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Development and Promotion as Attractive Benefits: Relationships between Competences and Normative Organisational Commitment

Abstract:

The article shows hidden, non-obvious mechanisms explaining the role of development and promotion in managing the competences of employees in public institutions which can shape normative organisational commitment (NOC).

First, opinions of experts, whose task was to determine the desired level of professional competence of firefighters, were collected. Then, an original self-assessment questionnaire was developed to examine the level of social and managerial competences, as well as professional firefighters' perception of development and promotion opportunities. Additionally, the Meyer and Allen scale was used to assess organisational commitment. Descriptive statistics were used for basic calculations and the main research used the difference test between means, the classic approach of the Baron and Kenny mediation analysis.

The results obtained indicate the important role of a mediator, that is, opportunities for development and promotion which explain the relationship between the social competences of firefighters in executive positions/managerial competences of firefighters in command positions and NOC. This means that higher competences contribute to an increase in NOC, as firefighters can see opportunities for professional development and promotion. Therefore, clear and fair rules in this matter are a prerequisite for building employee–organisation relations.

Keywords: organisational commitment, professional competences, promotion and development, firefighters

JEL: J24, M12

1. Introduction

Issues related to social and managerial competences (Boyatzis, 1982; Martin, Staines, 1994; Horton, 2000), organisational commitment (Allen, Meyer, 1996; Cohen, 2013; Kim et al., 2017) and professional development have been discussed in the literature since the second half of the 20th century. Researchers have described their causes and consequences, but there are few studies linking these issues and analysing the relationships between them. In addition, in the context of public management, there is a clear research gap concerning resource management based on the competences of employees of public institutions, such as the fire service. This is because the concepts present in the management of business organisations are not easily implemented in public management (Horton, 2000), which often results in the untapped potential of employees. The transformation from an HR administration approach to a management approach is difficult due to established operating methods, but these do not benefit the institution. There is an apparent gap in both research and management practice. These institutions are reluctant to host researchers because of the nature of their operation. This contributes to the imperfect transfer of knowledge between science and practice. Few scientific studies on the management of uniformed public services have been published. Therefore, such research is a valuable source of knowledge for both science and management practice.

By analysing the literature, the authors wanted to discover how relationships between social and managerial competences and normative organisational commitment (NOC) are influenced by a hidden mechanism related to the development and promotion opportunities offered by a public institution. The development and promotion path in the competence-based management approach is an important element of employee motivation (Błocisz, Kowalczyk, 2018). However, in the case of a professional fire brigade, the personnel management tool is mainly used (Frankowska, Murias, 2014; Hoffman, 2015), and professional development and promotion are subject to internal and legal regulations (Ustawa z dnia 24 sierpnia 1991 r. o Państwowej Straży Pożarnej; Cedro, 2019) as well as a rigid training and education procedure (“Information Bulletin

of the State Fire Service for the year 2018”, 2019). The statist approach to people management practised in many public institutions (Kowalczyk, 2014) is often the reason for decreased motivation and a lack of commitment to work and to a given organisation. Competence-based management engages employees and gives a sense of meaning and agency. Some studies show that the psychological needs fulfilled by development and promotion opportunities are not fully considered in creating a career path and are not consciously used by decision makers in the process of building organisational commitment in institutions like the fire brigade (Frankowska, Murias, 2014; Hoffman, 2015; Cedro, 2019). Does the organisation care enough to develop competences that allow cooperation and commanding others and that are appropriate for the ties of a firefighter to the organisation? Does the recruitment of the fire service consider the optimal levels of social and managerial competences that would allow for managing their development? Do opportunities for development and promotion significantly mediate in the relationship between social and managerial competences and NOC?

2. Theoretical background

In the literature, there are many approaches to classifying competences. One of the most popular divides them into soft (behavioural, interpersonal) and hard (functional, technical) competences. The first group consists of universal competences for most positions, concerning the predisposition to work with people; they also include managerial or leadership competences. The second category, on the other hand, is characteristic of particular groups of positions. Acquiring such competences at a high level requires the acquisition of specific specialist knowledge in each area and is related to the outstanding position of an individual in a specific respect.

On the other hand, the most general division, taking account of the object whose competences are referred to, makes it possible to distinguish the following competences (Oleksyn, 2010):

- 1) professional (general) – characteristic of and common to individual professions (or functions performed); awareness of their occurrence has changed over the years, for example, the competences of a doctor, a teacher, and a firefighter have developed;
- 2) positional (detailed) – closely related to a specific job or organisational role; this means that they complement professional competences, for example, those of a firefighter employed in a specific fire department and in a specific job position;
- 3) corporate – common to all employees of an organisation (profession); they build a coherent, uniform culture within an institution.

