**European Journal of Education Studies** 

ISSN: 2501 - 1111 ISSN-L: 2501 - 1111 Available online at: <u>www.oapub.org/edu</u>

DOI: 10.46827/ejes.v11i8.5436

Volume 11 | Issue 8 | 2024

# SUBSTITUTE TEACHERS IN GREECE: THE PURSUIT FOR ACADEMIC QUALIFICATIONS AND ITS CONSEQUENCES IN EVERYDAY LIFE

Nikos Nikolakakos<sup>11</sup>, Dimitris Vergidis<sup>2</sup> <sup>1</sup>PhD Candidate, Department of Education Sciences and Social Work, University of Patras, Greece <sup>2</sup>Professor Emeritus, University of Patras, Greece

#### Abstract:

The purpose of our study is to examine the consequences of the pursuit of academic qualifications by substitute teachers in Greece in their everyday lives. The data of our research came from conducting semi-structured interviews with 10 substitute teachers, 8 women and 2 men, of public elementary schools from different regions of Greece. From the analysis of the content of the interviews it emerged that the pursuit of academic qualifications has various negative consequences in the everyday life of substitute teachers. However, it also emerged that substitute teachers are able to mitigate these negative consequences in their everyday life, by adopting a discourse of resistance against the discourse of competition cultivated by the implementation of neoliberal policies in the field of education.

Keywords: substitute teachers, lifelong learning, competition, neoliberalism

## 1. Introduction

Permanent and substitute teachers work in primary and secondary education in Greece. They are so-called because they differ in their working status. In particular, permanent teachers work under a contract of indefinite duration, in contrast to substitutes who are hired by the Ministry of Education for a few months a year and are dismissed at the end of the school year, in June. Although permanent teachers are numerically more than substitute teachers, the number of the latter is not small and it is estimated that during the school year of 2023-2024, there were about 50,000, i.e. almost 1/3 of all teachers

Copyright © The Author(s). All Rights Reserved.

<sup>&</sup>lt;sup>i</sup> Correspondence: email <u>nikolakakos.nikos@gmail.com</u>

(Alfavita, 2024). Therefore, the institution of substitute teachers is particularly widespread in Greece.

The recruitment of substitute teachers is done according to their order in national ranking tables. Their classification in these tables is based on the score they collect by taking into account their previous service, the social criteria they may have (such as whether they have minor children or have some degree of disability) and their academic qualifications (such as a PhD, the postgraduate degree and the knowledge of a foreign language) (Official Government Gazette, 2019). Standing on the factor of academic qualifications, it is observed that since the enactment of this recruitment system in 2019 (Official Government Gazette, 2019), more and more substitute teachers are participating in lifelong learning processes in order to acquire more academic qualifications and in this way to get a higher score and thus gain a better chance of being hired.

Acquiring academic qualifications through lifelong learning programs seems to be the concern of more and more workers in order to remain competitive in today's neoliberal labor market. From this point of view, lifelong learning emerges as a field of formation of working subjects that serve the needs of neoliberal labor competition (Nikolakakos & Vergidis, 2022). In our opinion, substitute teachers in Greece are a typical example of workers who participate in lifelong learning programs to respond to job competition, thus securing their jobs. However, what would be important to investigate is the effect this developing competition has on their daily lives.

Taking into account all the above, the purpose of our work is to examine the consequences of the pursuit of academic qualifications by substitute teachers in Greece in their everyday lives.

## 2. The concept of Lifelong Learning

First, it is useful to make a clarification of the term lifelong learning, in order to make it easier to understand the content of our work. Thus, by using the term "*lifelong learning*" we mean "*all learning activity undertaken throughout life, with the aim of improving knowledge, skills and competences within a personal, civic, social and/or employment-related perspective"* (Commission of the European Communities, 2001, p. 9). Lifelong learning contains three types of learning: formal learning, non-formal learning and informal learning (Vergidis, 2001; Karalis, 2013). In particular, formal learning is structured in terms of objectives and time of learning, usually provided by education and training institutions and leads to certification; non-formal learning is also structured in terms of objectives and time but is not provided by education and training institutions and usually does not lead to the acquisition of certification; and finally, informal learning most often occurs randomly through the activities of a person's everyday life, does not have any degree of structure and does not usually lead to certification (Commission of the European Communities, 2001).

