality; acquisition of basic organizational knowledge, knowledge of organizational values; getting to know the most important work processes, supporting participation in work-related training.
  - *Goal setting* - summarizing the experiences of the orientation period, mutual feedback between the mentor and the mentee; clarifying the goals of the mentoring process, compiling development goals; scheduling the mentoring period.
- Stage 2 (1-2 months)
  - *Active inclusion* - supporting the mentee in the practical acquisition of the most typical professional tasks, in the integration of the values of the organizational culture and in the reception of the members of the direct organizational unit.
- Stage 3 (1 month)
  - *Supportive integration* - supporting the mentee in professional development, helping to acquire complex tasks; supporting the organizational retention of the mentee.<sup>7</sup>

The primary goal of the mentoring system is professional development and organizational integration; it offers an opportunity to validate the organizations' own solutions within a defined structure with a flexible structure. It is necessary to operate an organizational unit responsible for coordinating the operation of the mentoring system: the participating organizations manage mentoring in cooperation with them. The selection of mentors is competence-based, and the opinion of the organization's leader, self-assessment and objective competence measurement all play a role in the selection. The training of mentors is complex and practice-oriented, and they receive ongoing expert support for the performance and development of their tasks.

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<sup>7</sup> Szakács, Édua, 2018. i.m.

### 1.3. Keeping on the public service track, advancing – talent management

The aim of the needs assessment related to public service career was to find out how to define managerial talents, how to select them, whether there is a need to support managerial talents, what method is best suited for this, and how this relates to other systems of recruitment.

Using the results of the needs assessment research, the process of the public service talent management system was developed. The process is divided into three stages: leadership talent selection, talent development, and talent aftercare. The three stages are preceded by the selection and preparation of talent mentors.

The recommended duration of the program is 3-6 months, depending on individual circumstances and opportunities. Such unique factors and circumstances may be e.g., the urgency of becoming a leader, the number and frequency of organizational practice opportunities, and the workload of the talent mentor and managerial talent. The stages of the process and their objectives are as follows:

- Stage 0: *Selection and preparation of talent mentors* - internal selection, central preparation, survey.
- Stage 1: *Selection of leadership talents* - internal selection, central preparation, admission to the program.
- Stage 2: *Leadership talent development* - preparation of a talent development plan, individual development and training, mid-term evaluation.
- Stage 3: *Aftercare of managerial talents* - final evaluation, aftercare, career support.<sup>8</sup>

One of the effective tools for the recruitment of public service leaders is talent management, which is proposed to be implemented with the following goals in mind:

- supporting more effective identification of public service managerial talent;
- selecting and training mentoring leaders, making better use of their skills and valuing their performance;
- developing cooperation between leaders and talent;

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<sup>8</sup> Krepelka, Ágnes: *A tehetséggondozás, mint a vezetői utánpótlás egyik eszköze a civil közigazgatásban*. Tájékoztató kiadvány. Nemzeti Közzolgálati Egyetem, 2018.

- supporting more modern, well-founded selection of public service managers and entry into the managerial database;
- developing the competence of public service managerial talents in accordance with the individual development needs and supporting their further training;
- to increase the commitment of managerial talents working in the public service, to reduce the degree of fluctuation among them;
- supporting the advancement and career development of managerial talents with the help of mentors;
- making the career path of management more attractive to those working in the public service.<sup>9</sup>

After reviewing the new employee and employer demands generated by the digital age and the development projects of the Hungarian public service, let's move on to the expected results.

## **2. Results of the development project of public service human resources**

The objective of the development projects is to introduce a human resource management system that provides the necessary competencies for service-oriented task performance. Accordingly, the expected result is the establishment of a competitive public service, including modern public service human resources, which, in addition to the development of the existing staff, presupposes a planned, continuous and well-founded provision of supply.

The development projects contributed to the realization of two main goals:

1. The first is to ensure *the planned personnel replenishment of the public service*, with particular attention to staff retention and the introduction, operation and development of institutions that help integration. These institutions contribute to the development of a more modern human resources management, through the career support system with a new approach to recruitment (e.g. talent selection and care, management selection and recruitment), as well as the HR organization that promotes interoperability between careers in the public service.

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<sup>9</sup> Krepelka, 2018, i.m.

2. The other is *the development and implementation of an information system* affecting the entire public service system, which supports the professionalism and improvement of the efficiency of public service human resources management.<sup>10</sup>

The two are closely related, and the individual target areas and the professional activities assigned to them complemented each other and contributed to the realization of the results.

However, for programs aimed at development to be successful in the long term, it is necessary to have professionals who know the needs and expectations of the human resources of public service organizations, who are involved in workforce planning, personnel management, recruitment and selection, as well as future full-scale career management, and for the participation of personnel managers.

### 3. Conclusions

As it was mentioned at the beginning of the paper, in the pursuit of competitiveness, among the development directions of the public service, personnel development is given a prominent role, which is supported by the project analyzed above. Its purpose is, on the one hand, the development of HR management tools for attracting, integrating and maintaining the public service career, and on the other hand, the development of governmental, organizational and personal public service competencies that ensure the operating conditions of the career path. The project aims to ensure the supply of personnel for the public service, in the triple unit of recruitment - integration - retention. To this end, career orientation, the mentoring system, and support for talent management are the selected target areas in which the implementers have made important commitments.

However, in addition to the initial successes, an important aspect is the requirement of sustainability, which is in the basic interest of all parties involved. To achieve this, the following proposals were formulated:

- The first important finding related to sustainability is that the public service must be prepared for changes in the project's environment. In other words, one of the great lessons learned from the implementation of the project so far is that the goals, tools, and activities to be achieved

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<sup>10</sup> A versenyképes közszolgálat személyzeti utánpótlásának stratégiai támogatása. KÖFOP-2.1.5-VEKOP-16-2016-00001. NKE kiadvány. <https://fejlesztisprogramok.uni-nke.hu/document/fejlesztisprogramok-uni-nke-hu/K%C3%96FOP%202-1-5%20Bemutat%C3%B3%20kiadv%C3%A1ny.pdf>

must be designated in such a way that they can be flexibly adapted. The public sector must therefore be prepared for the fact that circumstances will change. Those tools and systems that were functional according to previous experience must be further developed in such a way that they adapt to environmental changes.

- The other aspect is that it is useful to involve stakeholders. The involvement of the stakeholders and the cooperation of the organizations concerned play an essential role in successful sustainability. Since they will be the operators of the systems being prepared, and they also have the professional knowledge, their involvement is crucial.
- The third conclusion is that the basic conditions for the sustainability of the developments are managerial commitment, scientific foundation, and that professionals already working in the system or gaining experience there participate in the operation, since they know the system from the inside and can draw the appropriate conclusions. This also promotes the acceptance of the changes by the target group, as their interests are also represented during the implementation, and they can convey the messages more authentically.

It follows from all of this that the established system must be handled flexibly, the parties concerned, and decision-makers must be consulted continuously, and specialists knowledgeable in the subject must be involved in its operation. This triple system of conditions can guarantee the results of development projects and the long-term maintenance of competitiveness in the public service.

## References

1. Belényesi, Emese – Kriskó, Edina: *A pályaaorientációs képzés szerepe a közigazgatás utánpótlásának biztosításában*. Tájékoztató kiadvány. Nemzeti Közszerológálati Egyetem, 2018.
2. Hazafi, Zoltán: A stratégiai munkaerő-tervezés és a HRM-fejlesztés szerepe a versenyképes közszolgálat utánpótlásának biztosításában. In: *PRO PUBLICO BONO – Magyar Közigazgatás*, 2017/2, 48–83.
3. Hajnal, György: *A versenyképes közszolgálat személyzeti utánpótlásának stratégiai támogatása' Esettanulmány egy magyar ESZA támogatással megvalósult projektről az „ESZA-támogatások előrehaladásának értékelése a közigazgatásban” (PAPA) tanulmány keretében*. Az Európai Unió Kiadóhivatala, Luxemburg, 2020. <http://www.europa.eu/> (14<sup>th</sup> July 2021)
4. Krepelka, Ágnes: *A tehetség gondozás, mint a vezetői utánpótlás egyik eszköze a civil közigazgatásban*. Tájékoztató kiadvány. Nemzeti Közszerológálati Egyetem, 2018.
5. Szakács, Édua: *A pályakezdeők beillesztését támogató mentori rendszer bevezetésének lehetőségei a közszolgálatban*. Tájékoztató kiadvány. Nemzeti Közszerológálati Egyetem, 2018.



6. *A versenyképes közszolgálat személyzeti utánpótlásának stratégiai támogatása.* KÖFOP-2.1.5-VEKOP-16-2016-00001. NKE tájékoztató kiadvány. <https://fejlesztprogramok.uni-nke.hu/document/fejlesztprogramok-uni-nke-hu/K%C3%96FOP%202-1-5%20Bemutat%C3%B3%20kiadv%C3%A1ny.pdf> (14<sup>th</sup> July 2021)
7. *Közszolgálat- és Közszolgáltatás-fejlesztési Stratégia (2014-2020).* Budapest, 2015. p. 67. [http://www.kormany.hu/download/8/42/40000/K%C3%B6zigazgat%C3%A1s\\_fejleszt%C3%A9si\\_strat%C3%A9gia\\_.pdf](http://www.kormany.hu/download/8/42/40000/K%C3%B6zigazgat%C3%A1s_fejleszt%C3%A9si_strat%C3%A9gia_.pdf) (14<sup>th</sup> July 2021)

## Capacity Challenges in Local Government Administration: A Critical Review of Literature

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### Abstract

In more than 26 years since the first local elections, the local government sphere seems to be struggling to fulfil local government objectives enshrined in Chapter 7 of the Constitution. The struggle to fulfil the Constitutional mandate has further been exposed by numerous reports such as the Auditor General's report revealing the endemic capacity challenges that characterise municipalities and cut across the political and administrative leadership in municipalities. The Corporative Government and Traditional Affairs (COGTA) including local government associations like the South African Local Government Association (SALGA) and the relevant Sector for Education and Training Authority (SETA) have made several interventions. To date, irrespective of capacity interventions undertaken, these challenges persist. For this reason, a critical review of the literature is needed to elucidate the deficits and thus the aim of this paper is to review the literature on capacity challenges of local government administration in the Republic of South Africa (RSA). Similar studies pertaining to issues of capacity in local government in SA and other countries have been conducted; however, capacity and capacity challenges may be defined in different ways by different people in different contexts. This is a qualitative literature review study to discover and generate theory from the published journals, research reports and other sources of data. Both political office bearers and other authorities in local government administration will clearly understand capacity challenges and therefore design relevant interventions in response to such challenges. This study will contribute to literature on local government administration and thus provide more knowledge to public administration students pertaining to capacity challenges confronting local government in SA.

