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FROM IMPOSTER SYNDROME TO HEROIC TALES: DOCTORAL STUDENTS' BACKGROUNDS, STUDY AIMS, AND EXPERIENCES

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ABSTRACT

Aim/Purpose	The aim of this study is to provide a comprehensive picture of doctoral students' dissertation journeys using Finland as a case country. More specifically, the article examines (1) the students' backgrounds, (2) their study motives and experiences, and (3) whether or not these elements are related.
Background	Despite the massification of higher education (HE), there is a shortage of detailed mixed-methods studies about PhD students' backgrounds and their experiences of doctoral study. Existing research does not give a clear indication of the extent to which home background is reflected in PhD applications and whether or not that background is related to the subsequent experience of doctoral students.
Methodology	This paper is based on both quantitative and qualitative data. We utilize a person-based register (N = 18,585) and a survey (n = 1,651). Our main methods are k-means cluster analysis, t-test, and directed content analysis. Our theoretical approach is Bourdieuian. We use the concept of doctoral capital when evaluating the backgrounds, resources, and success of PhD students through the dissertation process.
Contribution	This study uses a mixed-methods approach and is the first to incorporate quantitative data about the entire doctoral student population in Finland. In addition, open-ended responses in the survey make the PhD students' own experiences visible. By approaching our research subject through a mixed methods lens, we aim to create a comprehensive understanding about their dissertation journeys.

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	With this study, we also contribute to the debate initiated by Falconer and Djokic (2019). They found that age, race, and socioeconomic status (SES) do not influence academic self-efficacy and academic self-handicapping behaviors in doctoral students. However, in this study, a link was found between the PhD students' backgrounds (age and parents' SES), and their study aims and experiences.
Findings	Cluster analysis revealed three different groups of PhD students: Status Raisers, Educational Inheritors, and Long-term Plodders. PhD students in these groups have different resources, experiences, and chances to survive in the academic community. There are two main findings. First, the influence of the childhood family extends all the way to doctoral education, even in Finland, which is considered to have one of the most equal HE systems in the world. Some PhD students from low-educated families even experienced so-called imposter syndrome. They described experiences of inadequacy, incompetence, and inferiority in relation to doctoral studies and fellow students. Second, the influence of family background may diminish with age and life experiences. In our study, many mature doctoral students had become empowered and emancipated to such an extent that they relied more on their own abilities and skills than on their family backgrounds. Many felt that their own persistence and resilience have played an important role in their doctoral studies. There were also a few 'heroic tales' about hard work and survival in spite of all the hurdles and distresses.
Recommendations for Practitioners	PhD students are a very heterogeneous group. Their motives and goals for applying for doctoral studies vary, and their backgrounds and life situations affect their studies. There are three critical points educational practitioners should pay special attention to (1) supervision and support (mentoring), (2) length of funding, and (3) granted research periods.
Recommendations for Researchers	Because Finland and the other Nordic countries have a long tradition of equal educational opportunities, we need comparative studies on the same topic from countries with higher educational disparities.
Impact on Society	Inequalities in educational opportunities and experiences originate at the very beginning of the educational path, and they usually cumulate over the years. For this reason, the achievement of educational equality should be promoted not only through education policy but also through family, regional, and social policy decisions.
Future Research	The Bourdieuian concepts of cultural, social, and economic capitals are also relevant in doctoral education. PhD students' family backgrounds are reflected in their motives, experiences, and interpretations in the academic community. Future research should explore how to best support and reinforce the self-confidence of doctoral students from lower SES backgrounds.

Keywords: doctoral students, doctoral education, doctoral capital, cluster analysis, content analysis

INTRODUCTION

Much research has been conducted on the selection for undergraduate education. We know, for example, that education is strongly inherited. The children of highly educated parents apply and access university more often than those of less educated parents (e.g., Becker & Hecken, 2009; Pfeffer, 2008). We also know that the impact of the parents' education is strongest at the early stages of the

educational path (Breen & Johnson, 2005; Mare, 1980; Shavit & Blossfeld, 1993). However, considerably fewer studies have been conducted on the selection for doctoral education (Harvey et al., 2016). Existing research does not give a clear indication of the extent to which home background is reflected in doctoral applications and whether or not that background is related to the students' subsequent PhD experience, thus creating the gap that this study aims to address. Triventi (2013) assumes that the social origins of the doctoral and master's level students are somewhat similar. Turner (1960) speaks about the "sponsorship mobility model," which refers to the socialization of a lower class university student to the lifestyle of an upper class university student. In his view, the effect of family background vanishes after the lower class student is admitted to university and adapts to the academic community. Thus, when applying for further studies, social origin becomes meaningless. On the other hand, there are studies suggesting that family background plays a significant role even after the master's degree level (see, e.g., Mastekaasa, 2006; Mullen et al., 2003; Wakeling, 2005; Wakeling & Laurison, 2017). The probability of applying to pursue doctoral education is higher among the offspring of more highly educated parents (Bachsleitner et al., 2018; Mullen et al., 2003). Mastekaasa (2006) states, accordingly, that doctoral students' parents tend to have academic jobs more often than the parents of master's students.