#### 3. Literature Review

In this section, we will conduct a brief review of the literature on the subject under consideration.

Vergidis (2001), in his research, examines the formation of the concept of lifelong education from the 1970s to the end of the 1990s in the areas of the European Union (E.U.) and Greece. The researcher finds that the prevalence of neoliberalism, especially during the decades of the 1980s and 1990s, was a decisive development that significantly influenced the formation of the field of lifelong education. Thus, lifelong learning was considered by the E.U. as a solution to the problems of economic globalization, such as economic competition and rising unemployment. Especially in the Anglo-Saxon area, this perception went a step further, as the term "*lifelong learning*" was used more than the term "*lifelong education*", suggesting that the acquisition of knowledge is an individual and not a collective affair. However, viewing lifelong education in economic rather than social terms created several problems in its operation. To overcome these problems, Vergidis (2001) suggests that lifelong education and address all citizens without exception. In addition, he considers it important to train all teachers on the principles of lifelong learning, in order for this effort to succeed.

In her research, Brine (2006) investigates the relationship between the concepts of "*knowledge economy*" and "*knowledge society*", which are found in the official texts of the E.U. for lifelong learning, with the construction of lifelong learners. The research data came from a content analysis of E.U. policy texts from 1993 to 2005. Two types of lifelong learners emerged from the data analysis. The first type includes those with bachelor's and master's degrees. Conversely, the second type includes those who have low-level knowledge and skills. However, according to Brine (2006), the factors of gender, social class and race indirectly determine the formation of the second type of lifelong learners, i.e. those who have a low level of knowledge and skills. The conclusion of the research is that in the context of lifelong learning, there are discourses related to competition, individual effort, continuous development and stratification, contrary to what is formulated in the EU texts. The existence of these discourses highlights regulatory factors such as gender, race, social class, disability, and immigration that shape the relationship between education and the labor market.

The purpose of the research by Tuschling and Engemann (2006) is to investigate the role of the discourse of lifelong learning in the governmentality of the E.U.. The data of the research came from a content analysis of the texts of the E.U. for education and lifelong learning. From the processing of the data, it emerged that lifelong learning promotes the use of techniques for the construction of subjects, which are adapted to the requirements of neoliberalism. Also, the researchers found that lifelong learning, in contrast to the traditional institution of education, is a possibility that citizens can take advantage of, the provision of which is not an obligation of the state towards citizens. Thus, the ultimate goal of lifelong learning within the E.U. is to make society an endless school, from which subjects will emerge who will be solely responsible for the utilization of their individual potential and their well-being.

The subject of Prokou's (2007) research is the implementation of the "governmental strategy" for lifelong learning in Greece as a member country of the E.U.. According to the researcher, lifelong learning was presented by the E.U. as a solution to the issues of economic competition created by globalization, as well as to the easier adaptation of workers to modern volatile work environments. In this perspective, the purpose of lifelong learning became the production of subjects capable of making appropriate learning choices. At the same time, a political discourse on lifelong learning was formed, in which the transfer of the responsibility of meeting the learning needs of citizens from the state to the citizens themselves dominates. As Prokou (2007) mentions, to implement this approach, the states of the E.U. implemented the "governmental strategy", according to which governments using measures in the form of mainly financial incentives, persuasion or threats, try to make citizens take individual responsibility for their learning and at the same time achieve the maximum possible learning outcomes. In Greece, the implementation of this governmentality contributed to the privatization of the lifelong education system and individual responsibility in the learning process of citizens. Consequently, individualism and competition dominated the field of lifelong learning, contrary to the estimations of the E.U., which spoke of strengthening social cohesion.

Ball's (2016) research focuses on how the discourse and practices of neoliberal education reform are shaping a new kind of professional teacher in the case of Ireland. The research data came from both the study of institutional texts and websites on educational issues in Ireland, as well as the content of emails exchanged by the researcher during 2-3 years with teachers in the country regarding the issue of performativity in education. From the analysis of the data, the existence of three basic technologies that the neoliberal reforms have, namely "*market*", "*management*" and "*performance*" was identified. In other words, these are technologies that are governed by the characteristics of entrepreneurship. In addition, the prevalence of a performativity regime and the development of a new accountability framework for teachers was observed. In this way, a new kind of professional teaching subject is promoted, which must possess flexibility and measurable abilities and skills on the basis of a commercial type of accountability. Consequently, the teacher is introduced into a system of control, comparison and standardization, from which there are rewards and sanctions according to the degree of fulfillment of the neoliberal reform requirements.

