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Entry-level education for physiotherapists in Europe: a narrative on the relationship with professional autonomy

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ABSTRACT

Objectives: To investigate if the length of the physiotherapy entry-level education has an impact on the professional autonomy of European physiotherapists and how do professional organisations collaborate with educational facilities to shape the entry-level curriculum? **Design and participants**: Mixed method study using a survey and semi-structured interviews to explore perspectives from 37 policy experts from 37 European countries. **Results**: In Europe four different education lengths (3, 3.5, 4 and 5 years) exist leading to the title of physiotherapist. The current European framework allows for recognised entry-level physiotherapists with either a diploma, a bachelor or a master degree. Regardless of the entry-level education length, 26 out of the 37 countries (70%) reported that professional autonomy is not legalised for physiotherapists. Most of these countries (58%) have an entry-level education preparing physiotherapist to be autonomous. Most professional organisations (62%) reported a structural collaboration to shape the entry-level education. However, 9 out of the 23 countries (40%) highlighted that their actual level of influence on the curriculum is slim. **Conclusion**: The length of entry-level education programs, ranging from three to five years, directly links with the graduates' readiness to practice autonomously. The findings underscored the need for a more harmonized approach to physiotherapy education in Europe. There is a compelling need for ongoing feedback mechanisms between practicing physiotherapists and educational institutions. This will ensure that the curriculum continuously integrates emerging evidence and real-world practice requirements, thereby enhancing employability and professional efficacy.

Key words: Entry-level education, professional autonomy, professional organisation

INTRODUCTION

The entry-level education is the minimum higher education required to be recognised as a qualified physiotherapist. Although these programmes differ across Europe, World Physiotherapy (WP) puts forward that at minimum, the entry-level education should (1) reflect the scope of physiotherapy, (2) ensure practice threshold competencies, (3) enable meeting professional standards and (4) be in line with the applicable qualification framework.[1]

In Europe, two qualification frameworks are used. The Framework for European Qualifications of European Higher Education Area (QF-EHEA) refers to the European Credit Transfer and Accumulation System (ECTS). The European Qualifications Framework for Lifelong Learning of the European Union (EQF-LLL) describes qualifications and uses learning outcomes. The latter is not subject to this paper.

The ECTS is a standard for comparing the higher education students' study attainment and performance across the European Union and other collaborating European countries. The ECTS credits do not indicate a grade, they refer to the workload. Across Europe, the study hours attributed to one ECTS differ. The difference ranges between 25 to 30 hours per ECTS credit.[2, 3] A full study year at a higher education level generally is defined by 60 ECTS ranging from 1.500 to 1.800 hours. ECTS credits are used to facilitate transfer and progression throughout the Union. Students can transfer their ECTS credits from one university to another to get recognised for their previous studies. In the QF-EHEA four cycles are identified.[4] The short cycle qualification with approximately 120 ECTS credits does not apply for European physiotherapy entry-level education. The first cycle qualification includes 180 or 240 ECTS, while the second cycle has a minimum of 60 ECTS but can also be 90 or

120 ECTS. In the third cycle the number of ECTS varies.

World Physiotherapy advises that physiotherapists should be autonomous in the exercise of their profession, including acting as a first contact practitioner enabling patients/clients to seek direct services without a referral from another health care professional.[5] For this study, we are interested in professional autonomy in the public healthcare system for the study. In general, the countries' public health is financed through societal means.[6] The World Health Organization Europe defines public health services as "the art and science of preventing disease, prolonging life and promoting health through the organised efforts of society".[7] Public health care, in relation to private health care, is generally more restrictive towards health professions' autonomy.[8] For this study, we were interested in the relation between entry-level education and the public health care system regulated by the government.

The research questions were:

1. Is there a link between the length of the physiotherapy entry-level education and professional autonomy and practice?
2. How do the professional organisations and the educational institutions interact?