**Keywords:** capacity challenge, local government administration, literature review

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## **1. Introduction**

The Republic of South Africa Constitution Act 108 of 1996 established the three spheres of government such as National, Provincial and Local governments. These three spheres of government are interrelated and interdependent. Chapter 7 of the Republic of South Africa Constitution Section 151 (1) states that the local sphere of government consists of municipalities, which must be established for the whole of the territory of the Republic. Subsection 3 emphasizes the right of municipalities to govern local government affairs of their communities with of course is subject to national and provincial legislation as set out by the Constitution of the Republic. Further, section 152 (1) presents the objects of local government as follows: (a) to provide democratic and accountable government for local communities; (b) to ensure the provision of the services to its communities in a sustainable manner; (c) to promote social and economic development; (d) to promote a safe and healthy environment; and (e) to encourage the involvement of communities and community organisations in the matters of local government. However, subsection (2) commits municipalities to strive, within their financial and administrative capacities, to achieve all the set objects in subsection (1).

South Africa is approaching its third decade since the establishment of a democratic government system. As highlighted earlier, Chapter 7 of the Republic of South Africa Constitution Act 108 of 1996 stipulates the objectives of the local government sphere in South Africa. However, current studies, reports, books etc. reveal that there are still hitches to overcome for local government to deliver on their mandate as far as the Constitution of the Republic commits. This triggers a research interest to conduct a critical literature review so to expose particularly “*capacity challenges in local government administration*”. Local Government Municipal Structures Act 117 Of 1998 defines capacity in relation to a municipality as “it includes the administrative and financial management capacity and infrastructure that enables a municipality to collect revenue and to govern on its own initiative the local government affairs of its community”. Davids (2011) defines the concept of “capacity” as the ability to act in order to convert policy into action. It may also mean the ability of an organisation to function as a resilient, strategic and autonomous entity. He further states that several elements need to be present for any organisation to effectively function and these include:



- i. organisation's understanding of its environment;
- ii. organisational attitude that incorporates the confidence to act in a way that the organisation believes can be effective in dealing with social and physical conditions facing a local community;
- iii. a clear organisation vision and strategy;
- iv. structures and procedures to support the implementation of the strategy;
- v. relevant individual human resource skills, abilities and competencies needed to deliver services, and adequate and appropriate material resources.

The above definitions suggest that capacity may be conceived as the ability of an organisation to function in an effective and efficient manner so to achieve its policy objectives including a number of elements that should form part of the entire process, such as the availability of human, material, and financial resources, and other internal factors such as attitudes, values, procedures. The assumption is that if there are any possible capacity challenges experienced in the South African local government administration, they are likely to be the contributing factors of issues such as public service delivery protests. In fact, any capacity challenges in local government administration in South Africa may impede the achievement of the government goals as set out by the National Development Plan-Vision 2030.

The objective of this paper is to discover new knowledge through analysis of current trends with regard to capacity challenges in local government administration as revealed by a systematic literature review. The study is limited to South African local government administration; however, its findings may be pertinent for other countries with government systems similar to that of South Africa.

This paper covers on the role, powers and functions of municipalities in local government affairs; a brief overview of the local government legislative framework; assessment of South Africa's local government state of capacity; an exposure to contemporary trends; and the research methodology employed in producing the paper. Lastly, the researcher provides recommendations, a conclusion and the list of references.

## **2. Background on the role, powers and functions of municipalities in governing local government affairs: South African context**

Section 155 (1) of the Constitution provides three categories of municipalities in South Africa and these are category A (metropolitan municipalities), category B (local municipalities, and category C (district municipalities). In total, the country consists of eight metropolitan municipalities, 226 local municipalities and 44 district municipalities, According to Masiya et al. (2021) (Dassah 2012; Reddy 2016), municipalities in South Africa are mandated to deliver services that meet basic communal needs such as housing, water and sanitation, land, electricity, and infrastructure. Section 153 of the RSA Constitution emphasizes the duties of municipalities as follow:

- (a) Municipality must structure and manage its administration, budgeting and planning processes to give priority to the basic needs of the community, and to promote the social and economic development of community; and
- (b) Participate in national and provincial development programmes.

Additional to the above-mentioned duties, section 156 (1) of the RSA Constitution states that, a municipality has executive authority in respect of, and has a right to administer (a) local government matters and (b) any other matter assigned to it by national and provincial legislation. Thebe (2017) in his paper highlights that the democratic dispensation of South Africa established in 1994 brought about a new social, economic, demographic, cultural and political order. However, the Constitution of the Republic of South Africa and other forms of legislation commit municipalities to ensure provision of services to communities in a sustainable manner. The fact is that to ensure a sustainable service delivery in South Africa was not going to be easy with its history of the apartheid system and consequences thereof. Moreover, challenges ranging from different aspects such as a municipality's financial capacity, political factors, social changes of the environment etc. are likely to affect the achievement of local government goals.

### **3. An overview of local government legislative framework: South African context**

Various forms of legislation regulate the local government sphere in South Africa. This suggests that local government systems in South Africa operate within the boundaries as set out by the national policies, provincial policies, and other legal frameworks. The Constitution Act 108 of 1996 establishes the local government sphere in South Africa and thus provides the direction on the rights, powers, duties, and functions of municipalities in governing local government affairs in the country. The Constitution is therefore a point of departure for municipal officials and political office-bearers in dealing with local government matters. Local Government Municipal Demarcation Act 27

of 1998 and notices provide criteria and procedures for the determination of municipal boundaries by an independent authority; and provide for matters connected thereto. Local Government Electoral Act No. 27 of 2000 regulates municipal elections, amends certain laws and provides for matters connected therewith. Further, the Local Government Municipal Structures Act No 117 of 1998 provides for the establishment of municipalities in accordance with the requirements relating to categories and types of municipality; to establish criteria for determining the category of municipality to be established in an area; to define the type of municipality that may be established within each category; to provide for an appropriate division of functions and powers between the categories of municipality; to regulate internal systems, structures and office bearers of municipalities; to provide for appropriate electoral systems and to provide for matters in connection therewith.

Other forms of legislation include the Local Government Municipal Finance Management Act 56 of 2003, which was issued to secure sound and sustainable management of the financial affairs of municipalities and other institutions in the local sphere of government. It also establishes treasury norms and standards for the local sphere of government and provides for matters connected therewith. Local Government Municipal Finance Management Regulations 56 of 2003 comprises regulations that set procedures and criteria to be considered by municipalities in dealing with various issues such as establishment of municipal partnerships, regulations for municipal investment, municipal supply chain management, budgeting and reporting procedures etc. The White Paper on Local Government of 1998 was issued to rebuild the local communities and environments and remedy the damages caused by apartheid on the spatial, social and economic environments by creating sustainable human settlements that provide a decent quality of life and meet the holistic needs of the communities. Local Government Municipal Systems Act 32 of 2000 provides for the core principles, mechanisms and processes that are necessary to enable municipalities to move progressively towards the social and economic upliftment of local communities and other related matters. Local Government Municipal Property Rates Act 6 of 2004 and Regulations regulates the power of a municipality to impose rates on property to exclude certain properties from rating in the national interest; to make provision for municipalities to implement a transparent and a fair system of exemptions, reductions and rebates through their rating policies; to make provision for fair and equitable valuation methods of properties; and to make provision for an objection and appeals process etc.

In managing local government affairs, the municipalities in South Africa must adhere to the provisions of all the above-mentioned forms of legislation and various other relevant policy documents, municipal by-laws, rules and regulations as set out by national and provincial authorities.

#### **4. Analysing South Africa's local government state of capacity and associated challenges: an exposure to contemporary trends**

Chapter 13 of the National Development Plan (NDP) – Vision for 2030 deals with building a capable state. According to the NDP, foundations for a capable state have been laid since 1994 but there are major concerns about the weaknesses in how these structures function. Nevertheless, in its diagnosis prior to issuing the NDP, the National Planning Commission identified unevenness in state capacity which leads to uneven performance in local, provincial and national government. The weaknesses in capacity and performance are viewed to be more serious in previously disadvantaged areas where state intervention is most needed (NDP-2030)

South Africa is approaching 30 years of democratic public administration and governance and the question is whether there is any impact in changing people's lives by the government, particularly at local government levels. Reports, journal articles, studies, books etc. provide current trends about local government administration's state of capacity in South Africa. Archaya (2018) identifies many factors influencing the capacity of local governments to engage in effective local governance, including essential resources, social networks and collaboration, and political legitimacy. Murray (2022:108) states that, "many municipalities in South Africa, including in many of our larger cities, face significant financial sustainability risks, partly of their own making and deeply compounded by the COVID-19 recession. As far as the situation is concerned, Covid19 pandemic has made the situation even worse by increasing the number of indigents requiring subsidies while there are no additional funds for these services" (Murray, 2022:108). In presenting the nature of the municipal financial crisis, Murray (2022:110) further points that the unfolding local government crisis has dire consequences for both the economy of the country and the citizens.