Taking into account the above, we are led to the ascertainment that lifelong learning, in several cases, takes the form of a field within which the competition requirements of the modern economic model are served, for a well-educated working subject. At the same time, however, competitive conditions are cultivated between learners, as their well-being depends on the qualifications they will acquire from their personal educational choices.

#### 4. Methodology

In this research, we attempt to answer the following question: What are the consequences of the pursuit of academic qualifications by substitute teachers in Greece in their everyday lives?

Our research is a case study. According to Yin (2003), "a case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (p. 13). Many techniques can be used to collect the data in a case study (Berg, 2001). In the present research, the semi-structured interview was used. This type of interview, although very similar to an everyday conversation, requires a specific technique (Kvale, 2007). Furthermore, we chose this type of interview as the high degree of adaptability of the questions to the interviewee allows reflection of their views in great depth (Berg, 2001).

The research sample consisted of 10 substitute teachers from public elementary schools in various regions of Greece. This sample also originated from snowball sampling (Robson, 2002). 8 women and 2 men participated in the research. The ages of the participants ranged from 29 to 37 years. In other words, they are young teachers with 6 to 92 months of teaching experience (see Table 1).

	Sex	Age	Year of graduation	Year of first recruitment	Months of previous service
Int <sup>1</sup> . 1	$M^2$	35	2012	2018	23
Int. 2	F <sup>3</sup>	33	2013	2018	23
Int. 3	F	35	2011	2015	61
Int. 4	F	36	2010	2010	92
Int. 5	М	36	2010	2012	78
Int. 6	F	31	2015	2018	25
Int. 7	F	29	2017	2020	6
Int. 8	F	37	2009	2009	90
Int. 9	F	32	2014	2019	27
Int. 10	F	32	2014	2018	25

Table 1: Demographic data

Note: 1= Interviewee, 2= Male, 3= Female

The interviews were conducted remotely using various digital platforms, depending on the interviewee's preference. In addition, the interviews took place from January to April 2022 on pre-agreed days and times. The average length of the interviews was about 20 minutes. Before the start of the interviews, the interviewees were informed about the conditions of conducting the research, among which was their consent to be recorded.

After the interviews were completed, they were transcribed (Creswell, 2012). A qualitative content analysis was then performed on the text of the interviews based on the purpose of our research (Creswell, 2012).

#### 5. Presentation and Analysis of the Research Findings

Of the ten substitute teachers who participated in our survey, nine responded that the pursuit of academic qualifications has a negative impact on their daily lives. According to their answers, this is due to the negative feelings that the competitive environment "*generates*" in them, as it results from the continuous search for academic qualifications through lifelong learning processes. The competition stemming from the current recruitment system, in which the possession of academic qualifications is positively valued, seems to create a constant sense of inadequacy among substitute teachers, as in the constant comparison of qualifications, substitutes always emerge who are more qualified than others. A participant states:

"[...]<sup>ii</sup> Let's say now we are on summer vacation. If the circumstances were different, we would just take a vacation and recharge our batteries for the next year to come, but this is not the case. Let's say, for the last few days, I have been searching for what I will do and what I will find to get the next qualification. So, it definitely affects me and creates, what I told you before, the turmoil and anxiety about whether I'm adequate. In other words, you have a continuous feeling of inadequacy, even if you have qualifications, which is created by the system itself, by the way, it rates qualifications and by the fact that you actually see people around you who have more qualifications." (Int. 2)

As a result of this constant comparison of academic qualifications, the subjects of substitute teachers become increasingly competitive with each other. The so-called participants are representative:

"[...] Many times, it also makes me feel inferior to someone else who may have, for example, a PhD, and thus increases my feeling of competition. I have to participate in scientific articles, be present everywhere, and generally be in a constant search." (Int. 8)

The constantly fueled competition to obtain academic qualifications seems, according to research data, to lead to the formation of substitute teachers characterized by intense anxiety and insecurity about their working future. In fact, these feelings seem to be intensified by the imminent opening of the substitute teachers' ranking tables, that is, the process where substitute teachers are invited to declare their qualifications and which takes place every two years. One participant states:

"A little insecurity. Stress, for sure. That is, if the ranking charts are opened this year, the stress will reach full capacity, for sure. And they put you in a very big comparison process, which I don't like." (Int. 10)

<sup>&</sup>lt;sup>ii</sup> [...]: Content from the interviewee's words is omitted.