METHODS

DESIGN

We used a mixed method[9-11] study design to collect benchmark data of 38 European Region of World Physiotherapy (ERWP) organisations, clarifying what was available via websites and confirming through a survey and interviews. All 38 ERWP member organisations (MO) received information on the research purpose and methodology, prior to an invitation to participate in a survey. In addition, France as a member of World Physiotherapy also received

the same information. The World Physiotherapy Constitution allows for countries to be a member of World Physiotherapy without being a member of the Europe Region of World Physiotherapy.[12] Subsequent to this, an invitation to participate in an online semi-structured interview was thereafter emailed to the MO expert. The expert is the person, designated by the MO, meeting the following criteria: (1) knowledge of entry-level physiotherapy education, (2) knowledge of the professional physiotherapy organisation and (3) knowledge of the physiotherapy education and practice legislation, policy and guidelines. Table 1 outlines the participants' characteristics. The question protocol (appendix 1) was shared with all participants after being piloted in test interviews.

DATA COLLECTION AND ANALYSIS

The short survey (appendix 2) was created to quantitatively collect basic information on continuing professional education for physiotherapists. The survey-link was emailed to the professional organisations in April 2021. Based on the survey information, the interview protocol was finalised and emailed to the participants.

TN conducted the online semi-structured interviews between 21 June and 3 September 2021 via Google Meet through the university's secured data server to uphold confidentiality and data integrity. The interviews' length was approximately 45 minutes and they were meticulously recorded on the university's secured drive. The interviews with Belgium, the Netherlands and Lichtenstein were conducted in Dutch, as requested by the interview participants. The French interview participant preferred the interview to be in French. Dutch is TN's mother tongue and French is TN's second language, making it feasible to conduct these interviews in the requested languages. The interviews with the other countries were conducted in English. To provide for sufficient clarity and understanding, interview participants were offered possibilities to ask for rephrasing and repetition of questions.

Romania participated with a sworn translator. In adherence to ethical research practices, all participants received a verbatim transcription of their interview. The interviews were analysed in three stages. First, we created factual categories from each interview using a deductive process based on the interview question protocol. In stage two we compared the interview transcript data to the published ERWP and WP websites. Thirdly, comparison was done across all transcripts and websites. Analysis of the findings was done separately by two researchers TN and RM. Consensus in divergent findings was obtained through argumentation.

The data on education available on the ERWP website not always matched the data on the WP website. To include relevant and updated data in the study, the information on both websites was cross-referenced to the interview data on education. Table 2 provides an overview if the interview data matches the data available on the ERWP and the WP websites.

For the countries where the interview data did not match the data on the websites, we searched the websites of the competent authority, indicated by the interview participants, or the websites of at least two universities offering physiotherapy education to assure valid data on the entry-level education length.[13-29] Table 3 provides a country overview of the entry-level education programmes. When there are multiple possible entry-level programmes, the shortest education programme is listed as this allows for the graduate to be recognised and work as a physiotherapist.

RESULTS

STUDY SAMPLE

Out of the 39 invitations, 37 countries (95%) participated. Bulgaria expressed no interest and

declined participation. Ukraine did not respond to the participation request. We conducted one expert interview per country.

MAIN FINDINGS

Three topics were formed from the data. The first topic detailed the different entry-level lengths for physiotherapy education. The second topic comprised evidence on the collaboration between professional physiotherapy organizations and the entry-level education facilities. The third topic discussed the concordance between the entry-level education length and professional autonomy.

Entry-level education length

The majority of countries, 16 out of 37 (43%) had a three-year entry-level programme.
All countries with a three, a three and a half and a four-year education programme had a bachelor title, corresponding to the QF-EHEA first cycle. Belgium, as the only exception, awards successful completion of a four-year entry-level programme with a master's degree similar to the countries with a five-year entry-level education programme corresponding to the EQ-EHEA second cycle.

Professional organisations and entry-level education

Subsequently, we questioned for elements that showed the involvement of physiotherapists of the professional organisation in the entry-level education framework. We found three possibilities. In most countries, 23 out of the 37 (62%), there was a structural collaboration (formal seats on established boards) between the professional organisation and the educational facilities in regard to the entry-level education programme. In eight countries the ad hoc collaboration was situated in (in)formal meeting invitations on specific projects. In the

remaining six countries, professional organisations and educational facilities only collaborated scarcely. This three-tiered collaboration fluctuated on a continuum between the professional organisation defining the curriculum to being consulted without any decisive powers. Figure 1 shows the professional organisation's interaction and possibilities to influence entry-level physiotherapy education.