Masiya *et al.* (2021) report on the findings of the Auditor-General of South Africa (2018) who state that "one of the key causes of poor service delivery was lack of effective performance by municipal officials". In their findings, the following are factors identified as affecting municipal officials' performance such as an unsupportive institutional environment, negative power struggles and political interference, lack of trust due to political appointments, over-regulated and tense

bureaucratic environment, absence of a culture of excellence, failure to upgrade skills, poor oversight mechanisms and weak capacity to engage in collaborations.

Regarding the financial challenges as part of local government challenges, Madumo (2015:163) points out that although lack of funding is a major issue, the situation is worsened by unethical practices. Moreover, the 2019/20 consolidated Auditor General's Report on Local Government Audit Outcomes provides that local government financial management continues to deteriorate, and an analysis on the audit outcomes of the financial status of 199 municipalities revealed an increasing decline in appropriate management of local government finances.

Tshishonga (2021:32), in exposing challenges facing "post-apartheid" local government, identifies that these challenges range from poor implementation of policies and the legacy of autocratic and bureaucratic apartheid local government, lack of administrative capacity and coordination. He further points out that the entire issue of weak administrative capacity is coupled with poorly trained staff, nepotism and cadre deployment of unskilled personnel. Despite the biggest transformation process in South African history, municipalities in South Africa still have a long way to go before they claim to be sustainable and functional (Peters & Nieuwenhuyzen, 2014).

Yilwa (2015) writes on the challenges of local government administration in Nigeria and points out that there is no Local Government Administration globally without its inherent challenges. For instance, the challenges of the Local Government system in Nigeria include the management of its structure to enhance efficiency. South Africa is no exception in this regard. In defining "capacity" as mentioned earlier, it entails having structures and procedures to support the implementation of the organisational strategy.

## **5. Conclusion**

South Africa is moving towards 30 years of its democratic public administration and governance. Transformation in South Africa intended to see change, in particular in "people's lives" and in other aspects. The government designed various strategies at different levels and such strategies were actually a means to respond to the political and other changes of the environment of Public Administration. Since 2000, a new generation of municipalities that comprise a local government system was established, led by democratically elected councils. The Constitution of the Republic of South Africa Act 108 of 1996 and other legal frameworks guide municipalities in



governing local government affairs in the Republic. Indeed, some areas of the country have seen change; however, in other areas there is still much work to do.

This paper has focused on a critical literature review concerning local government administration capacity challenges in South Africa. Various sources were consulted and it is evident that there are capacity challenges in local government administration in South Africa and such challenges deserve attention. A number of issues were identified ranging from municipal financial crisis which is influenced by various factors such as the inability to generate own revenue, mismanagement of funds etc. Other issues include unsupportive institutional environment, lack of culture of excellence, lack of skills, political deployment and unethical practices etc.

Constitution and other forms of legislation outline what local government must do. Various strategies for capacity development in local government are already in place; however, there are still challenges. “Capacity” is multidimensional in nature and therefore needs a best approach to deal with it. The relevant capacity challenges in local government and other public institutions that require ongoing attention are institutional capacity, environmental capacity, individual capacity, organisational capacity and stakeholder capacity. These aspects are interdependent and interrelated and therefore should be addressed as such. Continuous research is necessary in support of the government, particularly at local government level, to provide intervention programmes that address capacity challenges confronting municipalities in South Africa.

## 6. References

- Acharya, K. K. (2018). The capacity of local governments in Nepal: from government to governance and governability
- Auditor-General South Africa. (2018) Consolidated general report on national and provincial audit outcomes (2017 – 18) Available at <https://www.agsa.co.za/Portals/0/Reports/PFMA/201718/gr/pfma>
- Dauids, G.J. (2011). Local Government capacity challenges in post-apartheid South Africa: Lessons learnt
- Gregory, J.D 2011. Local Government Capacity Challenges in Post-Apartheid South Africa: Lessons learnt
- Local Government Municipal Demarcation Board, 1998 (Act 27 of 1998). Pretoria: Government Printers. Republic of South Africa
- Local Government: Municipal Structures Act, 1998 (Act 117 of 1998). Pretoria: Government Printers. Republic of South Africa. 2000.
- Local Government: Municipal Systems Act, 2000 (Act 32 of 2000). Pretoria: Government Printers. Republic of South Africa. 2007.
- Local Government: Municipal Systems Act: Draft Competency Guidelines: Generic section 57 managers' managerial competency framework and specific occupational competency profiles. Notice No. 29723. Government Gazette, 23 March 2007. Republic of South Africa. 1998.
- Madumo, O.S 2015. The Developmental Local Government Challenges and Progress in South Africa.
- Masiya T., Davids, Y.D. and Mangayi, M.S. (2021). Factors affecting the performance of South African municipal officials: stakeholders' perspective
- Murray A *et al*, (2022) Better choices ensuring South Africa's future, Picador Africa: Johannesburg South Africa
- Peters S & Nieuwenhuyzen H (2014). Understanding the dynamics of the capacity challenges at local government level.



Reddy, P.S. (2016) The politics of service delivery in South Africa: the local government sphere in context. *The Journal for Transdisciplinary Research in Southern Africa*.

Republic of South Africa. 1996. Constitution, 1996. Pretoria: Government Printers. Republic of South Africa.

Thebe, T. P. (2017) Political education for good governance in South Africa's local government and communities.

Tshishonga, N. (2014) Cadre deployment and its implications on service delivery in South Africa: a human development capability approach. *Journal of Public Administration*, 49 (3), 891-908.

White Paper on Local Government. Pretoria: Government printers. Roux, N.L. 2005. Unrest at the local sphere of government in South Africa: Unrealistic expectations or the inability to implement policies? *Strategic Review for Southern Africa*. Available Online: <http://goliath.ecnext.com>. Stats South Africa. Community Survey Report. March 2008. Pretoria

Yilwa I. (2015) Challenges of local government administration in Nigeria: lessons from comparative analysis. *International Journal of Development and economic sustainability*. Vol.3, No.4

2019/20 consolidated General's Report on Local Government Audit Outcomes.



## Continuous surveillance of warehouses for the purpose of hazard prevention and prevention with drone devices

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### Abstract

One of the directions of applied research is the development or development of non-commercially available drone devices, such as a sensor or sensor group that can be installed on a transport platform, that can be made suitable for continuous hazard control and prevention control of facilities and warehouses. The drone devices optimized for performing measurements developed because of the development can be connected via closed-circuit data transmission and are suitable for transmitting experienced or measured data. Measuring devices installed on drone devices capable of autonomous operation that ensures their own mobility may be capable of human-controlled or autonomous inspection of plants and warehouses, or of taking measurements to prevent continuous danger necessary for their surveillance.

**Keywords:** drone, inspection of hazardous plants, hazardous plant testing, autonomous measuring instruments

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### 1. Introduction

One of the directions of my research is to determine how drones can be used to measure technical data related to the operation of hazardous plants, and how measuring devices built on the developed drone platform can be suitable for integration into the measuring devices that monitor the operation of these plants (Gabryelewicz, 2021). In most cases, during the examinations necessary for the assessment of official operating permits for the operation of hazardous plants, as well as during technical supervision work of industrial equipment, highly experienced specialists in difficult-to-reach and hazardous working conditions must work in industrial areas or on operating equipment (Kátai 2021).

The data of the direct manually controlled measurements and visual inspections will be processed during further office work after an on-site inspection, and the results will be documented and then analyzed. These inspection and supervision works are often preceded by significant scaffolding and crane preparation work. This is all time-consuming and involves significant costs. Recognizing this real market demand, I included in my research tasks the development of a drone sensor system that would be uniquely new both for the lives of enterprises operating hazardous plants and for measuring equipment manufacturing companies (Restás, 2021).

A measuring instrument or group of measuring instruments installed on a drone device to be created because of the development process would significantly improve the duration of the operational test work and measurements, increase the accuracy of the evaluation, simplify the performance of repetitive tests, and, as a very important aspect, increase the enforceability of increasingly stringent occupational safety and health regulations (Rác, 2017).

If the technical development objectives set are achieved, more cost-effective means would be available to operators of hazardous plants and, at the time of their establishment, to their investors and contractors is.

The main direction of research is the creation of a group of sensors that can be connected to a drone and can transmit experienced, measured data with the help of an appropriate data transmission system. With the planned result, we will be able to serve two groups of users. On the one hand, the technical supervisory burden could be reduced, and it will also provide a more effective solution for inspection and inspections. The preparation and archiving of post-examination documentation can also be made much easier. As a result of these processes, the work of the authority supervising hazardous plants would also become more transparent and the handling of the documents to be submitted to them would also become significantly easier.

## **2. Market potential**

The magnitude of the market potential has already been outlined by the definition of the user target group. The number of investments in Hungary is constantly increasing, and at the same time, technical supervision, control, and planning are inevitable. Since this is often a time-consuming, costly and sometimes dangerous activity, in order to do this, it is necessary to develop a drone sensor system, which can be unique in the market.

Overall, it is also known from the press that in the period we have been told, the preliminary number of Paks investments for on-site work is estimated at 10.3 billion dollars, while MOL Poliol's plant is 1.8 billion dollars, and the market volume of the related technical supervision activity can account for 1.5-3% of the 12 billion investments. If we look only at these two items, we can still see that there is significant market potential.