When analysing the classification of competences, it must be noted that it is almost impossible to treat individual competences in a completely separate and independent way. They are interdependent. An example of such a division of competences, along with a short description of the competences selected and the context of the empirical research conducted by the authors, is included in Table 1.

Since the 1960s, many scientists and practitioners of management have studied issues of organisational commitment (OC); these issues grew out of, among others, the social exchange theory, which involves a series of interactions that generate obligations and help to explain the mechanism of organisational commitment. Traditionally, the social exchange theory is based on a subjective cost-benefit analysis and modelling behaviours accepted by the other theories (Lily, Rabenu, 2018). Another approach is the Attitudinal Approach, which is based on believing in the goals and values of the organisation, wanting to remain its member, and being ready to make efforts on its behalf. The third one is the multidimensional approach proposed in 1986 by Meyer and Allen (Cohen, 2013), who on the basis of the literature and their own empirical research developed a three-component concept of OC and a tool for measuring it. Studies in the field of human resource development (HRD) show that OC is related to various other factors, as a dependent and independent variable (Giauque, Resenterra, Siggen, 2010; Graham, Nafukho, 2010; Kim et al., 2017). Furthermore, for understanding the complicated issues in human resources, researchers have frequently focused on selected dimensions of OC, because not all the relationships between its dimensions are prominent or even visible.

The authors' attention will be focused on normative organisational commitment (NOC). NOC can be defined as a mindset of obligations to help humans and organisations achieve their goals, and it is developed from the internalised social pressure of employees to behave according to organisational interests and their perception of moral obligations in the team and the relationship between the employee and the organisation (Liu, Raymond, Hang-yue, 2020). In NOC, patterns of behaviour learnt in the family, as well as cultural patterns related to loyalty and commitment, play an important role. Organisational culture also influences the formation of normative commitment (Allen, Meyer, 1990). In an organisation such as the public fire service, where the distance of power is big, the obligations and social precession are among the most powerful tools used in creating attitudes toward employers, the team, and colleagues. It should be emphasised that, in the case of NOC, employees can feel caught in a seductive mousetrap of psychological rules of reciprocity, social proof, and sympathy described by Cialdini (2001). The rules of reciprocity show the pressure exerted on humans that binds them with society, organisations, and teams, sometimes against their own interests. The rule of social proof gives employees, among others, clues as to what behaviour is most appreciated by society and coworkers and will bring them acceptance. In teams in which the success of dangerous work is based on the quality of interpersonal relations, the rule of sympathy is a helpful behaviour for team building and security.

Rare studies conducted in the public sector showed a relationship between distributive and procedural justice and OC; additionally, this relationship was mediated by public service value, which means following ethical principles in the management of government employees (Jang, Lee, Kwon, 2021).

In the literature, relatively rare evidence of a relationship between OC and competences can be found (Renyut et al., 2017). However, a fundamental finding of research on Nevada firefighters, which concerned preparation for leadership functions and thus promotion, turned out

to be developmental experiences promoting the use and improvement of competences, especially those related to interpersonal relations and coping with difficult, unpredictable situations (Jones, Feller, 2009).

Based on an in-depth analysis of the issue of competences and NOC, in their research described below, the authors focused on managerial (following Filipowicz, 2004) and social (following Matczak, 2001) competences. This focus was decided by the fact that such involvement, based on social values, norms, and expectations, is particularly important for people with high competences enabling them to establish relationships and influence others. They shape the conditions for the development and promotion of people in operational and managerial positions. Therefore, competences should be the leading category in which the area of human resource management is subordinated. Concentrating an organisation's efforts on building a portfolio of competences must go hand in hand with:

- 1) an appropriate policy for the recruitment and selection of candidates for employment (Borkowska, 2006, p. 38) in operational and managerial positions;
- 2) a policy of developing the skills of human resources, primarily in various forms of extensive training;
- 3) an appropriate staffing policy in the internal market (employee career management);
- 4) an appropriate policy for evaluating the effects of work and behaviour;
- 5) a policy aimed at retaining the most valuable and particularly talented people in an enterprise.