Entry-level education and professional autonomy

Thirdly, we analysed the concordance between the entry-level education length and the professional autonomy (see figure 2). Legislation on professional autonomy is enacted by the Governing Ministry and, where applicable enforced by the regulator. The regulator is the country's entity watching over the quality of care in the legal defined scope of practice. This is different from the professional organisation. The professional organisation advocates for the profession by defining the scope of practice in the context of research and educational advancements or societal changing demands. Ten countries (27%) indicated that the entry-level education prepares the students to be autonomous and, in their practice physiotherapists are autonomous. In addition, 10 countries (27%) highlighted that the entry-level education did not prepare students to be autonomous in a legal framework not allowing autonomous practice. The third group are 13 countries (35%) that indicate that the entry-level education prepares the students to be autonomous practitioners but the legal framework dictates a referral from another healthcare professional. Finally, Denmark and Sweden, indicate that the entry-level education is not sufficient for autonomous practice. However, their legal framework does allow physiotherapists to engage autonomously with patients.

In Belgium and Switzerland, the situation is more nuanced. In Belgium there is a difference in entry-level education between Flanders and Wallonia. For Flanders the curriculum does

prepare the students for autonomous practice, where it does not for Wallonia. This situation can be attributed to the 6th State reform.[30] In Belgium the regional governments are competent for the education framework where the federal government is competent for the health care. The legal framework does not support autonomous practice in the whole country. In Switzerland the education prepares students to be autonomous in their practice, and in all but two cantons, physiotherapists are legally autonomous practitioners.

DISCUSSION

Entry-level education titles vary across Europe. The two general titles are the bachelor's degree and the master's degree. The bachelor's degree is also referred to as an undergraduate degree. Looking at the length, we found four different physiotherapy entry-level programmes. The degree awarded after completing a three, a three and a half or a four-year programme is the bachelor's degree. We found that some countries called the degree a bachelor of science (BSc.), and others referred to the degree as a bachelor honours (BSc. Hons). The European Commission does not make the distinction in prefixes used by some countries.[31]

Germany is the sole exception rewarding successful completion of a three-year full-time study with a diploma. Since 2010, physiotherapy schools in Germany have linked up with universities of applied sciences and are awarding a bachelor degree.[32] History.Physiotherapy, the international organisation aiming to archive, collate and disseminate the history of physiotherapy, explored in one of their research papers the history of physiotherapy in the post war period in Germany.[33] Due to its history in education and the, only recent, affiliations with universities of applied sciences, the majority of practicing physiotherapists in Germany today still have a diploma degree. Another exception is Belgium, awarding the four-

year entry-level with a master degree. With this, Belgium is the only European country that has a 240 ECTS study programme to this degree.

The future colleagues will shape the workforce of the years to come. Educational facilities provide an evidence-based curriculum that ensures future-proof employability. However, while research on evidence is a continuum progressing, the implementation of the latest evidence into clinical practice in general follows longer cycles.[34]. Societal needs *(What is in it for me?)*[35-38], political willingness *(What can we afford to spend?)*[37-39] and stakeholder readiness *(What are the implications for us as a group compared to others?)*[37, 40] are important factors that can either facilitate or slow down the cycle-fed incorporation of evidence-based practice.

Research progress must be embedded in the physiotherapy entry-level curricula.[41] A practice framework can only be adapted when the regulatory body is assured that the professionals are educated according to the standards necessary within the scope.[42, 43] It is imperative that professionals feedback to the educational facilities on the skills needed by future colleagues. Through this feedback, research can be fed and curricula can be enriched with pragmatic-based elements, leading to future physiotherapy colleagues with the necessary employability skillset.

To answer the question if entry-level education prepares students to act as autonomous practitioners, we put the information on the entry-level education length against the professional autonomy in the country's health care framework.

The first cluster of countries have an entry-level education programme preparing the students for autonomous practice in a health care framework legally allowing autonomous physiotherapy practice. Two countries with a three-year (180 ECTS) entry-level education prepare students to legally act as autonomous practitioners. Five countries with a four-year entry-level education (240 ECTS) allow graduated physiotherapists to practice physiotherapy autonomously. Iceland and Luxembourg, countries with a five-year (300 ECTS) entry-level programme also allow physiotherapists to be autonomous in their practice. The last country allowing physiotherapist professional autonomy is Finland. In Finland, this is allowed after a three and a half (210 ECTS) year entry-level programme.