### ***2.1 Potential users***

It is essential to identify all the potential users needed to make proper use of future developments. Before the technical development, we can determine exactly to whom and through what channels we can deliver the news and message of our product. Technology can generally be sold to companies that make a major investment, so they need a technical review and inspection process. There will always be such investments – this is evidenced by the fact that, based on the data of the HCSO, the value of investments shows a continuous increase from year to year. In the years 2019 and 2020, - before the COVID 19 pandemic period - the value of investments was HUF 11,000 billion per year at current prices (Restás 2022).

Manufacturing enterprises account for the largest share of these investments. With my development idea, it targets two groups: On the one hand, micro, small and medium-sized enterprises throughout the country that make investments where technical supervision activities are necessary, but whose company, due to the size of their company, do not have their own technical supervision capacity, their own metrology department, or a permanent full-time technical inspector. When planning this future measurement capacity-providing activity, we must consider the statistics containing official economic indicators, according to which manufacturing enterprises mainly account for most industrial investments, then according to the data of the Central Statistical Office (HCSO), there are more than 75,000 such companies in Hungary.

The technological solutions planned to be developed can make their operation faster and more economical and, above all, safe for them. Secondly, the use of the developed drone sensors can be understood primarily as a partial replacement of traditional inspection activities necessary for the technical supervision of oil, gas and energy industrial facilities based on physical dimensions, extent, mass, and accessibility characteristics.

Green and brownfield investments, in-service inspections, large shutdowns (planned maintenance), reconstruction works affecting part or the entire operating environment. In such areas,

the application of a drone sensor results in time and significant additional costs savings, and the development has a more accurate and reconstructed technical content. I would like to point out that in such a dangerous environment, the occupational health and safety aspects of workers come to the fore, which may be less substantiated by economic calculations, but can contribute to the operational safety of the given operating environment by improving the overall level of safety and protecting the health of workers.

In addition, the on-site evaluation of measurement and detection results can be solved by the work of fewer experienced senior experts, thus alleviating the persistent market shortage of labor. Potential development partners or users may be highlighted by the technical supervision of the petrochemical industry and the energy sector, including installation works outside the power plant circle, as well as the planned large shutdowns and maintenance works of conventional power plants, which induce large investments in the Hungarian economy. The main direction of the targeted applied research is the development and development of a non-commercially available sensor group that can be connected to a drone as a transport platform and are suitable for transmitting experienced, measured data, connected to an appropriate data transmission system.

During my research, the development objective is formulated in two directions:

1. Development of drone applications suitable for transporting sensors,
2. Development of sensors for drone-guided measurements from commercially available base units.

My technical research and the specific research development activities planned:

1. technical facilities, drone devices for use in hazardous operating environments;
2. gas detection sensors;
3. temperature and vapour's saturation meters;
4. vibration meters;
5. surface and material wall thickness meters;
6. surface protection layer thickness meters;

is primarily aimed at their development, further development, and operational integration, complemented by the simultaneous development or integration of data transmission and data evaluation applications capable of transmitting measurement results in real time.

In preparation for my research, I examined the drones currently available for commercial use:

- <https://myactioncam.hu/dji-enterprise>
- <https://yuneecuav.hu/termek/yuneeec-h520e-rtk-ipari-dron/>
- [https://www.droneshop.hu/ipar-mezogazdasag-225/ipari-megoldasok-220?gclid=CjwKCAiA78aNBhAlEiwA7B76pytwD-Cik4JKwZV-OyYKfNm9D8kgYvYzRIKZ4K2UJa7uz6mlSmF6pxoCuPkQAvD\\_BwE](https://www.droneshop.hu/ipar-mezogazdasag-225/ipari-megoldasok-220?gclid=CjwKCAiA78aNBhAlEiwA7B76pytwD-Cik4JKwZV-OyYKfNm9D8kgYvYzRIKZ4K2UJa7uz6mlSmF6pxoCuPkQAvD_BwE)
- [https://www.workdrones.hu/?gclid=CjwKCAiA78aNBhAlEiwA7B76pyp98rSeOdTzpciyGZIJ6FcUxYSIHltQFeA8dHpLtcSFqgFtQ4cbgRoC7mYQAvD\\_BwE](https://www.workdrones.hu/?gclid=CjwKCAiA78aNBhAlEiwA7B76pyp98rSeOdTzpciyGZIJ6FcUxYSIHltQFeA8dHpLtcSFqgFtQ4cbgRoC7mYQAvD_BwE)
- <https://www.ipari-dron.hu/>
- <https://www.dronesys.hu/mezogazdasagi-dronok-245/felmero-dronok-250>
- <https://go2fly.hu/category/ipari-dronok/>
- <https://www.conrad.hu/p/profi-ipari-dron-rtf-kamera-hokep-dji-enterprise-mavic-2-enterprise-universal-edition-dual-1932561>

Opposed to planned development R&D&I requirements, expected professional outcomes:

Recognizing that technical surveillance and testing work can often be carried out under dangerous conditions, as well as being very time-consuming and not cost-effective at all, our company plans to create a unique drone sensor system that can be used to eliminate the above problems or improve them to a large extent. The project includes development work and activities that allow practical use even during the tests necessary for development. The added value of drone test inspection surveillance technology for investors, contractors and operators can be summarized as follows:

1. Group: For investors and operators, performing technical supervision work, establishing percentages of completion, recording plan-fact deviations, providing supporting technical documentation necessary for bank financing, monitoring documentation necessary for the commissioning of large investments, reproducible production.
2. Group: For operators, monitoring of in-service conditions (temperature, corrosion, protective staining, continuous monitoring of abrasions, determination of the exit location of leaks, hazardous gases, vapors), accelerated condition assessment of equipment during planned revision shutdowns or overhauls, data reporting for condition determination. Concrete

measurable results: Up-to-date monitoring of the performances of contractors during investments: continuous monitoring of the state of plan and fact. Immediate measures can be taken to eliminate critical divergence points, such as the easy release of work areas when working together between several contractors present during large investments. In the case of post-production, the deficiency lists can be eliminated, and the inspection of the repair of the equipment can be carried out without scaffolding costs, time loss, as well as land reservation and licensing procedures. During operation: technical inspection of oil, gas, and energy equipment, without the necessary provision of high-cost sanitary and labor protection requirements. Furthermore, it is possible to check the condition of the protective coatings and insulations by the system, to prevent the further spread of corrosion damage, to prepare the working area for malfunctions, and to determine the defects leading to the shutdown (e.g. tightness, material consumption, etc.) and the degradation of the damage. During planned downtimes and reconstruction works: it provides quick data reporting for a comprehensive condition assessment and analysis, it can clarify the location and scope of the planned maintenance work, thereby increasing the cost-effectiveness, and the technical data required for the restart will also be traceable. To develop the sensor, we need the following tools: - Purchase of data storage devices, electrical and electrical equipment, - Purchase of a drone (base unit + optical imaging system + temperature measurement) - Purchase of various sensors (four basic types: vibration measurement, wall thickness measurement, layer thickness measurement, and gas detector)

In addition, software development is necessary as it is necessary to build a drone system, therefore, in some cases, it is necessary to obtain the necessary official permits in advance.

### **3. The result set of the research**

The aim is to create an own service that is either an independent company's economic activity or expanding the scope of economic activity of an existing business partner, and by selling this result, it is advisable to create a drone sensor system that can be used both in the life of a company operating a critical infrastructure and in the measurement it would be unique in the market and would greatly reduce the duration of the test work and would also be much more cost-effective for investors and contractors.

The main direction of applied research is the development and development of a group of commercially available sensors that can be connected to a drone and can transmit experienced, measured data with the help of an appropriate data transmission system. As my own design, I created my research plan taking into account the needs of this, the practical use of which, on the one hand, can represent an important step forward in the technology and activities used in testing, inspection and certification organizations, and on the other hand, in parallel, in industrial use, primarily in the construction and operation of oil and gas equipment, chemical plants and energy facilities, it increases the technical safety and traceability. There are two directions of development: on the one hand, the development of drone applications suitable for transporting sensors, and on the other hand, the development of sensors for drone-guided measurements from commercially available base units. As the first part of the implementation, the necessary tools and software will be purchased, i.e. data storage devices, electrical and electrical equipment, the necessary drone, as well as various sensors. Software for the operation of the sensor coordinated with the drone's control system will also be developed. After the coordinated and adjusted devices, in the next phase, testing of the coordinated and created test and control system supported by the drone can begin.

#### ***3.1 Testing and applicability of the developed drone sensor***

In the first phase, the actual sensor was developed, which was created by considering the needs and comments of potential users. After this, the actual test period can begin, when the reliability and efficiency of the sensor are measured and developed. During the testing period, the system already

allows practical use. It is also in this phase that the future sales strategy is created, as well as the training program is developed for future users. The added value of drone test inspection surveillance technology for investors, contractors and operators can be summarized as follows:

1. Group: Performing technical supervision work for investors and operators, establishing percentages of completion, recording plan-fact discrepancies, providing supporting technical documentation necessary for bank financing, monitoring documentation necessary for the commissioning of large investments, reproducible production.
2. Group: For operators, monitoring of in-service conditions (temperature, corrosion, protective staining, continuous monitoring of abrasions, determination of the exit location of leaks, hazardous gases, vapors), accelerated condition assessment of equipment during planned revision shutdowns or overhauls, data reporting for condition determination.

#### **4. Specifically measurable results:**

Up-to-date monitoring of the performances of contractors during investments, continuous monitoring of plan and fact status. Immediate measures can be taken to eliminate critical divergence points, such as the easy release of work areas when working together between several contractors present during large investments. In the case of post-production, the deficiency lists can be eliminated, and the inspection of the repair of the equipment can be carried out without scaffolding costs, time loss, as well as land reservation and licensing procedures. During operation: technical inspection of oil, gas and energy equipment, without the necessary provision of high-cost sanitary and labor protection requirements. Furthermore, it is possible to check the condition of the protective coatings and insulations by the system, to prevent the further spread of corrosion damage, to prepare the working area for malfunctions, and to determine the defects leading to downtime (e.g. tightness, material consumption, etc.) and the degradation of damage.