It should also be noted that effective management techniques are not the privilege of our time. Leaders in all historical epochs knew all about such techniques and were able to apply them effectively. 'For thousands of years, the greats of history have known the secrets of leading people and, consciously and consistently pursuing their goals, have used the best methods' (Bartkowiak, 2003, p. 14). They included such modern-sounding strategies as:

- 1) creating an atmosphere of solidarity and good cooperation through the principle of equality (Themistocles);
- 2) taking a firm stance before every major task (Hannibal);
- 3) demonstrating an exemplary attitude (Alexander the Great);
- 4) mobilising people to push their limits (Pope Julius II);
- 5) focussing on the strengths of employees (Maria Teresa);
- 6) motivating by referring to culture: values, symbols, gestures (Frederick the Great);
- 7) mobilising for exceptional achievements through the possibility of advising and codeciding, by giving employees responsibility for their actions and ensuring their self-esteem (Admiral Nelson);
- 8) motivating by experience and easy-to-implement visions (Gandhi) (Drucker, 1994).

The conduct of great leaders can be an inspiring example for contemporary and future managers. Managing a modern enterprise requires, above all, efficiency.

Taking this into account, social competences were selected as key for operational positions and managerial competences for command positions.

3. Empirical studies

3.1. Context and research area

Empirical studies were conducted among 246 professional firefighters in Poland who were employed by a public institution serving to ensure the internal security of citizens. The authors noticed a research gap because there are few independent scientific studies on the relationships between NOC and the competence-based management of this public service. So far, employees have been administered rather than organised using the potential of competency-based management (Hoffman, 2015). The practical aim of the research was to show how NOC could be created by managing the development and careers of highly competent employees and to identify areas that needed improvement.

In the public fire service, NOC is supported by working for an organisation with a social mission and enjoying a high level of social trust, by the firefighters' oath, and by fire service ceremonials. It is also very important to strengthen professional conduct with religious norms and convey the ethos of service in families. Furthermore, based on the psychological rule of reciprocity (Cialdini, 2001) or social exchange (Lily, Rabenu, 2018; Dongkyu, Vandenberghe, 2021), the investment of the organisation in its employees by funding education and training, company housing or psychological support also influences the level of NOC (Cedro, 2019).

A fundamental finding of research on Nevada firefighters that concerned preparation for leadership functions, and thus promotion, turned out to be that developmental experiences promoting the use and improvement of competences, especially those related to interpersonal relations and coping with difficult and unpredictable situations, were helpful (Jones, Feller, 2009). According to the Filipowicz concept, the authors assumed that the connections between social and managers' competences and NOC would be especially significant.

Based on the assessment of competency requirements made by a group of fire brigade experts, as well as documents and organisational reports, their desired levels and scopes were determined (Cedro, 2019), as shown in Table 1.

Table 1. Breakdown by level and scope of required competences

Type of competence	Definition	Competences in the context of the professional work of firefighters
Threshold (critical)	A set of minimum requirements that an employee must meet to perform work effectively (Moczydłowska, 2008).	<p>Performing job-related tasks</p> <ul style="list-style-type: none"> – Rescuing endangered people, animals and property based on rescue principles. – Providing qualified first aid during rescue operations. – Identifying hazards at the site of operations based on their classification. – Organising a safe place for rescue operations. <p>Applicable behaviour</p> <p>Operating and taking care of fire-fighting and rescue equipment and personal armaments and keeping them in proper technical condition (Powiatowy Urząd Pracy w Krośnie, b.r.).</p> <p>Wearing uniform, personal protective equipment, personal equipment, and signs during service (“Journal of Laws of 2021”, n.d.).</p> <p>Legal and psychological requirements</p> <p>Having full public rights and the level of education indicated by the legislator (“Journal of Laws of 2021”, n.d.).</p> <p>Being a citizen of the Republic of Poland.</p> <p>Not having been convicted of a crime.</p> <p>Being resistant to stress (Cedro, 2019).</p>
High	Typically, indicative of the level of performance or efficiency expected of an experienced employee in each position.	<ul style="list-style-type: none"> – High physical and sensorimotor fitness. – The ability to analyse the situation and take risks. – A high level of collaboration and co-operation in a group. – Interpersonal skills, effective persuasion, and negotiation skills. – The ability to cope with stress and emotional resilience. <p>Readiness for continuous learning (Cedro, 2019).</p>