Of the 16 countries with a three-year entry-level education (180 ECTS), 10 countries (63%) expressed that the entry-level programme does not prepare the students to be autonomous in their practice. In these countries, this is also matched with legislation prohibiting autonomous practice.

There were three countries with a three-year entry-level education (180 ECTS) stating that the programme does prepare the students to be autonomous but the law does not allow autonomous practice. Similarly, eight countries with a four-year entry-level programme (240 ECTS) stated the same. France and Poland, two countries with a five-year entry-level education (300 ECTS) also indicated that although the programme prepares students to be autonomous, the law does not allow autonomous practice for physiotherapists.

Interestingly, although the law in Denmark and Sweden allows physiotherapists to practice autonomously, the interview participants stated that the entry-level education, three years (180

ECTS) in Sweden and three and a half years (210 ECTS) in Denmark, does not prepare the students sufficiently to act autonomous as a health care practitioner.

The interview participant from Switzerland indicated that the four-year entry-level (240 ECTS) does prepare the students to be autonomous and in all but two cantons autonomous practice is allowed. However, we listed this country as a separate case since it is not nationwide. Similarly, in Belgium, the law does not allow autonomous physiotherapy practice. The interview participant highlighted the difference in entry-level education between Flanders (five years, 300 ECTS) and Wallonia (four years, 240 ECTS). The participant stated that in Flanders, the students are prepared to act as autonomous physiotherapists, which is not the case for students graduating in Wallonia. Therefore, Belgium is also listed as a separate case.

Participants from Estonia, the Czech Republic, Italy and Montenegro, countries with a three-year entry-level education, stated that the length of the education is not enough to prepare the students for autonomous practice. Participants from Denmark, Bosnia, Montenegro, Germany and the French-speaking part of Belgium highlighted that the acquired skillset does not match required competencies to act as autonomous physiotherapists. Austria and Sweden declared that the entry-level is not enough but do not specify if the length or the skillset is the reason why students are not ready to be autonomous in their practice. Finally, Lithuania stated that more years of gaining practical experience is needed after the bachelor's level to be able to practice autonomous.

Although entry-level education and practice autonomy are linked, there is, to the best of our knowledge, no information available on the relevance of the length of the entry-level higher

education. On the contrary, studies have been conducted on *competency-based education* (CBE). Johnstone (2014)[44] argued that CBE can be successful if certain principles are followed. To date, there are still gaps to be filled in the CBE research and implementation. [45-47]

According to this paper's findings, we may conclude that the entry-level curriculum should span at least 180 ECTS, accounting for three academic years of full-time education. This length proves at least for the UK and Norway to be sufficient to produce entry-level physiotherapists with full professional autonomy. Professional autonomy is arguably one of the most important elements towards performance and job satisfaction.[48, 49] Enabling professionals to participate in decision-making and development of the profession will enhance a skilled workforce.[50]

CONCLUSIONS

Our study has illuminated the complex interplay between physiotherapy entry-level education, professional autonomy, and regulatory environments across Europe. The length of entry-level education programs, ranging from three to five years, directly links with the graduates' readiness to practice autonomously. Notably, countries like the UK and Norway demonstrate that a three-year program (180 ECTS) sufficiently prepares physiotherapists for autonomous practice, supported by conducive legal frameworks. Conversely, in France and Poland, even though five-year programs equip students for autonomy, restrictive laws impede their ability to practice as such.

These findings underscore the need for a more harmonized approach to physiotherapy education in Europe. It is crucial for educational institutions to adapt curricula that not only

meet minimum ECTS requirements but also align with the evolving scope of practice and legal standards within different countries. Moreover, there is a compelling need for ongoing feedback mechanisms between practicing physiotherapists and educational institutions. This will ensure that the curriculum continuously integrates emerging evidence and real-world practice requirements, thereby enhancing employability and professional efficacy.

