

Łukasz Sułkowski

Jagiellonian University,

Cracow, Poland

lukasz.sulkowski@uj.edu.pl

ORCID ID: 0000-0002-1248-2743

Justyna Dziejic

University of Social Sciences,

Lodz, Poland

jdziedzic@san.edu.pl

ORCID ID: 0000-0002-8292-0892

Scientist Organizational Identity – the Diversity of Perspectives

ABSTRACT

Objective: The purpose of this article is to show the diversity of possibilities for interpreting identities in the context of the academic profession by showing the different dimensions of participation in the academic community and personality transformations associated with the capture of certain attitudes and behaviors of the scientists.

Methodology: The article is based on a critical analysis of the literature dealing with the sense of organizational identity in the scientific context. We expanded the characteristics associated with this issue to the recognitions arising from the complexity of participating in the life of science on many levels. The work provides an overview of the research approaches of poten-

tial detectable factors shaping the investigator's personality in organizational terms. Provided a theoretical background on scientist identity in an organizational context in this paper provides the directions of the research that brings diagnosis in management sciences.

Findings: Scientist organizational identity is the concept that provides a few interpretational directions that can be explored in the management context. The empirical views on this subject provide two levels of meaning. On the first level, it raises questions about individual needs related, on the one hand, to the factors of participation in this profession's life, like prestige, carrier, and power. On the other hand, the second level's meaning is connected with the scientist's personality and compatible with his professional choices like scientific orientation on life choices and creative disposition of high professionalism. The multi-mentality of participation, both physical, emotional, and life academism discourse, brings many recognitions of the concept of scientific organizational identity.

Value Added: Attention has been paid to the critical discourse on the theory of an organization's influence on its scientific members' identity. Also, an indication of the role of these processes in the power and hierarchy context. In the other context, we try to understand the role of individual human dispositions and professional socialization processes in the academic profession.

Recommendations: Scientists' organizational identity is an interesting direction to explore, that brings many reflections about the influence that brings the academic profession area to scientific senses of being. These processes also influence factors like bureaucracy, hierarchy, career politics, evaluation processes, and academic organizational narratives.

Key words: Organizational identity, scientist motivations, academic prestige, scientist career

JEL codes: M12, M14, O15

Introduction

There is a discourse on organizational identity in the management teachings. Since the 1980s, it has become increasingly important. Interest in the con-

cept of identity in the field of management sciences may arise from several reasons: the increase in the importance of behavioral and humanistic aspects of management, an attempt to penetrate the psychological, cultural, and anthropological spheres into the organizational context. Issues related to well-being, non-financial incentive processes, and its members' well-being may also contributed to the interest in this topic. Identity contexts are therefore into this direction of research of all professions in an organizational context. Not surprisingly, it can also reach for recognition of scientists' lives and work at the university. An identity that can be regarded as an authority is often also influenced by how members of an organization adopt phenomena that occur in the professional environment, how they interact with them and how they deal with them. Thus, paying attention to these factors and tendencies has become a source of inspiration for literature analysis and an attempt to separate the concept of scientific organizational identity. It includes self-vision concepts within the profession and a discharge of scientists' distinct characteristics certifying an organizational context. This project should bring up phenomena present in this profession, such as prestige, executive authority, university hierarchy, and the researcher's workshop. Besides, it is worth pointing out axiological trends in recognition of scientific work content, which is common or divergent with scientifically recognized and supported academic sours.

Literature Review

The literature review included selecting search criteria targeted for a specific research problem that addressed the question: Can interpretation of different dimensions of participation in the scientific community related to professionalization and defined by the scientific themselves' image in the meaning of this dimension lead to a separate category, which is the "scientific organizational identity"?

The research criteria included multi-stage analyzes that referred to the funnel metaphor, constituting the search structure, from the general the-

matic approach to the critical analysis of selected, targeted sources. The search strategy was based on looking for previous systematic literature reviews in journals that deal with literature review in management science. The best journals in the management discipline are literature-research and review journal, *Academy of Management Annals*, and *International Journal of Management Reviews*. Besides, the search also included two bibliographic and bibliometric databases: Web of Science and Scopus. Besides, searches were also based on a book review of the research problem in the English and Polish literature. The literature review also included an analysis of book publications published at the turn of 2018–2020 and the free search for related topics on the Research Gate and Google Scholar.