Type of competence	Definition	Competences in the context of the professional work of firefighters
Key	The job positions that are most important in an organisation. They are usually indicative of the performance or efficiency expected of an experienced employee in each position; they have the greatest impact on how effectively and efficiently tasks assigned to a specific position are performed (Oleksyn, 2010).	<ul style="list-style-type: none"> – Motor skills. – Teamwork. – Planning and organising work. – Oral communication. – Reading comprehension and writing skills. – Exerting influence/leadership. – Troubleshooting. – Computer and Internet skills. Mathematical skills (Powiatowy Urząd Pracy w Krośnie, b.r.).
Optimal	Leading to the achievement of specific desirable, optimal results in specific conditions (Woodruffe, 2003); believes that at the moment of starting work, an employee is required to have basic competences to cope with tasks assigned; all competences beyond this level are highly rated (Armstrong, 2003).	<ul style="list-style-type: none"> – The use of methods, techniques, and procedures related to firefighting and rescue operations. – The professional title of firefighting technician. – A diploma confirming professional qualifications MS.20. – The title of lifeguard. – Documented fire training for a volunteer in a fire brigade.
Incompetences	In general, a set of undesirable behaviours or those that reduce efficiency, and thus prevent the effective performance of tasks or duties assigned to a specific position or role (Whid-dett, Hollyforde, 2003).	<ul style="list-style-type: none"> – Lack of cooperation. – The inability to work in a group. – Disobeying the orders of superiors. – Lack of authorisation to provide qualified first aid. Membership of a political party (“Journal of Laws of 2021,” n.d.).

Type of competence		Definition	Competences in the context of the professional work of firefighters
Basic	Cognitive	Associated with the ability to learn, understand, and remember; openness to and curiosity about the world, and a fresh outlook (Oleksyn, 2010).	Thinking based on creativity, originality, and ease of decision-making (Cedro, 2019). Experts expect managers to have a significantly higher level of these competences than people in executive positions.
	Social	An indicator of how effectively an individual functions in real life situations (Matczak, 2001); affects how a person builds relationships with other people and the quality of these relationships. The level of these competences determines the effectiveness of cooperation, communication, and influencing others (<i>Model kompetencji</i> , 2021).	Good relations, building bonds, exerting influence, and effective communication (Cedro, 2019) are the necessary competences in teamwork, and their specificity is crucial for NOC, referring to the exchange theory, among others.
	Personal	Related to an individual's way of performing tasks. The level of these competences affects the overall quality of the tasks performed, and determines the speed of and personal involvement in the undertaken activities (<i>Model kompetencji</i> , 2021).	Taking actions efficiently and quickly, not generating unnecessary costs, making professional decisions efficiently and quickly (Cedro, 2019).

Type of competence		Definition	Competences in the context of the professional work of firefighters
Execu- tive	Business	Including entrepreneurial abilities that allow a company to perform profitable activities and gain or maintain a sustainable competitive advantage; Entrepreneurs generally have high self-esteem, are convinced that their actions are successful, and think about financial gains and losses (Roszyk-Kowalska, 2014).	Personal entrepreneurship and knowledge of the business world (Cedro, 2019). They do not seem to be related to NOC. Experts perceive them as the least important.
	Corpo- rate	Common to employees of any organisation. All people working for the company should have them, regardless of the position they hold (Sidor-Rządkowska, 2011).	Using professional knowledge, acting in accordance with professional ethics, being open to changes (Cedro, 2019).
	Manage- rial	Related to the management of employees and organisations. Concerning soft areas of management, work organisation, and strategic aspects of management. The level of these competences determines the effectiveness of management (<i>Model kompetencji</i> , 2021). Among managerial competences that he associates with employee management, G. Filipowicz (2004) lists: building an efficient organisation and teams, coaching, delegating tasks, managing, managerial control, strategic thinking, the evaluation and development of subordinates, managerial courage, organising, planning, leadership, conflict resolution, and management: information, novelty, processes, projects, objectives, and change.	Leading and building a team, organising work, making unpopular decisions, effective communication (Cedro, 2019). Experts expect managers to have a significantly higher level of these competences than people in executive positions. In their opinion, it should be very low in the latter.

Source: own work.

3.2. Problem statement, aims and hypothesis

At the first stage of the investigation, experts determined the desired level of social and managerial competences of firefighters, comparing them with the results of the firefighters' self-assessment. The aim of this analysis was to determine to what extent the examined institution adapts the recruitment requirements to the possibility of using the competences of the candidates for this job.

At this stage, **Hypothesis 1** was formulated, assuming that there is a mismatch in the level of competences among firefighters.

The next scientific problem is related to the search for the contents of the 'black box'; non-obvious mechanisms explaining the issue which are not noticed at first glance. Such deep searches are postulated in the literature.

The main aim of this article is to validate the mediation role of the perception of employees about career development and promotion opportunities that link their chosen professional competencies with NOC.