Future research should delve deeper into the specific components of entry-level curricula across countries that lack professional autonomy despite comprehensive educational frameworks. Additionally, examining the legal and healthcare system structures of these countries could provide further insights into the barriers to implementing a fully autonomous practice environment for physiotherapists. Such studies would be instrumental in advocating for regulatory reforms and ensuring that physiotherapy education remains relevant and forward-facing in an ever-changing healthcare landscape.

ETHICS APPROVAL

The Hasselt University 'Sociaal-Maatschappelijke Ethische Commissie (SMEC)' approved this study with the reference REC/SMEC/VRAI/201/123. All participants gave written informed consent before data collection began.

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CONFLICTS OF INTEREST

All authors declare that there are no conflicts of interest.

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Table 1. Interview participants' characteristics

	Number	%
Sex		
Woman	23	62
Man	14	38
Profession		
Physiotherapist	37	100
Clinician	6	16
Academic	3	8
Manager	6	16
Clinician & Academic	6	16
Clinician & Manager	9	24
Academic & Manager	2	6
Clinician & Academic & Manager	5	14
Position in the physiotherapy professional organisation		
Executive Committee Member	15	40
Board Member	8	22
International Relations Officer	8	22
CEO/ Director	6	16
Experience in physiotherapy policy development/ legislation		
1 – 5 years	8	22
> 5 years	15	40
> 10 years	14	38

Table 2. Entry-level (in years) data comparison.

country	interview	ERWP	WP	country	interview	ERWP	WP
Austria	3	3	3	Lebanon	4	4	4
Belgium	**4 & 5**	**5**	**4**	Liechtenstein	4	4	N/A
Bosnia	**3 & 4**	**3**	**3**	**Lithuania**	**3,5 & 4**	**N/A**	**3**
Croatia	3	N/A	3	**Luxembourg**	**5**	**3**	**2**
Cyprus	4	4	4	Malta	4	4	4
Czech Republic	3	3	3	**Montenegro**	**3**	**4**	**N/A**
Denmark	3,5	3,5	3,5	Netherlands	4	4	4
Estonia	3	3	3	**Norway**	**3**	**4**	**3**
Finland	3,5	3,5	3,5	Poland	5	N/A	5
France	5	N/A	5	Portugal	4	4	4
Germany	3	3	3	**Romania**	**4**	**N/A**	**3**
Greece	4	4	4	Slovakia	3	3	3
Hungary	4	N/A	4	**Slovenia**	**3**	**3**	**3,5**
Iceland	5	5	5	Spain	4	4	4
Ireland	4	4	4	Sweden	3	3	3
Israel	4	4	4	Switzerland	4	4	4
Italy	3	3	3	Turkey	4	4	N/A
Kosovo	3	3	3	UK	3	3	3
Latvia	4	4	4				

Data in bold highlights the mismatches between the websites and the interviews.

Abbreviations:

ERWP - European Region of World Physiotherapy

WP - World Physiotherapy

N/A – not available

Table 3. Entry-level duration of physiotherapy programmes per country.

3 years		3,5 years	4 years		5 years
Austria	Lithuania	Denmark	Belgium	Liechtenstein	France
Bosnia	Montenegro	Finland	Cyprus	Malta	Iceland
Croatia	Norway		Greece	Netherlands	Luxembourg
Czech Republic	Romania		Hungary	Portugal	Poland
Estonia	Slovakia		Ireland	Spain	
Germany	Slovenia		Israel	Switzerland	
Italy	Sweden		Latvia	Turkey	
Kosovo	UK		Lebanon		