From a Bourdieuian perspective, academia takes shapes as stratified and hierarchical fields. Students come to play and struggle in these fields with different capitals and habitus gained from their families, previous educational paths, and life experiences. It can be assumed that admittance to university, success in studies, and progress to doctoral studies is not simply a matter of good motivation, study skills, talent or intelligence, but also of social selection, adequate cultural and social capital, and habitus (Bourdieu, 1996, 1988; Cotterall, 2015; Reay et al., 2009; Wakeling, 2005; Wakeling & Laurison, 2017). We assume that in order to succeed in doctoral education, one needs the "right kind of" capital. We use the concept of doctoral capital, which Walker and Yoon (2017) define as a composite of certain academically useful practices, attributes, dispositions, and behaviors.

In this study, we use both quantitative and qualitative data. By using a large statistical dataset on Finnish doctoral students, we examine (1) who these students are and what kinds of groups can be formed on the basis of their backgrounds and study histories. Our aim is also to find out (2) what kinds of study motives doctoral students in different groups have and how they have experienced their studies at university. In particular, we examine (3) whether the backgrounds of the doctoral students and their study aims and experiences are related. The second and third questions are addressed through a survey of doctoral students. By approaching our research subject through quantitative and qualitative lenses, we seek to discover what kind of doctoral capital PhD students have and what universities can do to support doctoral students with different resources and backgrounds.

We use Finland as a case country. The Nordic countries (Denmark, Finland, Iceland, Norway, and Sweden) have a long tradition of fair and equal educational systems. In the Nordic model, higher education is seen as an important pillar in the welfare system as it widens access and educates the professionals needed for the development of the state (Isopahkala-Bouret et al., 2018). Egalitarian traditions also include high levels of public funding, no student fees, and small institutional differences. In recent years, the significance of doctoral education has increased in Finland in line with the global higher education policy trends emphasizing international competitiveness, innovation, and knowledge production (e.g., Kehm, 2007). Since 2009, the number of doctoral degrees awarded has been an important research-based criterion for core funding, along with publishing activity and completed external research funding (Hakala, 2009). This funding model encourages universities to maximize their doctoral "production," although during the last few years, the unemployment of PhD graduates has increased substantially (Ministry of Education and Culture, 2016, 2017). During the last 20 years, the number of doctoral students has tripled, and today, Finland has nearly 18,000 doctoral students (Vipunen, 2019).

In Finland, universities are the only institutions to supply doctoral degrees. At every university, there is a graduate school(s) consisting of several doctoral programs organized by faculties or other units.

Every doctoral student belongs to a doctoral program regardless of their status or funding. The doctoral programs make the selection among applying graduates. However, funded full-time posts for a maximum of four years can only be provided to some students. Understandably, the competition for these posts is fierce. Among the key objectives of Finnish graduate schools are to ensure the quality of high-level education and shorten the time for completing the studies, thereby lowering the age of the graduates.

LITERATURE REVIEW

A line of research exists concerning doctoral students and their experiences of the doctorate. Studies have focused on the students' experiences from various points of views, ranging from supervision (Robertson, 2017), well-being (Posselt, 2018), career prospects (Sauermann & Roach, 2012), and learning to be an academic (Emmioğlu et al., 2017). Frequently used frameworks are socialization and academic identity (e.g., Archer, 2008; Gardner, 2010; Mantai, 2017; Pifer & Baker, 2014), often viewing the students' experiences in relation to institutional contexts, cultures, and practices.

Previous studies have emphasized the importance of providing support for newcomers to the doctoral journey for their self-esteem, sense of belonging, well-being, motivation, and progress (Corcelles et al., 2019; Cotterall, 2015; Emmioğlu et al., 2017; Posselt, 2018). Feeling confident and receiving the support to grow are crucial in terms of nurturing the researcher identity that emerges during doctoral projects (Chakraverty, 2020; Cotterall, 2015). The experience of feeling like a researcher is promoted through validation by oneself and by others in both formal and informal activities (Mantai, 2017). The discipline and departmental contexts influence students' experiences in the sense that supportive environments foster higher completion rates than less supportive environments (Gardner, 2010). Previous research has indicated several other factors, such as supervision, personal and social lives, financial opportunities, and motivational factors that affect the doctoral study experience (Sverdlik et al., 2018).