In the first stage, the search criteria concerned the two top review journals in the management science discipline: *Academy of Management Annals*; *International Journal of Management Reviews*. The searched phrases concerned the following issues: scientist organizational identity and scientist motivation.

Research work on the identity issues of scientists is associated with multiple views on this subject. It is impossible to identify trends in the world of science in organizational psychology from the organizational culture. Its members are a part of knowledge and science management systems. Scientists do not live in a vacuum, but function in relationships, stimulating them from many different segments of the cultural, economic, and social environment.

The roots of the concept of organizational identity

The solutions to identity in both collective and individual contexts should be sought in the early works of researchers such as G.H. Mead and his student H. Blumer (Sułkowski, 2013a, p. 26). Symbolic interactionism was a stream of analyzes of this concept and made it possible to refer to this category in the context of the individual's symbolic interpretation. The research lit-

erature in this regard is extensive, but this interactionist point of view arose in sociology. Therefore, it is worth mentioning classics such as G.H. Mead (1975), H. Tajfel, and J. Turner (Tajfel & Turner 1979) and H. Blumer (Mead, 1975). The concept of identity has also developed in the sciences of social psychology, cultural anthropology, and management sciences, although different directions of influence should be identified (Sułkowski, 2013a). While sociology and anthropology deal with collective identities, the science of management – organizational identity. At the end of the 1950s, Sułkowski (Sułkowski 2013) and Martineau (1958, pp. 17–55) researched the organizational image as the germ of these issues. W. Margulies, in the seventies, based on his experience in consulting, concluded that the identity context could be understood as a type of method chosen by an organization to define itself and external recognition (Margulies, 1977). S. Albert & D.A. Whetten (2004, p. 90) proposed that organizational identity be understood as the result of a search resulting from collective consensus and should meet the following criteria: (1) identifying the key features of an organization; (2) the criterion for determining differentiation; (3) the time continuity criterion. To these three criteria proposed by S. Albert & D.A. Whetten, a fourth can be added: the identity of the organization as a supra-individual and social phenomenon, differentiating and sustained by the members of the organization in time, the sense of existence (*esprit du corp*), which is a manifestation of the functioning of a social group (Sułkowski, 2008, p. 17).

Academics may feel the impact of transforming the university model towards departing from the concept of Universitas towards a pragmatic, practical and professional orientation, which is associated with the provision of educational and scientific services in a competitive environment, responding to the changing market needs (Sułkowski, 2013b). The elite education model of intellectuals has changed towards egalitarian and specialized education, in which market mechanisms play a significant role, and the participation of non-public entities is significant (Sułkowski, 2013b, p. 30). What can influence how scientists think about their profession.

The motivation for scientific work and research

The diagnosis of a scientist's functioning in organizational contexts is also related to organizational psychology and studies on motivation. The literature review suggests that when considering the issues of scientists' identity in the organizational context, it is still the research that deals with motivational issues in the university environment that should still be considered. Motivations reveal many contexts that stimulate work and reveal incentive systems that affect researchers' work processes and well-being. Many studies are devoted to the approach to research workers' motivation related to their work's parameterization. The important determinants for that point of recognition are excellent quality (research excellence) or the Hirsch index (used both for the scientific metric assessment of individual achievements and organizations' achievements. Cris Shore & Susan Wright (2015, pp. 569–572) drew attention to the phenomenon of institutional competition that affects university employees' academic staff. The pressure of results and adjusting to the university scientific metrics the standards of their labor. Therefore, the bureaucratization may affect individualism and changes in one's perception in a scientists' professional environment. Many authors pay attention to the critical approach to the parameterization of science. The tendency to increase emphasis on parameterization draws researchers' attention to the problems of publication obedience enforcement. On the other hand, it may be important in motivation due to the increase in the number of highly scored publications, the sense of commitment, and scientific work quality improvement.

There were diagnoses concerning the public reception of scientists' motivation, which addressed networks of incentives and discouragement to scientific work, translating into the critical role of science in society and science authority properties (Johnson & Dieckmann, 2019). Johnson and Dieckmann's research prompts a wider discussion of these aspects in the context of many factors such as internal motivators, e.g. money, fame, authority, or external ones, such as scientific pragmatics and social assistance

(Johnson & Dieckmann, 2019). Turney (1996) also addressed the public reception of science and took the perspective of defining trust in scientists and researchers' work to explain scientific discoveries.