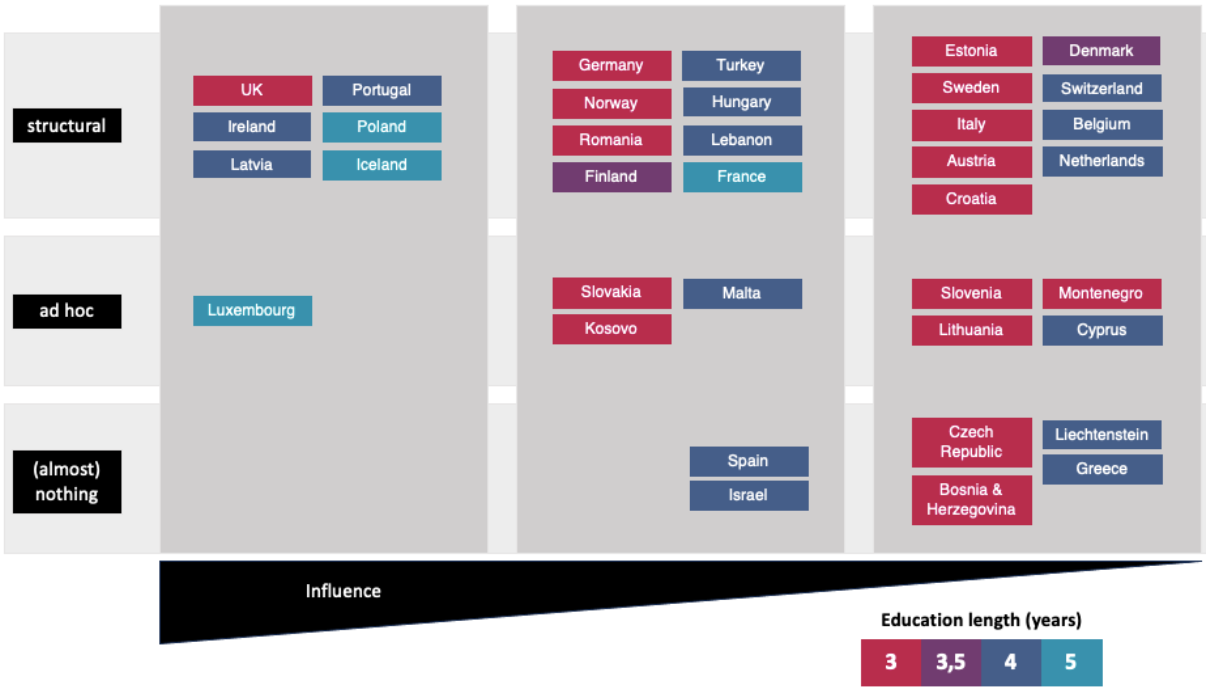

Figure 1. professional organisation's collaboration with and possibilities to influence entry-level physiotherapy education