During planned downtimes and reconstruction work: it provides quick data reporting for a comprehensive condition assessment and analysis, it can clarify the location and scope of the planned maintenance work, thereby increasing the cost-effectiveness, and the technical data required for the restart will also be traceable.

#### ***4.1 Testing and applicability of the drone sensor***



Research in line with its objective R&D&I results in the creation of a group of sensors capable of performing technical measurements that are not yet commercially available, which: it can be connected to a drone and is capable of transmitting experienced and measured data using a corresponding data transmission system. Thanks to this, users can save significant costs, as well as avoid work processes that are also harmful to health. It is advisable to divide drone technology into at least a range of industrial, operational users, where a number of user group scan be formed within the areas:

1. Use for military and disaster management purposes, including police and border protection,
2. Performing service-type tasks: cartography, transportation, control of agricultural lands, observation of wild and farm animals, visual monitoring of large-scale industrial equipment and utility systems (Restás, 2019).

It can also be seen from the list that drone technology has been used for many years in various industries, agriculture, transport, to collect data, to prepare survey plans, as well as to monitor their implementation. The technology, which is occupying an increasing space in civilian life, has been transferred from the military industry and the practice of law enforcement forces to the civilian sphere, and the planned pilot application should also set the following milestones, so the following processes must be carried out in the technical design of drones and measuring sensors:

Drone device from the side:

- during the development activity, the configuration of the individual drone structure in the following steps: drone type selection (taking into account load-bearing capability, flight control, ground control station, protection and high-resolution sometimes hyperspectral camera);
- assembling one or two experimental devices;
- joining the sensor and drone platform together, possibly using permanent fitting solutions, including docks;
- development of stabilizing and fixing devices for work ;
- for taking measurements adapted manipulator arms designated;
- in the case of autonomous operation, recording the coordinates of the predetermined measuring point;
- drone calibration.

## Sensor from the side

- to determine the most appropriate measurement procedure(s);
- sensor selection, taking into account the accuracy required for measurement, the measuring range and tolerance, the measurement speed, the method and the weight and possibly the shape of the measuring sensor;
- the ability to fix a measuring device similar to that described for the drone side;
- method of transmitting the measurement results or collecting the measurement results.

## 5. Summary

The main professional tasks of the planned R&D&I development

### 1. Acquisition of tools, software development

Defining the development program of the developed sensor group, selecting basic units suitable for further development, designing the measured data and their transmission system: data depth, quantity, time transfer determination, development of data receiving software, management of software development, and feedback of the results of monitoring drone sensors tests into the development process. It is a basic requirement that the measuring devices installed on the drone should be able to operate in a hazardous operating environment, have the necessary capabilities and have safety certifications confirming them.

### 2. Documentation

The development, continuous management and maintenance of the documentation system of the research, if necessary, the rethinking and transformation of the documentation system, and the establishment of the basis for possible future metrology and standardization documentation requirements (Lobo, 2018).

### 3. Drone Testing

Testing of drone sensors in airplane mode, air navigation safety, (in some cases, development of airspace licensing procedures) and development of a practical and theoretical training program for sensory drone users.

4. Documenting the results achieved, creating a strategy for the utilization of innovation, preparing national and international publications

The main direction of applied research is the development or development of a non-commercially available sensor group that can be connected to a human-controlled or autonomously controlled drone and are suitable for transmitting data measured with various sensors, connected to an appropriate data transmission system and to collect measured data. Due to the novelty of the topic, it is necessary to develop a utilization strategy for delivering it to potential users in the areas set out in the initial objectives, and to support this and present scientific results, to prepare domestic and international scientific publications.

5. Standardization and categorization for industrial applications of drones

In order for industry as potential users to be easily selected and user-friendly, a single regulation that can be adapted to industry standards and integrated into the modus operandi of plants and warehouses would be necessary. In connection with this, my co-author András Vajda and I have previously published in the Aeronautical Science Bulletins "New Complex Military And Civil Uav/Pra Classification System For Registration, Administrative Purposes And Special Operation Preparation", the complex classification problems described there are unfortunately still unresolved and the introduction of drones in the field of industrial safety has now become one of the regulatory problems to be solved, perhaps the largest and at the same time pasture hair to be solved. It became my goal to develop proposals for the creation of the missing regulatory and standardization elements based on my research results, together with the first practical developments.

## 6. References

1. Izabela Gabryelewicz - Maciej Wedrychowicz – Pántya Péter - Patryk Krupa: Raw material and environmental safety of industrial processes. In: Gabryelewicz, Izabela; Wędrychowicz, Maciej (szerk.) Environmental safety - non-energy and raw materials. Zielona Góra, Poland: University of Zielona Góra Press (2021), 166 p. pp. 11-38.
2. Lobo Ferreira - Bruna Carolina – Restás Ágoston - Bodnár László: Real Examples Focusing the Mental Health Service Provided in the Framework of Crisis Management. *Košická Bezpečnostná Revue* 8.1. (2018), pp. 11-21.

3. Kátai-Urbán Lajos - Cimer Zsolt - Cséplő Zoltán - Vass Gyula: Examination of the technical competencies required to fulfill the industrial safety responsibilities. In: Bodnár, László; Heizler, György (edit.) Proceedings of the Fire Engineering & Disaster Management Prerecorded International Scientific Conference. Budapest, Hungary: Védelem online (2021) 503 p. pp. 404-413.
4. Rácz Sándor: A tűzoltói beavatkozások súlyponti erőmegosztásának vizsgálata. *Hadmérnök*, 12. KÖFOP (2017), pp. 92-107.
5. Restás Ágoston: Drone Applications Fighting COVID-19 Pandemic—Towards Good Practices. *Drones* 6. 1. (2022), pp. 1-20. Paper: 15, 20 p.
6. Restás Ágoston - Szalkai István - Óvári Gyula: Drone Application for Spraying Disinfection Liquid Fighting against the Covid-19 Pandemic—Examining Drone-Related Parameters Influencing Effectiveness. *Drones* 5. 3. (2021), pp. 1-17. Paper: 58, 17 p
7. Restás Ágoston: Criteria of effective drone use supporting disaster management. In: Zhilon, Jiang; Qiao, Li; Saad, Sarsam; Nur, Yazdani; Agoston, Restas Conference Guide of The 3rd Disaster Prevention and Public Safety. Engineering Information Institute, (2019) p. 24 Paper: IS-8

## Heroism as one way to achieve courage

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### Preface

What does it mean to be a hero today? Many people would answer this question with "you have to be a hero enough to live in the world today". It's definitely thought-provoking. But what can all this mean for a soldier, from whom people expect him to protect them in all circumstances, self-sacrificingly, even at the cost of his life. But what does positive psychology say about all this? As a soldier, the many heroic deeds before me, as well as standing up in potential danger situations, encouraged me to review in detail the topic of courage as a strength of heroism related to virtue. Trusting that I can help my fellow soldiers in their roles at "hot points" by passing on the information he conveys.

In their book "Character Strengths and Virtues (CSV)" published in 2004, Peterson and Seligman distinguish six core values that can be considered a source of happiness in almost all cultures. Knowledge, courage, humanity, truth, moderation and transcendence, which have various branches and branches. Thus, a total of 24 strengths belong to the six virtues.

Seligman's starting point - based on the vast knowledge base of traditional psychology and psychiatry - was that man is capable of choosing and making decisions. He emphasized that psychology should pay at least as much attention to strengths as to weaknesses. For this reason, he emphasized that the life of the person who does not produce a mental illness, the symptoms found on the pages of the "Diagnostic Statistical Manual of Mental Disorders (DSM)" is also important. Thanks to this, the Seligmans created CSV, the opposite of DMS, which can serve as a guide not only for researchers but also for people in overcoming the difficulties and obstacles that occur in their lives and promoting their personal development.

Under the guidance of Katherine Dahsgaard, Seligman and his colleagues read Aristotle and Plato, St. Thomas of Aquino and St. Augustine, Confucius, Buddha, Lao Tzu, Benjamin Franklin, the Testament, the Talmud, Bushido (the moral code of the samurai), the Koran, and the From the Upanishads - browsing through roughly two hundred "catalogues of virtues". Much to their surprise, the six virtues mentioned above have been important to nearly three thousand years and to every

culture in our world. These six virtues are accepted and believed by almost all religions and philosophical traditions that they manage to grasp the concept of "good character". Among the questionnaires developed for their measurement, a questionnaire consisting of 240 questions for adults is also available in Hungarian after registration. After completion, the result, also in Hungarian, displays the strengths in one sentence (regarding 24 strengths) from the dominant strength down, which can be one of the ways to prosper in daily life.

#### The strengths that make up courage

The strengths that make up courage involve the extensive exercise of willpower in relation to goals with desirable but uncertain outcomes. Only those actions that are carried out at the cost of great difficulties can be considered as manifestations of courage. It is considered a virtue everywhere without exception, and every culture has its heroes who embody this strength. Heroism, endurance, and integrity are the three generally accepted ways of achieving virtue. Vitality, which also displays feelings, is the subject of further investigation.

Courage: Through our will to achieve our goals, even in the face of obstacles (external, internal).

#### Strengths:

1. Bravery (Valor) Not shying away from threats, challenges, pain or difficulties. Courage to do even unpopular things. Heroism means more than courage shown in the danger of life, when our physical existence is threatened; it also includes taking on unpopular, complicated or dangerous intellectual or emotional positions. "I stand up for certain things even if many people do not agree with me."