An interesting problem of motivations in a scientific field was analyzed by clinical researchers (Cianciolo et al., 2020) using an integrated theoretical framework (Social Cognitive Career Theory and Professional Identity Formation) and appreciative inquiry to explore the interplay of professional identification and research context in shaping post-training research success narratives. In the conclusions, the authors of the study (Cianciolo et al., 2020) indicate that motivating the physician-scientist may refocus the construct on medical inquiry objectives, for example, research infrastructure expectations for impact.

The problems of motivation for scientists' self-esteem have been demonstrated in the research by James C. Ryan (2014). The author recognizes that the internal motivation and self-esteem has a significant positive impact on research results and that instrumental motivation has a significant negative impact on research results. The author suggests that the motivation to research work comes from faith in the value of one's work, personal values, and scientific process standards (Ryan 2014).

Uma J. Iyer & T.J. Kamalanabhan (2006) indicate that scientists should note the above-average intelligence, distinguishing them from other groups. They researched motivation taking into account the criteria of the uniqueness of this professional environment. They pointed out that their scientists' success may depend on the level of advancement in work and high results (Iyer & Kamalanabhan, 2006, p. 196).

Alice Lam employs the three concepts of 'gold' (financial rewards), 'ribbon' (reputational / career rewards), and 'puzzle' (intrinsic satisfaction) to examine the extrinsic and intrinsic aspects of scientists' motivation for pursuing commercial activities (Lam, 2020). Scientists engage in commercial activities for reputation, and finance plays a secondary role in this regard. Therefore, the policy of encouraging scientists to work outside of academia should refer to internal factors, rather than strictly financial (Lam, 2020).

Moreover, they are related to driving internal motivation, which directly impacts the perceived research results, which affects a scientist's choice to remain in a research career. Moreover, they also pointed out an interesting view that external factors such as perceived support in the work organization environment, superior support, and work autonomy are important in the context of long-term motivation. Ultimately, they concluded that the selection path of a graduate who has a possible chance of creating a research path is influenced by the perceived performance of research with external factors in the work environment (Tan et al., 2020, p. 45). Similar conclusions come from Ommerring, van Blankenstein, Wijnen-Meijer, van Diepen, & Dekker (2018) in the medical field. Researchers raised the problem of developing physician-scientists by stimulating students. Their research results indicate that the internal motivation to research gives the greatest results and influences the research commitment among young medical students, taking into account many factors, ultimately giving rise to success in the future design of a physician-scientist (Ommerring et al., 2018, p. 7).

The prestige of the scientific profession

Both the motivation of research workers and academic culture diagnosis refers to scientific work's prestige. Roger Brown, in the book "Prestige in Academic Life: Excellence and Exclusion," addresses questions about the shape of prestige in the professional life of scientists, paying attention to the issues of employee well-being, negotiating a career path, or supporting staff in their endeavors. The author also takes up the topic of resistance to changes in academic circles. Prestige in this approach is not decided only in the context of the researcher's identity. However, it also transfers its reception to institutional prestige issues, the same units that analyze their place in the ranking tables for competitive results and recognizing the category of "academic excellence" in the context of competitiveness (Brown, 2016).

The pursuit of scientists to work in this prestigious profession may mean that they are perceived as professionals and intellectuals by the public. Pekdoğan Serpil (2019) had an innovative look at this problem and he researched how children perceive scientists. Children (5–6 years old) drew the scientist and briefly wrote about their ideas about them. It turned out that their image brings to mind the prestige of this profession; among them were visions of a scientist working in a laboratory, having research materials, conducting experiments, and looking like intellectuals with a positive disposition (Pekdoğan, 2019). Although this is a vision of children, it can correspond to the vision that scientists themselves have, which results in them thinking about their own identity in the realm of such imagination.