European Journal of Education Studies - Volume 11 | Issue 8 | 2024

#### On the same subject, another participant states:

"[...] this constant insecurity that you feel, that you don't know year after year if you will work again, is a very big issue. And also, the uncertainty of whether, when the charts will reopen, you will maintain your position or fall further down the rankings. So what I'm enjoying now, that I have been hired from the first round of substitute teachers, will it continue in the years to come, or will someone come in with a master's degree, with a PhD and overtake me in the rankings? And let's say I've worked before. The main thing you feel is insecurity." (Int. 6)

In addition, the answers of two other participants focus on the constant stress that governs their daily life and is related to the realization of lifelong learning processes to acquire further academic qualifications, with the aim of strengthening their ranking score and the consequent increase in their chances of working in the future. Specifically, one participant states:

"Stress. I think it's a continuous stress, because we say when discussing with colleagues, that okay we got a master's degree. Will we get a second one? Will we get a third? How much does the other person have? [...]" (Int. 4)

While the other participant states:

"[...] work is a very big part of my daily life. I worry about it, I see where I am in the ranking, if I dropped places, if I went up places, where I will work with this order that I have in the charts, to look for what else I have to do, if I want it ..."<sup>iii</sup> (Int. 3)

In fact, some say they are wronged and angry, as the hiring system claims they are "forced" to acquire academic qualifications to increase their ranking and often through lifelong learning options that do not interest them. In relation to this, a substitute teacher states:

"It exhausts you psychologically, because you always have to do something to climb the rankings. It's not that I want to educate, but that I have to be educated in order not to lose my place in the ranking. So here all I care about is doing those procedures required to get the credits that give me the academic qualifications, regardless of whether I learned or not. [...] When I go of my own will to be educated, I will give all my strength. But here is a different situation, it is a must. I feel very angry and wronged. And not just me. [...]" (Int. 5)

<sup>&</sup>lt;sup>iii</sup> ... : Prolonged silence of the interviewee.

In order to cope with this competition, substitute teachers constantly 'invest' in acquiring academic qualifications. It is a term from the business field used by the participants themselves to describe an entire mindset. The words of a participating substitute teacher outline the situation:

"[...] You see, I use the term "invest" very often. In the past, I may not have used that word as often, but as I get older, I see that everything a person does is indeed an investment. This is why the time we have and our choices are sacred. We should not do something randomly." (Int. 9)

In conclusion, the competition created around the acquisition of academic qualifications seems to largely determine the substitute teachers' self-image, which is clearly reflected in the words of a participant:

"[...] From a point on, I feel that we are cards, [...] we are numbers. We are not entities, we are not people." (Int. 7)

However, in addition to the nine participants who state that the competition created by the pursuit of academic qualifications in order to get a positive rating in the substitute teacher classification has a negative effect on their daily life, there is also one participant who states that the competition in question does not affect his everyday life. This development appears to stem from his own resistance to the dominant discourse of competition and the consequent negative consequences it has on a personal level for substitute teachers. As the participant states:

"[...] All that this situation leaves is bitterness, sadness and misery. [...]. It is something that anyone should resist." (Int. 1)

## 6. Discussion – Conclusions

From the analysis of the content of the participants' answers, it was found that substitute teachers in Greece seek to acquire academic qualifications in order to enhance their scores in the ranking system on which their placement in schools depends. However, this pursuit of academic qualifications through their participation in lifelong learning processes creates great competition among substitute teachers, which has mainly negative consequences in everyday life. After all, the development of competition through the acquisition of qualifications from lifelong learning processes is one of the main characteristics of the modern labor market, as shown by the results of other research (see Brine, 2006; Tuschling & Engemann, 2006).