2. Persistence (Preservation, Industriousness)/endurance, zeal, diligence: To finish what we started, to carry out an activity or matter, even if we encounter difficulties. He always accomplishes what he undertakes, sometimes even more. At the same time, perseverance does not translate into compulsive adherence to unattainable goals. A truly active person is flexible, not a maximalist, but a realist. Ambition can have both good and bad sides, and its good sides are clearly included. "What I start, I always finish."

3. Integrity (Authenticity, Honesty): we present ourselves in an authentic and honest manner. To take responsibility for our actions and words. He walks with two feet on the ground, he doesn't want to look different than what he is. A "real" person. Integrity and authenticity mean more than just telling the truth. "Be honest with yourself, and you will be honest with others!" "I always keep my word."

4. Vitality (Zest, Enthusiasm, Vigor, Energy): to live life actively and dynamically. The sense of life appears in it. Psychological and physical factors are directly and interactively related to it. At the physical level, vitality is associated with good physical health and bodily functional functioning, which is free from disease and fatigue. On a psychological level, life force is reflected in volitional experiences, effects and on the intra- and interpersonal level of the self. Mental tensions and conflicts and stressors reduce vitality. "I am full of energy." "I'm recharged." "I rarely feel burnt out." (Peterson & Seligman, 2004)

### History

The French philosopher Comte-Sponville (2001) disputed the universality of courage, he reminded us that fear and the various actions that overcome it vary from society to society, and the ability to overcome fear is always more valuable than cowardice or shyness.

D. Putmann (1997) defined an all-encompassing courage based on three types: physical, moral (moral), psychological courage.

- Physical courage is the type that overcomes the fear of physical injury or death in order to save oneself or the lives of others.

- Moral courage involves ethical integrity or credibility at the risk of losing friends, colleagues, privacy, or prestige.

- Psychological courage includes all that is expected of it: to confront a debilitating illness or destructive habitus (behavior), the characteristic of this courage is to face one's own inner (secret, hidden) evil spirit.

Peterson and Seligman follow Putmann's guidelines and consider all three categories as the core of the virtue of courage. The definition is not limited to singularly egregious (shocking) acts – neither is sustained courage (see Finfgeld, 1999). This brings up a possible but obviously necessary point about courage: this power has an inner hidden self as well as an outer hidden self. So courage is not only about observable actions, but also the perceptions, feelings, motivations, and decisions that give rise to them. How we examine the inherent nature of courage everywhere, although most of the examples that follow either from the variety of physical (physical) or combat actions are what we think are abstract, close to Cicero's (1949) definition: courage is intentionality (will) in the face of danger and effort clamp.

For them, bravery means physical courage, integrity (honesty) and endurance, anything that is deliberately impressive, that simply captivates, grabs: security, comfort, satisfaction. They say: "Our main thing is to remain honest (to do the right thing), even if it happens that one loses more." (Peterson & Seligman, 2004) Or to return to Comte-Sponville's (2001) statement: Without courage, we would be unable to resist the worst in ourselves or others.

Researchers are beginning to distinguish between courage in moral and physical situations, and also consider whether or not it is accompanied by fear.

A brave person is able to separate the emotional and behavioral components of fear; thus, despite the subjective and physical reactions caused by the situation, he is able to suppress his desire to escape and face the fear-inducing situation. Fearlessness, recklessness, or rashness are not considered courage, except when we face danger in spite of fear. Throughout history, the concept of heroism has expanded beyond "battlefield" physical courage to include moral and psychological courage. Moral courage is standing up for something that we know will cause us to lose. A typical American example of this strength is the case of Rosa Parks, who in 1950 He dared to sit in the front seats of the bus in Alabama in the 1990s. This includes participants in demonstrations against giant companies or governments. It refers to psychological courage if someone accepts constant misfortunes or constant illness with stoic calmness, perhaps quiet serenity, without giving up their dignity.

#### Courage - Philosophical Views

Philosophical views: virtues, as modifying (remedial) factors, exist in our present life, which counterbalance all difficulties, which are inseparable from human existence.



Courage is the father (prototype) of all virtues. By its very nature it dares, does, makes sacrifices and conquers.

Its indispensable condition is awareness, which is the mother of all virtues. Its nature is to turn inward, see, reflect and understand.

These two virtues are the basis of personal development.

Our awareness helps us understand why we do what we do. It shows why we think what we think and why we feel the way we feel. It gives us the opportunity to think before we react to something. However, if we do not look within ourselves and understand the patterns of our own individuality, then we cannot expect any change from ourselves, so we will make the same mistakes. On the other hand, if we look inward, we recognize which are our beliefs and emotional patterns that do not support us, after which we can change, this requires real courage, since we have to go against ourselves. We have to admit that we were wrong. We may have to go against what others have thought of us, or what we think is some kind of social expectation, in fact, maybe it is. It is often easier to give up on the dream of change than to find the courage to fulfill yourself.

The awareness necessary for change can be developed by conducting an honest introspection from time to time, observing ourselves, and meditating.

#### Aristotle's ethics

The Aristotelian Ethics of Happiness is centered on happiness (Greek eudaimonia). He is looking for the answer to how a person can achieve the greatest happiness within society. He breaks with the Platonic tradition that there is an eternal idea of 'Good', which is universally valid for all people, according to him, good is a relative concept, and 'Good' can mean different things to each person. What is common to all people and morals alike is that everyone seeks happiness through their own 'Good'. He emphasizes that it is not necessary to examine, as Socrates and Plato did, what virtue is, but rather how it arises, how it is created.

He holds that no matter how different people's paths are in life, regardless of their occupation or craft, everyone is seeking happiness (eudaimonia). The goal is to find the noblest happiness, this can only be awarded to virtuous people. Therefore, a detailed analysis of virtue is important.

Aristotle considers moral virtues to be related to pleasant and painful things.

He emphasizes that moral virtues are found ready at birth, which are mediated by the existing order in the state or society, and their validity is maintained by tradition and general agreement.

It distinguishes 12 moral virtues: courage, moderation, generous giving, willingness to sacrifice, noble ambition, ambition, gentleness, kindness, truthfulness, wit, modesty, justice

Aristotle distinguishes three mental phenomena: emotion (desire, impulse, fear), ability (on the basis of which we are capable of emotions), mental constitution (on the basis of which we act correctly or incorrectly in relation to emotions). The latter includes virtue. Furthermore, he says that virtue must be some kind of middle, because the middle is right between deficiency and excess.

In the case of each person, moral virtue is the mean in relation to him, the mean in relation to ourselves. In order for a person to be morally virtuous, a prerequisite is that he must either be smart himself or follow the instructions of a smart person.

Catalog of moral virtues:

exaggerated: recklessness

incomplete: cowardice

ethical virtue: courage

Deficiency and excess are both bad, because: “He who flees from everything, fears everything and dares to oppose nothing, becomes a coward; and he who is not afraid of anything at all, but attacks everyone, becomes reckless.”

Courage is the middle line between cowardice and recklessness, the middle line between fear and a sense of security. We can't always talk about courage in things that cause fear, because there are things that you have to be afraid of. Such is the disgrace, he who fears it is a decent man. Nor can we talk about courage if someone is afraid of illness or poverty, these are things that do not depend on us, do not come from our own fault. Aristotle designates death as the most terrifying thing. He who is not afraid of it can be called brave, more precisely the one who faces death in war, and not the one who faces death in an accident or illness. A brave person is not unmoved either, he also feels fear, but he can resist for the sake of moral good.

Introduction - criteria

Based on the philosophical views described in the previous sections, it can be established that they considered virtues as modifying factors that offset all difficulties and temptations, which are inseparable from innate human existence.

However, according to Peterson and Seligman, there are some reasons that make it necessary to check and reinterpret them. According to their opinion, it is debatable whether all character strengths are corrective at the same time or whether several of them are based only on practical knowledge and perception. In order to be able to accurately determine whether a strength leads to the achievement of its virtue, Seligman and his colleagues set up a ten-point criterion along which they examined the paths leading to the virtues, i.e. whether the given strength satisfies the criteria.

Let's review the criteria of bravery (valor), boldness, gallantry, courage among the four strengths of courage as a virtue, and see how they can be identified. I mark in red (criterion 5) those that do not meet the given criteria, and in green (criteria 6 and 10) those that only partially satisfy the given criteria.

A person who performs a heroic, valiant act is not afraid of threats, challenges, fear of death, or pain. He bravely does - even - unpopular things. It is called a historical prototype, based on wars. However, physical courage is not only shown by warriors on the battlefield, but can also be observed during the rescue of firemen from fires and the assistance of paramedics in the event of a serious accident. However, courage in the face of impending death is not the same as recklessness, because fear is definitely experienced. Rather, courage is the ability to act despite fear. This view of courage allows us to talk about wars, unpopular actions, or even the right thing to do, the fight against death of terminally ill people.

Researchers are beginning to distinguish between courage in moral and physical situations, and also consider whether or not it is accompanied by fear.

First, heroism, as a strength, has a fulfilling character and results in satisfaction: asserting one's rights against an angry group, then we act by overcoming fear.

Second, heroism can be identified as Morally Valued, which includes the terms "heroic" and "brave" and the actions behind them. Every culture has its own celebrated heroes. We value heroism as strength for its own sake, even though it often has positive consequences. People who perform heroic deeds are rewarded. However, it should be emphasized that the reward lies in the action itself,

not in the fact that positive feelings arise in us. According to Aristotle, an action carried out under the influence of external factors cannot be considered a virtue, because it is guided by the promise of reward or external compulsion.