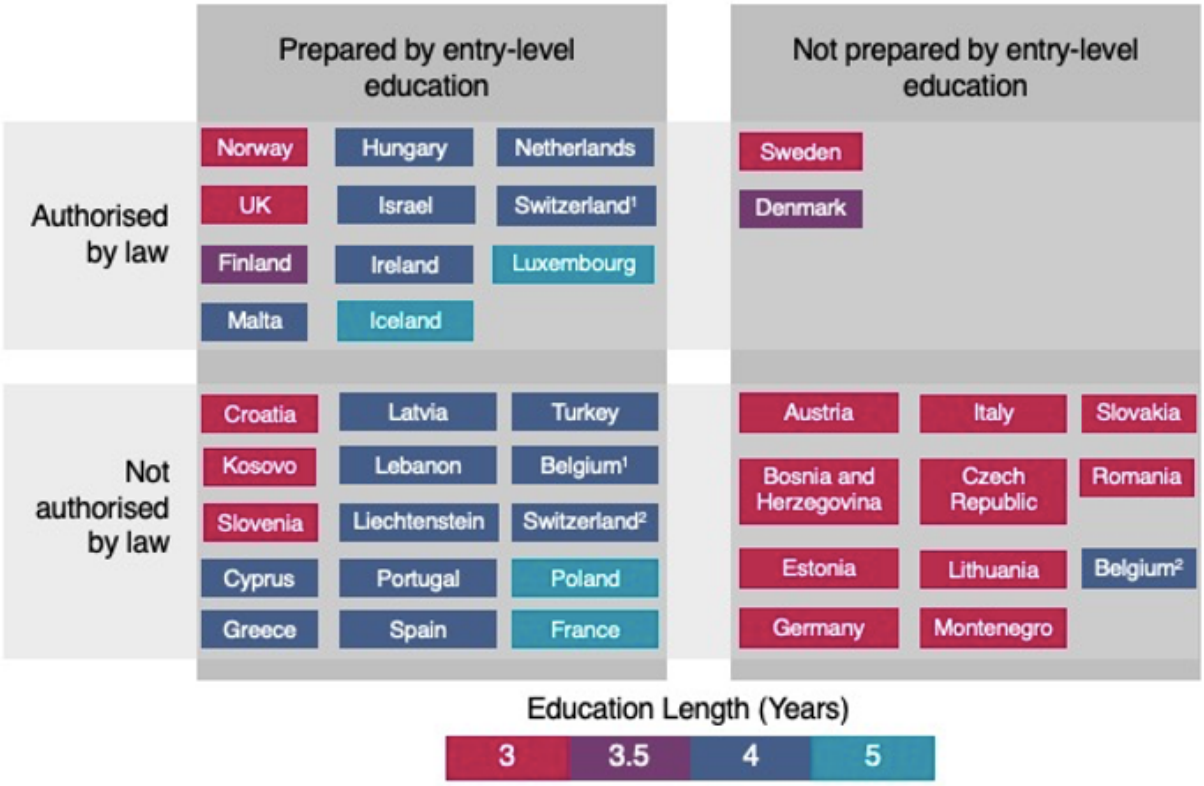

Figure 2. Overview of the relation between the physiotherapists' competences to be autonomous practitioners and the legal authorisation.

APPENDIX 1

TEMPLATE SEMI-STRUCTURED INTERVIEW
(pertaining to the entry-level education)

Continuing Professional Development for Physiotherapists

1. Introduction

- Welcome to the online interview.
- Explanation of the recording and analysis procedure.
- Additional questions from the participant before the start of the interview.
- Pseudonymisation explanation
- Definition of CPD according the World Physiotherapy

2. General information – physiotherapy education and practice

- What is the entry level education for physiotherapists in your country?
- Does the education prepare physiotherapists for autonomous practice?
- Are there subsequent education programmes leading to higher degrees than the entry level?
- What are the benefits of such higher degrees relating to the exercise of the profession in your country?

3. General information – physiotherapy policy and legislation

- Are physiotherapist represented at decision making levels for physiotherapy policy and legislation regulating:
    1. Entry level education and/or subsequent education if applicable?
    2. Physiotherapy practice in general?
    3. Continuing professional development in particular?

…

7. End of the interview

- Any additional remarks?
- Thank you for participating.

APPENDIX 1

Continuing Professional Development Study
Introduction
With this brief survey (maximum 8 minutes) we search to establish a European overview on continuing professional development for physiotherapists. Based on the analysis of the answers provided you will be contacted to schedule a semi-structured interview to elaborate on specific elements in the Continuing Professional Development structure currently applied in your country.
Definition of Continuing Professional Development: "CPD is the process through which individuals undertake learning, through a broad range of activities that maintains, develops, and enhances skills and knowledge in order to improve performance in practice." (World Physiotherapy)

1. Please indicate which country you represent. *

2. Please specify your role in your professional organisation. (More than one answer possible.) *

- [ ] Member of the Executive Committee.
- [ ] Member of the Board.
- [ ] CEO / Director.
- [ ] International Relations Officer.
- [ ] Member.
- [ ] Other.

3. Please provide us with a valid email address to contact you to schedule the individual interview. *

Jouw antwoord

4. Is there a system of Continuing Professional Development for physiotherapists in your country? *

- ◯ YES
- ◯ NO

5. Is the system of Continuing Professional Development for physiotherapists in your country mandatory? *

- ◯ Yes
- ◯ No

6. How is the system of Continuing Professional Development for Physiotherapists in your country monitored? (More than one answer possible.) *

- ☐ Self-monitored by the participating physiotherapist.
- ☐ By the regulating government.
- ☐ By the professional organisation.
- ☐ By an independent organisation.
- ☐ Not monitored.

7. Which approach is implemented in the system of Continuing Professional Development for Physiotherapists in your country? (More than one answer possible.) *

- ☐ Input based (e.g.: learning hours, credit points, ...)
- ☐ outcome based (e.g.: quality of learning, reflective practice, ...)

8. Are there consequences attached to the system of Continuing Professional Development for Physiotherapists in your country? (More than one answer possible.) *

- ☐ Positive incentives.
- ☐ Negative consequences.
- ☐ No consequences.