In addition, as was evident from the responses of the participants, the acquisition of academic qualifications is an individual affair of the substitute teachers through their participation in lifelong learning processes. This finding is added to the conclusions of previous studies (see Prokou, 2007; Vergidis, 2001), according to which the prevalence of the term "*lifelong learning*" expresses the withdrawal of the state from its responsibility for the education of citizens and designation of it as an individual responsibility. At the same time, under this perspective, the individual's work success or failure is attributed to oneself, as it appears directly connected to the educational "choices" of the individual, a clearly neoliberal perception (see Nikoalakakos & Vergidis, 2022; Vergidis, 2001). This perception is found by our research in the case of substitute teachers, reinforcing the conclusions of other research about the penetration of neoliberalism in issues concerning the educational personnel of schools (see Ball, 2016).

Focusing on the competitive consequences of substitute teachers' pursuit of academic qualifications, the results of our research revealed that substitute teachers feel a constant sense of inadequacy in their everyday lives. This is because they themselves engage in a process of constantly comparing their own academic qualifications to those of their peers, always finding someone with more academic qualifications than them.

The constant comparison of academic qualifications, and therefore the additional grading that their holders will receive in the ranking of substitute teachers, intensifies the competition between them even more, since their position in this ranking depends on whether they will work or not. Thus, substitute teachers, as shown by our research data, are dominated in their everyday lives by intense anxiety and insecurity about their carer in this working field.

From this point of view, substitutes are "*guided*" in a continuous process of seeking and acquiring academic qualifications, transforming their everyday life through lifelong learning into a perpetual school, as Tuschling and Engemann (2006) find for the functioning of lifelong learning. learning in society.

The perception of substitute teachers that they are essentially forced to participate in lifelong learning processes, even when they are not interested in them, in order to obtain academic qualifications in order to secure employment creates feelings of injustice and anger in their everyday life.

Additionally, from the analysis of our research data, it appears that substitute teachers approach their participation in lifelong learning processes in terms of entrepreneurship, a terminology not unknown to educators (see Ball, 2016). Therefore, they seem to perceive their everyday life in lifelong learning as a business activity intended to give them the profit of securing a job.

Finally, as shown by the results of the analysis of the research data, the consequences of the pursuit of academic qualifications by the substitute teachers of Greece are multi-level negative for their everyday lives. However, as emerged from one participant's response, the impact of these consequences on substitute teachers' daily lives can be mitigated through the adoption of a discourse of resistance to the dominant discourse of competition promoted by neoliberal policies in education, which is in line with the conclusions and other researches (see: Ball & Olmedo, 2013; Jeffrey, 2002).

#### **Conflict of Interest Statement**

The authors declare no conflicts of interest.

### About the Authors

**Nikos Nikolakakos** is a teacher with a permanent position in Primary Education and a PhD candidate in the Department of Education Sciences and Social Work at the University of Patras. He is also a certified adult trainer of non-formal education. He holds a master's degree in education sciences with a specialization in lifelong education. He has worked for several years as a substitute teacher in public elementary schools in Greece. He is co-author of scientific articles which have been published in reputable Greek and international journals and conference proceedings.

**Dimitris Vergidis** is Professor Emeritus of Continuing Education and Educational Policy at the University of Patras. He studied Mathematics in Greece and Education Sciences in France. He worked at the General Directorate of Greek European Communities Relations of the Ministry of Coordination and at the General Secretariat for Popular Education. He taught at the Pedagogical Departments of the Universities of Thessaly and Patras, as well as at the Hellenic Open University. He has participated in European and international research and in more than 40 research projects in total, in several of which he has been scientific supervisor. He has collaborated in research with scientific institutions such as the Association pour le development des actions collectives d' éducation permanente en Europe (ACEPE), UNESCO Institute for Education, Institut National de Recherche Pédagogique (France), Centro Europeo Dell'Educazione (Italy), Catholic University of Leuven (Belgium).