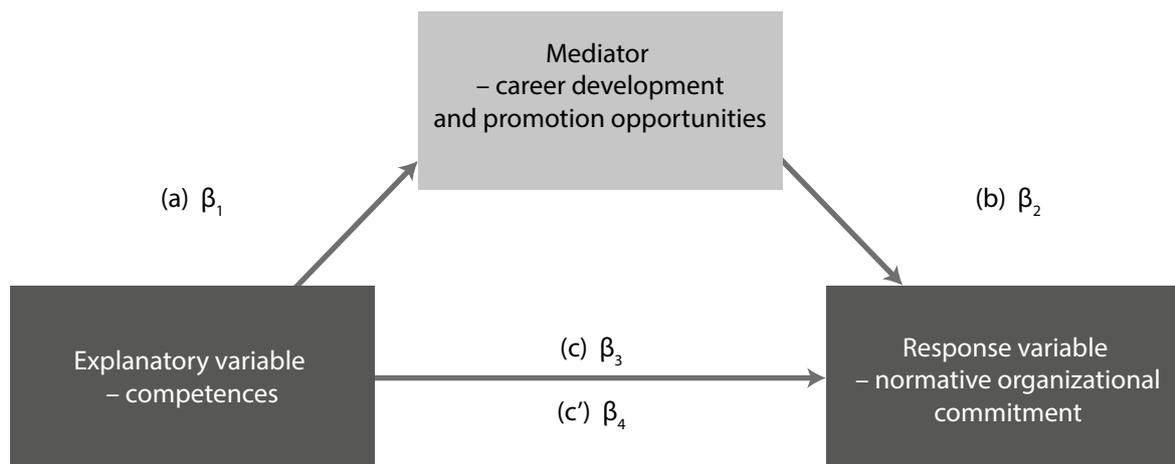


Figure 1. Schema of mediation analyses

Source: own research.

Figure 1 shows a diagram of the analyses performed. When the explanatory variables, i.e., social or managerial competences, increase by 1 SD, the value of the mediator, which represents development and career opportunities, changes by a value equal to the β_1 coefficient of its standard deviation assigned to path (a). On the other hand, when the mediator value increases by 1 SD, the response variable – NOC – changes by the value of the β_2 coefficient of the standard deviation assigned to path (b). The statistical significance of these relationships is indicated by the p -values. The value of the β_3 coefficient assigned to path (c), connecting social and managerial competences with the NOC dimension, reflects the strength of these relationships before the mediator is included; while the value of the β_4 coefficient assigned to path (c') reflects this strength after the mediator is included in the analysis. Complete mediation occurs when the initially significant relationship expressed by the value of β_3 becomes insignificant after this procedure, which is expressed by β_4 ; while partial mediation occurs when the value of β_4 is still statistically significant, but reduced in relation to β_3 .

These findings contributed to the formulation of the following hypotheses which were tested in the empirical research presented below:

Hypothesis 2 assumes that the perception of career development and promotion opportunities acts as an intermediate variable between managerial competences and normative commitment among the management of the public fire service.

Hypothesis 3 assumes that the perception of career development and promotion opportunities in the public fire service acts as an intermediate variable between social competences and normative commitment in the group of firefighters in operational positions.

3.3. Materials and methods

Measures and procedures

In the first step, the authors conducted qualitative studies and estimated the desired level of social and managerial competences in operational and managerial positions (Figure 2), referring to the opinions of experts ($N = 11$). The experts were chief officers with senior ranks in the public fire service who agreed to participate anonymously in the study. The experts did not communicate with one another; their assessments were independent. Kendall's coefficient of concordance among competent judges for the assessment of the competences of employees holding operational and managerial positions ranked this agreement as 'good.' There were statistically significant differences between the mean values of the experts' requirements for employees in managerial and operational positions. On this basis, the respondents were divided into two groups, which fulfilled the elaborated survey.