The university's quality system, which should constitute the academic culture, is also important in the context of scientists. It is customary and does not need to be documented in detail (Sułkowski, 2014, p. 68). The prestige of scientific work is also associated with the elements of the culture: gratification, and the results of researchers' work are financially modified. Therefore, in this context, the term "prestige economy" is referred to, which is used in higher education (Blackmore & Kandiko, 2011). The term comes from anthropology and refers to exchange patterns that happen outside a typical market economy or in the context of one's own needs (Blackmore & Kandiko, 2011 after Bascom, 1948; Grinev, 2005; Herskovits, 1948). This prestige also refers to the organization itself and its units in the academic hierarchy. It reflects the research productivity of individuals and graduates (Burriss, 2004).

The scientific collaboration

Collaboration in scientific work results from the belief that innovation allows for growth, including academia, and results from the collaboration between industry and researchers. For example, Saradindu Bhaduri (2013) wrote about it, analyzing the scope of the relationship between science and economy in a holistic perspective, describing India's situation, which invests in

complex policies dealing with the development of future research funding from public funds (Bhaduri, 2013).

Carlos Martin-Rios analyzed the culture of collaboration within the boundaries of a formal scientific organization. From these analyzes, we learn that there are some limitations related to rigidity and bureaucracy. However, the scientific organization has many innovation potentials for spreading collective effort for efficiency and responsibility for research (Martin-Rios, 2016). There are also limitations to such a culture and opportunities that are worth noting in the organizational context.

Diversity in the academic organizational field

An interesting direction of analysis of the problems that reveal themselves in considering scientists' identity is the problem of academic diversity (Nunnally, 2019; Stallings & Hernandez, 2019). The subject of scientists' existence in the academic reality is sometimes critically resolved based on analyses concerning their functioning in postcolonial knowledge systems. Patterns of multicultural scientific discourse emerge. The problem of multiculturalism is resolved in a phenomenological context. Scientific diagnoses concern not only issues related to cultural diversity at the university organization level but also about what scientists deal with multiculturalism. Here resounds the discussion about the multicultural approach to science in multicultural situations (Cobern & Loving, 2001, p. 52). S. Harding considers the broader perspective of postcolonial, feminist, and scientific-technical diagnoses problems (1998, p. 124). The author attempts to establish how the new ways of thinking about epistemological issues (that emerged from post-war historical, sociological, ethnographic and philosophical research in the field of science and technology) can be used to recover and restore the functionality of some important insights. Identity and organizational diagnosis are therefore related to the treatment of scientific issues in the context of multiculturalism and the very functioning of an organization in a multicultural science culture.

The Oxford Dictionary of Social Sciences takes the term “multiculturalism” in a descriptive context, referring to the coexistence of people with different cultural identities in one country, community, or group. In a prescriptive context, it is associated with the belief that racial, ethnic, and other groups should preserve their cultures within a society, and at the same time, live in a community of mutual tolerance and respect. In a descriptive sense, multiculturalism in science will mean participation in scientists’ research work with different cultural roots and identities. In a prescriptive sense, it will strive for ethical and moral decisions of this participation. The research interests towards the problem of multiculturalism of scientists is a topic widely discussed in many aspects of equality or inequality of opportunities. This problem should be placed in the context of diversity studies.

There are also mental movements through multiculturalism that form into organizational structure, such as The National Conference of Black Political Scientists (NCOBPS). In science, the organization aimed at increasing diversity in the context of identity, whether through the inclusion of intersectional identities and expressions or philosophical perspectives (Nunnally, 2019).

The direction of science area that is considered through the prism of diversity and equality problems among scientists is also taken in gender studies (Stallings, Iyer, & Hernandez, 2013; Myung-Hui, Suk Bong, & Seung-Wan, 2017). Kim Myung-Hui, Choi Suk Bong, Kang Seung-Wan (2017) pay attention to professional roles in the context of women scientists’ life, recognizing the problem of building the professional and parental identity role. The work’s main thesis indicates the key role of the balance between the professional role’s identity and the parental role’s identity in promoting a positive attitude to work among female scientists (Myung-Hui et al., 2017).

The problem of diversity in science directs researchers’ attention to conclude that it is an important factor in developing university organizations and science. In the development of the perspective of the activity of scientific communities in the context of, among others, organizational factors, such as enhancing cultural diversity in scientific environments should be indicated,

which may guarantee creativity and, importantly, certain conditions of diversity that may serve the formation of knowledge (Child & Rodrigues, 2011).