## References

- Alfavita, 2024. Next month will be dismissed approximately 1/3 of teachers working in school education. <u>https://www.alfavita.gr/ekpaideysi/447065\_epomeno-mina-apolyetai-1/3-peripoy-ton-ekpaideytikon-poy-ergazontai-sti-sholiki. Accessed 18 May 2024</u>
- Ball S, 2016. Neoliberal education? Confronting the slouching beast. Policy Futures in Education 14(8): 1046-1059. <u>https://doi.org/10.1177/1478210316664259</u>. Accessed 2 June 2024
- Ball S, Olmedo A, 2013. Care of the self, resistance and subjectivity under neoliberal governmentalities. Critical Studies in Education 54(1): 85-96. <u>https://doi.org/10.1080/17508487.2013.740678</u>. Accessed 6 June 2024
- Berg B, 2001. Qualitative research methods for the social sciences, 4th edn. Boston, USA
- Brine J, 2006. Lifelong learning and the knowledge economy: those that know and those that do not—the discourse of the European Union. British Educational Research Journal 32(5): 649-665. <u>https://doi.org/10.1080/01411920600895676</u>. Accessed 1 June 2024

Commission of the European Communities, 2001. Communication from the Commission: Making a European area of lifelong learning a reality. Brussels, 21.11.2001 COM(2001) 678 final. <u>https://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2001:0678:FIN:EN:</u>

PDF. Accessed 2 June 2024

- Creswell J, 2012. Educational research: Planning, conducting, and evaluating quantitative and qualitative research, 4th edn. Boston, USA
- Jeffrey B, 2002. Performativity and primary teacher relations. Journal of Education Policy 17(5): 531-546. <u>https://doi.org/10.1080/02680930210158302</u>. Accessed 6 June 2024
- Karalis Th, 2013. Motivations and barriers to adult participation in lifelong learning. Athens, Greece

Kvale S, 2007. Doing interviews, London, UK

- Nikolakakos N, Vergidis D, 2022. The role of lifelong learning in the context of neoliberal governmentality, a first approach. In Proceedings of the 7th International Conference on the Promotion of Educational Innovation, Larissa, 15 – 17 October 2021, Vol. B, pp 597-605, EEPEK. <u>https://www.researchgate.net/publication/359095106\_O\_rolos\_tes\_dia\_biou\_mat\_ heses\_sto\_plaisio\_tes\_neophileleutheres\_kybernetikotetas\_mia\_prote\_prosengise</u> . Accessed 18 May 2024
- Official Government Gazette, 2019. Law No. 4589. 13/A'/29-1-2019. <u>https://www.e-nomothesia.gr/kat-ekpaideuse/nomos-4589-2019-fek-13a-29-1-2019.html</u>. Accessed 1 June 2024
- Prokou E, 2007. The "governmental strategy" in lifelong education in Europe and Greece. Social Cohesion and Development 2(2): 179-192. <u>https://ejournals.epublishing.ekt.gr/index.php/SCAD/article/view/9051/9276.</u> <u>Accessed 1 June 2024</u>
- Robson C, 2002. Real world research, 2nd edn. Malden, USA
- Tuschling A, Engemann C, 2006. From education to lifelong learning: The emerging regime of learning in the European Union. Educational Philosophy and Theory 38(4): 451 469. <u>https://doi.org/10.1111/j.1469-5812.2006.00204.x</u> . Accessed 2 June 2024
- Vergidis D, 2001. Lifelong learning and education policy. In K Harris, N Petroulakis, S Nikodimos (Eds.), Continuing Education and lifelong learning: International experience and Greek perspective. Proceedings of the 9th International Pedagogical Conference; Volos, Greece, November 11-13, 1999. Athens, Greece, pp 127-144
- Yin R, 2003. Case study research: Design and methods, 3rd edn. London, UK

Creative Commons licensing terms

Creative Commons licensing terms Author(s) will retain the copyright of their published articles agreeing that a Creative Commons Attribution 4.0 International License (CC BY 4.0) terms will be applied to their work. Under the terms of this license, no permission is required from the author(s) or publisher for members of the community to copy, distribute, transmit or adapt the article content, providing a proper, prominent and unambiguous attribution to the authors in a manner that makes clear that the materials are being reused under permission of a Creative Commons License. Views, opinions and conclusions expressed in this research article are views, opinions and conclusions of the author(s). Open Access Publishing Group and European Journal of Education Studies shall not be responsible or answerable for any loss, damage or liability caused in relation to/arising out of conflicts of interest, copyright violations and inappropriate or inaccurate use of any kind content related or integrated into the research work. All the published works are meeting the Open Access Publishing requirements and can be freely accessed, shared, modified, distributed and used in educational, commercial and non-commercial purposes under a Creative Commons Attribution 4.0 International License (CC BY 4.0). Creative Commons Attribution 4.0 International License (CC BY 4.0).