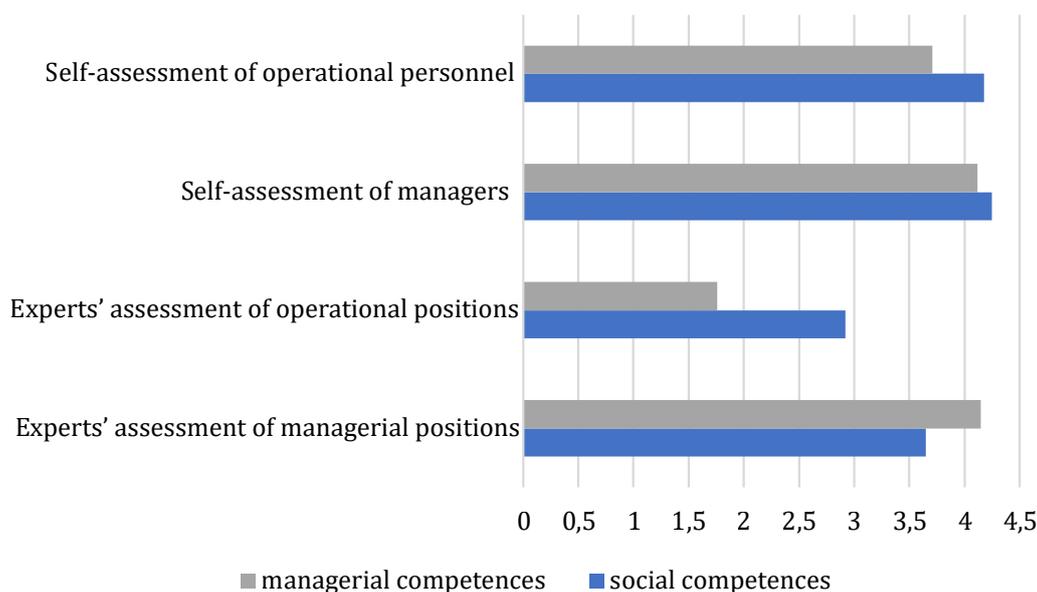


Figure 2. Experts' and self-assessment of professional competences

Source: own research.

The research used the PAPI (Paper & Pen Personal Interview) method and the questionnaire was distributed throughout Poland. The selection of experts and respondents was purposeful. Experts were deliberately selected due to their professional position, knowledge, experience, and diversity of employment units in the State Fire Service. Owing to the lack of available tools measuring the parameters covered by the study and adapted to the needs of the public

fire service, it was necessary to develop a new tool, as it is essential to match the measurement tools to specific work requirements (Shavelson, 2010; Corstjens, Lievens, Krumm, 2017). This new tool consisted of items measuring the social and managerial competences included in the Filipowicz model and those diagnosing the perception of opportunities for developing professional competences and promotion offered by the employer. The respondents gave answers based on a five-point Likert scale, from 1 – ‘I strongly disagree’ to 5 – ‘I strongly agree.’

The results of the evaluation of the reliability and validity of the two scales of the tool are presented in Table 2. Very good values of the reliability of the Alfa-Cronbach coefficient were obtained. Criterion-related validity was assessed based on in-depth clinical interviews, and construct validity (theoretical) was based on an analysis of intergroup differences in the mean scores of the respondents from quartiles 1 and 4. Student’s t-test for independent samples showed significant differences between the compared groups for all the variables analysed. The people in Q1 obtained significantly lower results than those in Q4. Therefore, it can be assumed that the analysed scales are valid.

Table 2. Reliability and validity of the questionnaire scales

Scales		Number of items	Cronbach ,alpha reliability’	Validity measures						
				Q1	Q4	<i>t</i>	<i>p</i>	95% <i>CI</i>		Cohen’s <i>d</i>
				<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)			<i>LL</i>	<i>UL</i>	
Competences	social	5	0.8	3.60 (0.44)	4.87 (0.10)	- 22.66	< 0.001	- 1.39	- 1.16	3.84
	mana-gerial	6	0.9	3.14 (0.46)	4.68 (0.24)	- 24.92	< 0.001	- 1.66	- 1.41	4.01
Perceived oppor-tunities for de-veloping compe-tences and pro-motion		4	0.7	2.80 (0.41)	4.18 (0.23)	- 24.54	< 0.001	- 1.49	- 1.27	4.04

Source: own research.

The research also used the Organisational Commitment Scale by Allen and Meyer (1996) in its Polish adaptation developed by Bańka, Bazińska and Wołoska (2002), containing, like the original one, three subscales. In their study, the authors analysed the normative commitment scale. The obtained values of the reliability indicators for the subscale are comparable with the reliability of the original scale and their theoretical validity was confirmed by correlation studies with other constructs (Lévy-Leboyer, 1993).

Descriptive statistics were used for the basic calculations and the main research made use of the test of differences between means, the classic approach of Baron and Kenny's mediation analysis (Baron, Kenny, 1986) presented in Figure 2, as well as the bootstrapping method, which analyses the significance of indirect effects of the explanatory variable (competences) on the response variable (NOC dimension), in which it is assumed that if the values of Boot LLCI and Boot ULCI have the same sign (negative or positive) and are not separated by 0, then the indirect effect is significant (Hayes, 2017). In this operation, SPSS Statistics was used.

3.4. Participants

Quantitative empirical research was carried out on a group of 246 firefighters employed in operational units directly related to rescue and firefighting activities employed by the public fire service in Poland. Men constituted 96% of the group and the gender distribution reflected the employment structure in this organisation.