Reliability of research and scientific workshop

An important sphere shaping scientists' professional identity in their work ethics and workshop integrity is quality research procedures. In the area of research integration, the research was conducted by Vykinta Kligyte & Richard T. Marcy (2008). Close to this inquiry line, there are concepts related to scientific work ethics and interventions that can prevent research and publication misconduct. Research scientist skills were analyzed by Hilal Büyükgöze & Feyza Gün (2017), as well as Leith Peat & Frank Vanclay (2015). The research on the reliability and quality of scientific work was conducted by Samuel V. Bruton, Mary Medlin, Mitch Brown, & Donald F. Sacco (2020) and showed that scientists are concerned about the state of research, difficulties in publishing negative research, and see institutional opportunities to improve this state (Bruton et al., 2020, p. 547). Samuel V. Bruton, Mary Medlin, Mitch Brown, & Donald F. Sacco (2020) created a specific report that answers the question of what recommendations should be indicated to solve the problem of questionable research practices (QRP) (Bruton et al., 2020). They notice low confidence in ethics training to improve research integrity and a certain system of incentives to advance research careers that may be subject to inappropriate research practices (Bruton et al., 2020). The report emphasizes the problem of accepting changes in science environments, difficulties in publishing negative results, and poor supervision from the external institutional environment (Bruton et al., 2020).

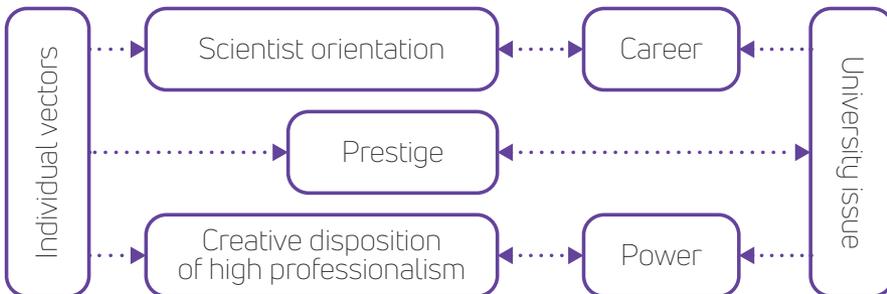
The issue of fairness becomes a key factor in recognizing research organizations and the conduct of high-quality work by scientists. Giving meaning to everyday work practices is understood as ethical decision-making skills (Kligyte et al., 2008). Marek Kwiek indicates (Kwiek) that about 3.3% of scientists publishing in both elite and basic journals, who wrote at least five articles in

1996–2018, constitute the publishing core of the global research community, while 80% of researchers who authored only one article constitutes its periphery (Kwiek, 2019).

Future perspectives of scientist organizational identity

Scientist organizational identity is the concept that provides few interpretational directions of that problem. We can set out two main directions for the search for this concept worthy of recognition. Firstly, it brings research questions about individuals' needs related on the one hand to factors of participation in the life of this profession, like prestige, carrier, and power. The second meaning is connected with the scientists' personality and compatible with his professional choices like scientific orientation and creative disposition of high professionalism. However, it is possible to point to participation as equally physical, emotional, and a problem in academic members' lives. This refers to many transforms of thinking about oneself in the world of the profession. On the one hand, they act on the employee learning dependencies and affinities within the organization. On the other hand, he brings his bag to experiences, beliefs, and personality traits.

Figure 1. Directions of interpretation the scientific organizational identity



Source: own study.

Figure 1 presents the main orientations of scientists' identity in the context of participation in the university's organizational life. It can be noted that there are many directions of influence, which on the one hand arise from the personal characteristics of researchers, on the other hand from the trend that provokes academic life within the university. So, it is worth to put it in the form of a scheme in which there are all the meanings of the university and then recognitions derived from the psychological conditions of personality. Therefore, there is a twofold view of the processes of shaping researchers' identity in a university context. A university's properties bring out a political career based on overcoming successive science levels expressed through scientific titles. Careers are associated with scientific orientation because people with scientific potential can develop these careers, and the career itself can deepen the determination to research. In turn, power arises from the university hierarchy. It can be coupled with professionalism. A feature of professionalism affects the receipt of power, and power in professions based on work with knowledge and intellect constitutes authority. At the heart of these recognitions is prestige, which is concerning many factors because it involves building carrier and power. The desire to gain prestige can be a condition and individual needs and arise from internal motivation. The fight for prestige is to earn points for publications, publish in the best journals in the field, or be subject to measurable systems such as the Hirsch index. Therefore, universities are becoming prestigious thanks to their academic staff, and researchers are also trying to get a job at prestigious universities. It is, therefore, an inherent attribute of participation in the university world.