The third aspect of heroism is equality, partnership, human respect, i.e. does not diminish others (Does Not Diminish Others): the "exaltation" of heroes based on what they have seen and heard, which encourages others to act - stories of courage: "Mátyás Sauer, corporal of the 23rd infantry regiment, October 2 At Milnó, he spotted a seriously wounded civilian who wanted to crawl to our positions. Sergeant Sauer went out of the trenches to the wire fences without orders, ignoring enemy fire. He dug a trench under the obstacle and crawled to his wounded comrade. During the ever-increasing firing, he brought his comrade back to his position, who handed me over to the paramedics."

Fourth is the non-felicitous opposite of heroism: to which cowardice or lack of willpower belongs. This also includes the paralyzing worries and neuroses that afflict us when we lack courage. Clinical psychologists and neurologists explore the negative aspects of these conditions in numerous studies.

Fifth, heroism is traitlike: that is, a psychological characteristic that appears in many different situations and shows stability over time. Is courage a character trait? Experts have different opinions. Creativity or courage? many people ask. The particularity of the act itself is characterized by e or the person who performed it. How many acts of bravery does it take to call someone brave? Soldiers are not awarded multiple orders of merit. All soldiers are brave, but do some have exceptional courage sustained by a character trait at a given time and in a given situation, is this a stand-alone question? We cannot conclude from a single heroic act occurring in a unique situation that the background is the virtue of courage.

Seligman and his colleagues mention creativity as a counter-argument: Michalenelo and Leonardo are more creative than brave, the clarification of which is the subject of further research.

In this context, Finfgeld says, "if courage is a character trait, then we must look for evidence of its worldly manifestations." (Finfgeld, 1999.) An interesting empirical question is when someone continuously acts bravely and once performs an outstanding act of bravery.

Sixth, the characteristic of heroism (Distinctiveness) consists in the fact that it can be clearly separated from other other powers, however, it may be in context with honesty and perseverance.

Seventh, heroism has role models and ideals (Paragons) that encourage action, to which we can associate names, groups and the valiant deeds they perform. The world wars provided many heroic deeds, but even today we can meet people who demonstrate this strength with convincing force.

Eighth is the Prodigies of Heroism. Teenagers who use their strengths early and with amazing efficiency to save others.

Ninth is the lack of heroism (Selective Absence), that is, those who lack courage are cowards. Social psychologists treat cowardice in an urgent situation as pluralist ignorance. They suggest relying on the inaction of others to encode a situation that does not require intervention, - which perspective only works in the case of ambiguous things - when we know we have to act, but we are afraid, so then we are not unconscious, just cowards.

Tenth is institutions and customs (Institutions and Rituals). The "training ground" provided by institutions, customs, and rituals, where children and adolescents can develop themselves in a safe environment, in a situation faithfully imitating real conditions, and learn what to do when fear appears. The role models of culture can be real - soldiers, firefighters act automatically in an emergency despite fear, they can be anecdotal - the actions of the hero Titusz Dugovics or they can be clearly fairy-tale (the prince saves the princess).

#### Consensus definition

The meaning of heroism (courage) depends on the situation, which can appear differently in the field of social attitude, culture and science (Peterson & Seligman, 2004).

According to Shelp (1984), "a person may act voluntarily in dangerous and frightening situations, where he evaluates the current risks according to his strength, in order to protect himself or others."

#### Elements of definition:

- A heroic, valiant act must be voluntary, a forced act cannot qualify.
- Necessary "inherents" of heroism (courage): understanding a risk, accepting the consequences of an action; tendency to take risks and realistically evaluate them.
- Presence of potential damage, loss, risk, danger.
- There is no courage without a sense of vulnerability, risk and danger.
- Courage is valuable because it allows people to suppress their immediate responses to danger and evaluate the range of appropriate actions.
- Heroism comes with the rule of fear.

Studying the actions of István Lazányi among the heroes of the First World War, it can be stated that based on the statements made above, we can speak of a truly heroic act. He did the task voluntarily: "despite the repeated warnings of the officers", understanding the risk: "in the liveliest fire of the Russians", with his fear under control: "with calmness and determination", he "bravely single-handedly saved" his comrades from death.

István Lazányi

?

On March 26, 1915, platoon leader István Lazányi acted bravely and with exemplary bravery, and during the fighting at Olika in Volhynia, he distinguished himself by the fact that, despite the repeated warnings of the officers in the fighting line, he kept the battery's telecommunication wires in place with exemplary calmness under the fiercest fire of the Russians. and fixed it with determination. After the defense line was evacuated, he valiantly and courageously single-handedly saved the wiring material and the equipment of the stations at the last moment. He was awarded the small silver gallantry medal for his excellent gallant conduct, which enabled the battery to conduct fire the next day through the salvaged wire material." (Calendar of Heroes, 2015)

Theoretical traditions

Heroism occupies a prominent place in mythology, folk traditions, Western philosophy, early Greek philosophy, and Eastern religious philosophy. (Walton, 1986; Yearley, 1990)

Plato, who first addressed the issue of courage, argued that there is a difference between heroism (bravery) and rashness (recklessness).

In Socrates' statement, heroism is a unique quality, while rashness, boldness and recklessness - which lack foresight - represent a common quality (Hamilton&Cairns, 1961).

In Paltó's and Socrates' view, foresight is an essential distinguishing element of courage compared to rashness.

In the statement of Thomas Aquinas, foresight (prudence) appears as the main virtue, while courage is subordinate in comparison (Haitch, 1995).

Recent psychoanalysts view heroism (courage) as a rapid response to psychological danger (Prince, 1984).

Putman (1997) disputed the concept of psychological courage, in his opinion it is not properly "recognized" in ethics, and proved the connection of psychological courage with general fear, which is essential for basic well-being through our own habits.

C. Goldberg and Simon (1982): endorsed that people use courage to face the anxieties present in our daily lives. According to their claim, heroic (brave) actions are self-affirming, in this view, courage is reflected in actions (postpone or deny), the advantage of which is that the self is still able to establish its relationship with humanity. Studies of people who have engaged in extreme acts of bravery, such as Holocaust survivors, have found a link between bravery and a sense of belonging to humanity (Shepela et al, 1999).

Based on the above, courage may be important in psychology as a cure, since several mental illnesses are controversial due to their difficulty in treatment.

According to psychoanalytic theories, courage is a quality that allows people to overcome their own fears. In this sense, courage would be essential during psychotherapy or any attempt at psychological change (C. Goldberg&Simon, 1982; Howard, 1976; Prince, 1984).

In a socio-psychological approach, most of the research related to heroism and courage has observed war and its consequences. Perhaps the most remarkable realization during the years of war came from the collective work (body of work) that enabled people to endure and live their daily lives, carry the burdens (Rachmann, 1990; Suedfeld, 1997). .).

Persistence, ingenuity, mutual aid, cohesion and social support are common "inherents" of facing a challenge within a community.

Social psychologists and psychoanalysts have come to the conclusion that courage is present as a part of people's everyday life, in the face of challenges.

The concept of courage has gradually changed over the centuries: wars, social and economic crises, but the role of conscience is emphasized.

The dichotomous aspect of the concept of courage can be expressed in opposites, such as physical courage versus moral courage, attack versus defense, aggression versus endurance (peace tolerance). (W. I. Miller (2000) observed that those who lean to the left at the verus are louder than those who lean to the right.)

Thomas Aquinas emphasized physical courage, citing martyrs as examples of brave individuals as opposed to warriors. Furthermore, he saw endurance as a form of moral courage, which entails the individual's suffering over a long period of time. Any circumstance that tests courage - such as fear - must be overcome.

### "Types" of Courage

Physical courage is characterized by the fear of physical injury or the fear of death (a battlefield that abounds in variations of courage, that is, a storehouse of patterns of the alarmed, frightened individual).

The fear of shame, disgrace and similar humiliation, which encourages physical courage (action), is called courage born of fear.

Moral courage often refers to fearing the opinions of others.

Moral courage compels or allows an individual to act on his convictions despite social fear or economic consequences.



Fear, which can cause moral courage, can appear in several forms, which are the following: fear of losing a job, poverty, losing friends, criticism, enemies. Their consequences can be long-term or short-term.

The difference between moral and physical courage is obvious. Psychological courage plays a role in about one-third of the difference between them.

According to Putmann (1997), an individual in need of psychological courage fears the loss of physical stability. Millions of people face their own fears and anxieties every day - using their own spiritual courage - which actions are invisible to others.

Putmann says there are few people who would shake hands with a manic-obsessed individual despite their fear of touch. He mentions the example of Thomas Eagleton - the consequence of this type of fear connects mental courage with physical (physical) courage. Similarly, spiritual courage can lead to results in the face of mental or physical pain, again linking spiritual courage and moral courage (and even physical courage). However, the main differences lie in their similarities. Although an individual may fear the loss of moral integrity, when moral courage is "failed," spiritual courage faces the fear of "losing the soul," the self is destabilized. (Putmann, 1997). He notes that spiritual courage is sometimes identified as a type of moral courage, but there may be reason to distinguish between them.

### Measurements

In contrast to the extensive literature, little empirical measurement has been carried out in this area - courage (heroism, boldness) is an under-researched area, one of the reasons for which may be that it is difficult to create laboratory conditions in which suitable conditions for measuring courage would be available (Deutsch, 1961).

Most existing research is case studies, interviews, answers based on theoretical scenarios. Unlike the other virtues, there are no psychological scales by which individual differences can be measured.