The mean age of the firefighters in managerial positions ($N = 86$; 35%) was 40.2 years and that of the firefighters in operational positions ($N = 160$; 65%) was 33.5 years. The mean length of service in managerial positions was 17.9 years and in operational positions was 9.6 years. The study included people with at least one year of service, which was the result of the assumption that a shorter period of service does not guarantee the experience necessary to provide answers in the areas covered by the investigation.

The distribution of the research sample considered the extent of the employment of firefighters in each region of Poland in the year preceding the empirical research (excluding central units of the employer).

4. Findings

At the first stage of the analyses, statistically significant differences were found between the mean values of experts' requirements for employees in managerial and operational positions. However, such differences did not occur in the case of the self-assessment of firefighters (Figure 2). In experts' opinions, social competences are the most important in operational positions and managerial competences in managerial positions.

Statistical analyses were used to compare the results of the self-assessment performed by firefighters occupying operational and managerial positions (Table 3). The level of managerial competences was observed to be higher in people who occupy operational positions ($p = 0.000$). Figure 2 shows the results of the self-assessment and a competence mismatch in operational positions.

Table 3. Mean values and standard deviations for operational and managerial positions

Mean values of parameters calculated on a scale from 1 to 5		Social competences	Managerial competences	Perceived opportunities to develop professional competences and promotion	Normative component
Managerial positions	M	4.253	4.116	3.89	3.076
	SD	0.765	0.84	1.063	1.242
Operational positions	M	4.176	3.709	3.898	3.091
	SD	0.747	0.817	0.977	1.221
Total respondents	M	4.2	3.9	3.9	3.1
	SD	2.58	3.85	2.78	4.72

Source: own research.

Therefore, **Hypothesis 1**, assuming a mismatch between the level of social and managerial competences of firefighters, **has been confirmed**. A mismatch in the form of over-competence occurred among those employed in executive positions.

After performing the initial analyses of Pearson's *r*, the authors decided to enrich their research with a mediation model that would allow the discovery of a deeper relationship between the variables analysed.

In the models tested, the perceived opportunities for development and promotion offered by the organisation were considered an intermediate variable. Taking into account the degree of competence match/mismatch in operational and managerial positions, as well as the differences in the competence levels desired by experts, the analysis took into account these two groups.

The mediation analysis was carried out according to Figure 2, and the statistically significant results are presented in Table 3.

The results of the mediation analysis verifying the above-formulated hypotheses are presented in Table 4.

Table 4. Analysis of mediation models for group of managers

Type of analysis	Coefficients	Response variables - normative organisational commitment	
		Managers' positions	Operational positions
		Managerial competences	Social competences
Regression model analysis	$F(2.82)$	13.515	9.39
	p	0.000	0.000
	R^2	0.248	0.106

Type of analysis		Coefficients	Response variables – normative organisational commitment	
			Managers' positions	Operational positions
			Managerial competences	Social competences
Path values in the mediation model	a	β_1	0.365	0.531
		$t(1.83)$	3.566	7.894
		p	0.001	0.000
	b	β_2	0.44	0.329
		$t(2.82)$	4.273	3.705
		p	0.000	0.000
	c	β_3	0.284	0.169
		$t(1.83)$	2.695	2.16
		p	0.009	0.03
	c'	β_4	0.123	-0.006
		$t(2.82)$	1.2	-0.062
		p	0.234	0.95
Bootstrapping (sampling 5,000)		β	0.160	0.174
		BootLL	0.061	0.065
		BootUL	0.275	0.303

Notes: $F(df)$ – analysis of the variance coefficient (degrees of freedom); R^2 – measure of model fit; β – standardised regression coefficient; t – value of the t -test; p – significance level.

Source: own research.

Managerial positions. Using a mediator between managerial competences and this dimension of commitment produces a well-fitting model explaining 24.8% of the variance of the response variable. This mediation is complete.

This means that managers who are convinced of their own importance to the organisation and cope well with stress; skilfully build and manage a team, often in changing environmental conditions; can make unpopular decisions for which they are ready to take responsibility; who notice the opportunities for development and promotion offered by the employer, and consequently feel a sense of moral obligation to remain in the organisation, are bound to it through normative commitment. **Hypothesis 2**, stating that the perception of career development and promotion opportunities acts as an intermediate variable between managerial competences and normative commitment among the management of the public fire service, **has been confirmed**.

Operational positions. The model illustrating the opportunities for development and promotion perceived by firefighters in operational positions used as a mediator between social competences and normative commitment was well-fitting and explained 10.6% of the variance

of this commitment. After including the moderator, the relationship between social competences and normative commitment becomes statistically insignificant, which results in complete mediation. The mediation is also confirmed by indirect effect analysis. Thus, development and promotion opportunities are a statistically significant intermediate variable between social competences and normative commitment.