Conclusion

The literature review shows that Scientist Organizational Identity does not exist as a separate analytical concept. Nevertheless, it indicated the importance of its potential. First, scientists undertake an analysis of the influence of various factors on organ life, which exerts a complex of different elements



that can be read largely within organizational cultures' reception. Among them are power, hierarchy, organizational structure, the specificity of the academic profession, the elitism of the profession, and the game of prestige. Scientists point to many factors that affect their well-being, choices, and career processes. Therefore, they are a specific industry subject to informal arrangements and can be interpreted in many categories of a network of meanings. This work highlighted the need for further exploration of this issue, especially in the context of times of evaluation pressure, termination of scientific work, and the issue of capacity and talent management.

References

Albert, S., & Whetten, D. A. (2004). Organizational Identity. In M.J. Hatch, M. Schultz, *Organisational Identity. A Reader*. Oxford University Press.

Bascom, W. R. (1948). Ponapean prestige economy. *Southwestern Journal of Anthropology*, 4(2), 211–21.

Bhaduri, S. (2013). Scientists' Motivation to Innovate, Catch Up and Collaborate: A transdisciplinary perspective. In U. Hilpert (Ed.), *Handbook of Politics and Technology* (pp. 396–408). Abingdon: Routledge.

Brown, R. (2016). Prestige in Academic Life: Excellence and Exclusion. *Times Higher Education*, 46, 22–64.

Bruton, S. V., Medlin, M., Brown, M., & Sacco, D. F. (2020). Personal Motivations and Systemic Incentives: Scientists on Questionable Research Practices. *Science and Engineering Ethics*, 26(3), 531–547.

Büyükgöze, H., & Gün, F. (2017). Building the Professional Identity of Research Assistants: A Phenomenological Research. *Kuram Ve Uygulamada Egitim Bilimleri*, 17(1), 237–63.

Burris, V. (2004). The Academic Caste System: Prestige Hierarchies in Ph.D. Exchange Networks. *American Sociological Review*, 69(2), 239–64.

Child, J., Rodrigues, S. B., Dooley, K. J., & Tsoukasaridimos, H. (2011). How Organizations Engage with External Complexity: A Political Action Perspective. *Organization Studies*, 32(6), 803–24.

Cianciolo, A. T., Mitzelfelt, J., Ghareeb, A., Zahid, M. F., Akbar, R., & Ghias, K. (2020).

Physician-scientist or Basic Scientist? Exploring the Nature of Clinicians' Research Engagement. *Advances in Health Sciences Education: Theory and Practice*, 25, August.

Cobern, W., & Loving, C. (2001). Defining "Science" in a Multicultural World: Implications for Science Education. *Science Education*, 85, 55–56.

Grinev, A. V. (2005). *The Tlingit Indians in Russian America, 1741–1867*. Trans. R. L. Bland & K. G. Solovjova. Lincoln, NE: University of Nebraska Press.

Harding, S. (1998). *Is Science Multicultural?*. Bloomington: Indiana University Press.

Herskovits, M. J. (1948). *Man and his works: The science of cultural anthropology*. New York: A.A. Knopf.

Iyer, U. J., & Kamalanabhan, T. J. (2006). Achievement motivation and performance of scientists in research and development organizations. *Journal of Scientific & Industrial Research*, 65, March, 187–194.

Johnson, B. B., & Dieckmann, N. F. (2019). Americans' views of scientists' motivations for scientific work. *Public Understanding of Science, Sage Journals*, 2–20.

Kligyte, V., Marcy, R., Waples, E., Sevier, S., Godfrey, E., Mumford, M., & Hougen, D. (2008). Application of a Sensemaking Approach to Ethics Training in the Physical Sciences and Engineering. *Science and Engineering Ethics*, 14(2), 251–278.