### Connections and consequences

There is a lack of reliable and valid measurements, and few well-documented translations. However, the existing research(s) revealed the following - few, possible - connections and connections (correlates):

- prosocial orientation (Shepela et al., 1999)
- internal control (Shepela et al., 1999)
- self-assertion, self-confidence (Finfgeld, 1999)
- assessment of independence and freedom (Larsen & Giles, 1976)
- evaluation of useful work performed for society (Larsen & Giles, 1976)
- the ability to delay gratification (Goldberg & Simon, 1982)
- experiencing several types of emotional states at the same time (Szagun & Schauble, 1997)
- age (Rothschild & Miethe, 1999; Szagun & Schauble, 1997)
- risk (Shelp, 1984; Spreitzer, McCall, & Mahoney, 1997)
- plot orientation (McCall, 1994)
- contextual knowledge (Rachman, 1990; Spreitzer et al., 1997)
- low aurorasal color under stress (Cox, Hallam, O'Connor, & Rachman, 1983; O'Connor, Hallam, & Rachman, 1985)
- identification with others or human community (Goldberg & Simon, 1982; Shepela et al., 1999)

Some additional relationships (correlations) can be observed between heroism (courage) and patience (tolerance) in situations of ambiguity or uncertainty; ability to assess risk across situations; or a tendency towards reflection and participation in socially important goals. If we were to examine the relationships (correlations) of courage in a special situation - the workplace - we would find

additional generalizable correlates. E.g.: whistle-blowing, the most frequently studied paradigm in the case of workplace courage.

It should be noted that a national study found few demographic or perceptual differences between people who spoke loudly and those who remained silent. (Rothschild & Miethe, 1999). According to their findings, neither gender, nor religious affiliation, nor financial status, nor the supervisor's position influenced the probability of blowing the whistle. Age had a small effect, manifested by older people, who presumably rated whistling as bad.

According to the studies of Rothschild and Miethe (1999), heroism (courage) can be as dangerous as it can be valuable. The consequences of the hero's actions may include depression, anxiety, helplessness, suppression of feelings, mistrust of others, deteriorating physical health, financial decline, and family problems.

On the other hand, in a medical context, Shelp (1984) suggested that a true (real) doctor-patient relationship involves courage, as the doctor and patient must discuss illness, pain, and the path to recovery together. Furthermore, in a family context, according to Fowers (1998), it takes courage to surrender to vulnerability within marriage, given that self-disclosure and heroism go hand in hand, in the case of being potentially wounded and rejected, it is courage that can help maintain close relationships (Flowers, 1998; Prince 1984).

Way (1995, 1998) linked the daily practice of courage in the context of developing authenticity with others and with young people's ability to form appropriate relationships.

Courageous actions also have consequences in social communities. In small groups or social units of the people who witness the brave actions of other people, they may experience a feeling of "elevation" and encourage them to perform brave actions (Haidt, 2000). For example, Rachmann (1990) studied groups of particularly brave soldiers, such as the 442 Regiment Combat Team, which is a cohesive unit whose members were trained to act through the brave actions of others.

## News

Arguably, we know much more about how people think about heroism (courage) than we do about how they act bravely. While very young children perceive (perceive) physical (heroic) actions rather than the psychological courage of others (Evans & White, 1981; Szagun, 1992; Szagun & Schauble, 1997), adolescents have a more developed sense of psychological complexity in how they

engage into courage and therefore understand social risks (Evans & White, 1981; Szagun, 1992). Adults are better able to understand fear as a practical part of courage, partly because they are able to conceptualize and discuss through experiences the competition of multiple types of emotions (Szagun & Schauble, 1997).

Literature suggests a developmental tendency to appreciate - What does it mean to be brave (hero)? - which provides a little "clue" for judging how an individual acts with courage - as a hero - changes over the lifespan.

According to Cavanagh and Moberg (1999), younger people are more prone to thrill-seeking behavior than older people. People who have a tendency toward thrill-seeking behavior perform better in the face of fear than people who don't have this tendency. However, they note, thrill-seeking and courage cannot be clearly separated. If someone is averse to high-risk actions, he acts even more courageously than a thrill seeker who may run away from taking risks, which should be examined.

Are younger people or older people more likely to engage in (heroic) acts that require physical courage?

Is it more typical of older people or younger people to perform morally heroic (brave) acts?

Does psychological courage increase or decrease with age?

According to Finfgeld (1999), the ability to be brave shapes young people through important life events. Heath (1999) examined *Everyday Courage* - Way's portrayal of urban teenagers, and found that the consequence of social psychologists' overgeneralization is simply that the negative character of urban teenagers stems from the impoverished neighborhood.

But Way says the focus is on bravery, which is especially important because teenage years are associated with risk.

It is unpredictable whether courage and risk are everyday requirements.

The fact is that it is necessary to build relationships, develop moral values, exchange information between peers, and also take responsibility for one's own life or that of others.

Enabling and inhibiting factors

Existing research suggests several factors that may enable an individual to act courageously (Chaleff, 1996; M. Gross, 1994; A. Rogers, 1993; Shelp, 1984; Shepela et al., 1999; Way, 1998; Wilkes, 1981), which are the following:

- encouraging courage with text messages
- textual support of prosocial values based on telling truth
- strong leadership
- trust
- clear expectations for behavior
- community relations

According to Shelp et al. (1984), it is necessary to develop prosocial orientation in order to achieve courage. However, secure attachment and prosocial role models can also promote courageous acts.

Others suggest that those who have negative consequences for their brave actions should be punished. But this may mean, especially for poorer people, that they perform fewer acts of courage, as they may believe that they have less right to act bravely, as it involves confronting authority.

For group cohesion, which is mainly characteristic of armies, the group interaction that encourages physical courage can be observed. In the Korean War, they studied the personality characteristics of soldiers, as a result of which socially mature, more intelligent and emotionally stable individuals were able to perform brave actions.

Based on the summation of several complex studies, it can be concluded that personal characteristics can have an influence on an individual's behavior when it is necessary or possible for brave behavior to arise.

#### Aspects between genders, nations and cultures

Few empirical studies have examined the issue of gender, where the emphasis was on men due to warfare (W.I. Miller, 2000; cf. Lieblich, 1997). Looking back at historical events and wars,

there is no known lady who would have been awarded a medal of merit for her bravery and heroism, even though thanks to those events, they performed many heroic deeds to protect their families and children. It is an interesting question that can be the subject of further research.

As mentioned earlier, models of courage and heroism have always been celebrated in historical eras and cultures alike. It also appears in philosophy and religions.

It is an interesting finding that II. in World War I, heroism (courage) was associated with honor and service to the motherland (and death), while surrender meant shame.

### Interventions

Psychoanalysts are still working to try to help people develop their courage by:

- positive self-definition (J.I. Gilbert, 1989; Kyle, 1991; Riley, 1995)
- higher motivation (Capps, 1984; Van Hecke & Tracy, 1987)
- developing the ability to learn from mistakes (Hitz & Driscoll, 1989; Huhnke, 1984)
- persistence (Rathvon, 1990)

### What do we know and what do we not know?

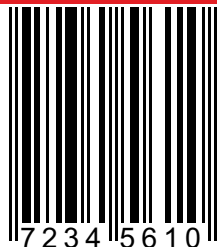
Little empirical research has focused on this basic strength, especially regarding stable and general individual differences. Many of the findings—mentioned by Peterson and Seligman—are suggestive in the sense that they stemmed from a single study and were not part of a strict trend of response and debate. However, before psychology attempts to establish interventions to cultivate heroism, the field requires much more and deeper research. It is also a fact that the cross-cultural and cross-national study of heroism is very rare and at the same time expected. Gender differences in the consequences and experiences of heroic actions are similarly unknown. The social aspects of heroism present an interesting area for further research. While the social importance of heroism is generally

accepted, little research examines the specific social aspects of the heroic act. Overall, it can be concluded that research on heroism remains one of the open frontiers of psychology.

## References

1. Ch. Peterson, M. Seligman: Character Strengths and Virtues, Oxford University Press, 2004
2. Arisztotelész Etikája (letöltés: 2015. 03. 01.):  
[http://hu.wikipedia.org/wiki/Arisztotel%C3%A9sz\\_etik%C3%A1ja#Az\\_arisztotel.C3.A9sz\\_etika\\_alapk.C3.A9rd.C3.A9sei](http://hu.wikipedia.org/wiki/Arisztotel%C3%A9sz_etik%C3%A1ja#Az_arisztotel.C3.A9sz_etika_alapk.C3.A9rd.C3.A9sei)
3. Kiss B: Boldogság gyere haza (2010) (letöltve: 2015. 03. 27.) :  
[http://tablet.magyararancs.hu/lelek/pozitiv\\_pszichologia\\_-\\_boldogsag\\_gyere\\_haza-73267?pageId=104](http://tablet.magyararancs.hu/lelek/pozitiv_pszichologia_-_boldogsag_gyere_haza-73267?pageId=104)
4. M. Seligman: Az erősségek és erények újjáélesztése (letöltve: 2015. 03. 31.):  
[http://www.tankonyvtar.hu/hu/tartalom/tamop425/2011\\_0001\\_520\\_bevetes\\_a\\_pszichologiaba/ch07.html](http://www.tankonyvtar.hu/hu/tartalom/tamop425/2011_0001_520_bevetes_a_pszichologiaba/ch07.html)
5. Hősök Naptára (letöltés: 2015. 03. 11.: <http://www.hungarianarmedforces.com/naptar/>
6. Oláh A.: Mi a pozitívuma a pozitív pszichológiának (letöltés: 2015. 03. 11.):  
[http://www.btk.pte.hu/files/tiny\\_mce/BTK3020/bolcs\\_akad/pozitiv%20pszichologia%20dokumentumok.pdf](http://www.btk.pte.hu/files/tiny_mce/BTK3020/bolcs_akad/pozitiv%20pszichologia%20dokumentumok.pdf)
7. VIA research, kérdőív (letöltés: 2015. 03. 11.):  
<http://www.viacharacter.org/www/Research/Research-Findings>

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