Inclusion of the mediator in the form of the perception of the opportunities for development and promotion by firefighters within the organisation means that along with improved relationships with supervisors and colleagues, better communication skills, better cooperation within a team, and the development of the ability to exert influence, there also appears a greater sense of moral obligation and the desire to remain in the organisation. **Hypothesis 3**, stating that the perception of career development and promotion opportunities in the public fire service acts as an intermediate variable between social competences and normative commitment in the group of firefighters in operational positions, **has been confirmed**.

5. Discussion

From the point of view of the public fire service, an important finding may be that people in operational positions feel a higher level of NOC due to social competences, and managerial competences bind managers to the employer through NOC. Similarly, weak relationships between career growth measured by perceived opportunities and career goal progress, professional ability development, as well as promotion speed were demonstrated by Weng et al. (2010).

Other studies have analysed and partially confirmed that career organisational commitment is a mediator factor between some factors of career growth and turnover intention (Nawaz, Pangil, 2016). In turn, perceived organisational support (POS) mediates between career development and normative commitment (Meyer, Smith, 2000). POS also mediates between ethical and transformative leadership and normative commitment (Dongkyu, Vandenberghe, 2021). In the above-presented cases, the models had a different structure than in the research presented by the authors in this article. However, they show visible relationships between the organisation's contribution to the level of normative commitment. It is worth mentioning that the research also renewed the relationship between socialisation, associated with social competences, and normative commitment. The sense of mission fulfilment by employees and personal importance also contribute to the growth of normative commitment (McCormick, Donohue, 2016). For managers, the sense of mission value may be related to their professional position, and this is related to managerial competence.

The advantage and original contribution of the authors is a different approach to the variables in the model, in which the career development offered by the organisation is a mediating factor between employees' competences and normative commitment.

6. Conclusions

These findings can serve as a basis for formulating the following applicable recommendations:

- 1) supporting the development and promotion of firefighters, regardless of their position in the organisation, is recommended for building NOC;
- 2) the recruitment of candidates with high social competences, which play an important role in human life, should be recommended, as these competences are a source of support, understanding, and efficient operation in the organisation;
- 3) people with managerial competences should be considered for promotion as early as possible.

In conclusion, it can be stated that at the level of NOC an important role is played (in the case of operational positions) by social and managerial competences (in the case of managerial positions), the relationships between which are mediated by the development and promotion opportunities offered by the organisation as perceived by firefighters.

The selection of the research method resulted from operating in conditions of high uncertainty, in the absence of data important for achieving the research goal, variables, and interactions between them, as well as due to cost and time constraints in carrying out the study.

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Rozwój i awans jako atrakcyjne benefity. Relacja pomiędzy kompetencjami a zaangażowaniem normatywnym

Streszczenie: Celem artykułu jest ukazanie ukrytych, nieoczywistych mechanizmów tłumaczących rolę rozwoju i awansu w zarządzaniu kompetencjami pracowników instytucji publicznych, które mogą kształtować normatywne zaangażowanie organizacyjne (NOC).

W pierwszej kolejności zebrano opinie ekspertów, których zadaniem było określenie pożądanego poziomu kompetencji zawodowych strażaków. Następnie przygotowano autorski kwestionariusz, badający metodą samooceny poziom kompetencji społecznych i menedżerskich oraz postrzeganie szans na rozwój i awans przez zawodowych strażaków. Ponadto do diagnozy zaangażowania organizacyjnego wykorzystano test Meyera i Allen.

Statystyki opisowe były wykorzystane w celu wykonania podstawowych obliczeń, a główną część analiz oparto na testach szacujących różnice między średnimi oraz klasyczne podejście do analizy mediacji Barona i Kenny'ego.

Otrzymane rezultaty wskazują na istotną rolę mediatora, tłumaczącego związek pomiędzy kompetencjami społecznymi strażaków zajmujących stanowiska wykonawcze oraz kompetencjami menedżerskimi strażaków na stanowiskach dowódczych a NOC. Oznacza to, że wyższy poziom ww. kompetencji przyczynia się do wzrostu zaangażowania normatywnego za sprawą postrzegania przez strażaków szans na rozwój i awans zawodowy. Jasne i sprawiedliwe zasady w tej materii są zatem warunkiem budowania relacji pracownik–organizacja.

Słowa kluczowe: zaangażowanie organizacyjne, kompetencje zawodowe, awans i rozwój, strażacy

JEL: J24, M12

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