Kwiek, M. (2019). Economics of Academic Prestige. Quantitative Inclusion of the Best Journals in the Field of Higher Education Research. *Science and Higher Education*, 01 December, 1–2, 53–54.

Lam, A. (2015). *Academic Scientists and Knowledge Commercialization: Self-Determination and Diverse Motivations*. Switzerland: Springer International Publishing.

Leith, P., & Vanclay, F. (2015). Translating Science to Benefit Diverse Publics: Engagement Pathways for Linking Climate Risk, Uncertainty, and Agricultural Identities. *Science, Technology & Human Values*, 40(6), 939–964.

Margulies, W. (1977). Make the most of your corporate identity. *Harvard Business Review*, July–August.

Martineau, P. (1958). The personality of the retail store. *Harvard Business Review*, January/ February.

Martin-Rios, C. (2016). Sensemaking of Organizational Innovation and Change in Public Research Organizations. *International Journal of Organizational Analysis* 24(3), 516–31.

Mead, G.H. (1975). *Mind, personality, society*, Warsaw: PWN.

Myung-Hui, K., Suk Bong, C., & Seung-Wan, K. (2017). Women Scientists' Workplace and Parenting Role Identities: A Polynomial Analysis of Congruence. *Social Behavior and Personality: An International Journal*, 45(1), 29–38.

Nunnally, S. C. (2019). *The National Conference of Black Political Scientists (NCOBPS): Organizational Empowerment Through Signaling and Valuing Women and Diversity During #MeToo*, 22, March.

Ommering, B. W. C, van Blankenstein, F. M., Wijnen-Meijer, M., van Diepen, M., & Dekker, F. W. (2019). *Fostering the physician-scientist workforce: a prospective cohort study to investigate the effect of undergraduate medical students' motivation for research on actual research involvement*. *BMJ Open*, 20 July, 9(7).

Leith, P., & Vanclay, F. (2015). Translating Science to Benefit Diverse Publics: Engagement Pathways for Linking Climate Risk, Uncertainty, and Agricultural Identities. *Science, Technology & Human Values*, 40(6), 939–964.

Pekdoğan, S. (2019). I Can Draw a Scientist Whom I Imagined. *NeuroQuantology* 17(3), 1–8.

Ryan, J. C. (2014). The Work Motivation of Research Scientists and Its Effect on Research Performance. *R&D Management*, 44(4), 355–69.

Shore, C., & Wright, S. (2015). Audit Culture Revisited. Rankings, Ratings, and the Reassembling of Society. *Current Anthropology*, 56(3), 421–444.

Stallings, D., Iyer, S. K., & Hernandez, R. (2013). National Diversity Equity Workshop-Focus on Gender Identity and Orientation in Chemistry Faculties. *ACS Symposium Series*, 2018, 12(77), 51–77.

Tajfel, H., & Turner, J. (1979). An Integrative Theory of Intergroup Conflict. In W.G. Austin, & S. Worchel, *The Social Psychology of Intergroup Relations*. Oxford: Oxford University Press.

Tan, M., Herberg, J. S., Samarasekera, D., & Chen, Zhi Xiong (2020). Understanding factors that motivate research performance and career longevity of science, technology, engineering and mathematics postgraduates. *Asia Pacific Scholar*, 01 January, Vol. 5(1), 25–45.

Turney, J. (1996). Public Understanding of Science. *The Lancet* (British Edition) 347.9008, 1087–090

Sułkowski, Ł. (2008). Czy warto zajmować się kulturą organizacyjną. *Zarządzanie Zasobami Ludzkimi*, 6, 9–25.

Sułkowski, Ł. (2012). *Cultural management processes*. Warsaw: Diffin.

Sułkowski, Ł. (2013a). Kultura jakości w zarządzaniu, czyli pomiędzy tożsamością a kulturą organizacyjną. *Przedsiębiorczość i Zarządzanie*, XIV, 8, II, 25–37.

Sułkowski, Ł. (2013b). Transformacje kulturowe współczesnych uczelni wyższych. *Przedsiębiorczość i Zarządzanie*. XIV, 12, I, 23–31.

Sułkowski, Ł. (2014). Który model uniwersytetu?. *Przegląd Socjologiczny*, 63(3), 67–70.