However, not all PhD students experience the academic setting in a similar way. There are many studies examining different non-traditional PhD student groups, such as first-generation students (Gardner & Holley, 2011; Holley & Gardner, 2012; Roksa et al., 2018), mature-aged students (Fung et al., 2017), international students (Cotterall, 2015), and part-time students (Teeuwsen et al., 2014; Deem & Brehony, 2000). We know from these studies that non-traditional doctoral students often face challenges during their studies. Yet, as Gardner and Holley (2011) note, many non-traditional PhD students demonstrate resiliency in their willingness to overcome those barriers. Some of these studies indicate a relation between students' study experiences and their backgrounds. Gardner and Holley (2011) showed that first-generation PhD students experienced feelings of non-belonging and not being good enough because they lacked adequate previous knowledge and models from home to inform their PhD study experiences. Cotterall (2015) studied international PhD students from an identity perspective, and her study results showed that entering doctoral studies with previous cultural capital helped students gain confidence and construct a more solid researcher identity. However, according to Falconer and Djokic (2019), the relationship between a students' background and their experience of doctoral education is less visible or non-existent; background was not found to influence academic self-efficacy or self-handicapping. Similarly, Matheka et al. (2020) conducted a study in the Kenyan context concerning student background and academic success, and their results showed no evidence for a relationship between the two. However, parental SES was not included as a background characteristic in this study.

These contradictory results about the relationship between student background, study aims, and experience call for further research, especially from a more comprehensive point of view that includes different student groups in the same study, as is the case in our work. Previous research exploring doctoral students and their backgrounds tends to concentrate on either the transition phase (Bachsleitner et al., 2018; Mastekaasa, 2006; Wakeling & Laurison, 2017) or on the students' experiences (Cotterall, 2015; Gardner & Holley, 2011); studies that address background influences on PhD

applications, as well as on study motives and experiences, are lacking. In addition, existing research often combines master's and doctoral level students (Triventi, 2013; Wakeling & Laurison, 2017).

The Bourdieuian framework is not unique in explaining the academic environment and its practices (e.g., Carruthers Thomas, 2019; Clegg, 2012; Marizt & Prinsloo, 2015). However, his concepts are less frequently connected with doctoral student experiences. Gardner and Holley (2011) have relied on social capital in their studies. Gopaul (2011, 2015, 2016) drew on cultural capital and field to explore the experiences and socialization of doctoral students. He argued that specific aspects of doctoral study (i.e., academic publishing, scholarships, and conferences) possessed particular rules of success that PhD students needed to recognize and demonstrate in order to be successful in their doctoral education (Gopaul, 2015). Some doctoral students may possess clear academic habitus and are able, therefore, to conduct the doctoral process with ease. Their early childhood socialization is of great importance in gaining the "right kinds" of tools and schema (Gopaul, 2011).

Peixoto (2014) has examined PhD students in the Swedish context, and especially their habituation to the scientific field. Her study revealed that the students' capital assets and the value of those capitals in the field are connected with the students' perceptions of the scientific field. The more one's habitus conforms to the values of the field, the easier it is to navigate its expectations and conditions, including the uncertainty of the scientific field. Winkle-Wagner and McCoy (2016) examined the underrepresented student acquisition of cultural and social capital in graduate school preparation programs. They found that these programs had a major impact on how students saw themselves and their abilities. The findings of this study indicate a potential shift in students' habitus through the acquisition of cultural and social capital and exposure to the field. These findings indicate the importance of educational institutes in helping students gain adequate cultural and social capital.

The concept of doctoral capital used in this study was introduced relatively recently by Walker and Yoon (2017), offering a new way to utilize Bourdieu's concepts of field, capital, and habitus when evaluating PhD student experiences. Through the frame of doctoral capital, Walker and Yoon (2017) explored the mostly hidden curriculum of academe within the discipline of education, and how students learned the "rules of the academic game." (Doctoral) students' habitus is developed or "primed" from previous experiences and capitals, and any form of capital can lead to more of any other type of capital. In this so-called Matthew effect, those who have are given more and more. In the next section, we will introduce the notion of doctoral capital in more detail.

THEORETICAL FRAMEWORK

Our theoretical framework draws on Bourdieu's work, especially his notion of capitals. According to Bourdieu (1986), families can support their children with different resources, and these resources take the form of different types of capital: cultural, social, and economic. We assume that doctoral students have different kinds of capitals, which they can use in order to succeed during their doctoral education. In this article, we use the concept of doctoral capital (Walker & Yoon, 2017) when evaluating the backgrounds, resources, and success of PhD students through the dissertation process.

In their article "Becoming an academic: The role of doctoral capital in the field of education", Walker and Yoon (2017) examined the learning and enculturation of alumni of a Canadian PhD program in the discipline of education. They found that certain existing and acquired academic practices form a type of doctoral capital that alumni can use in the academic marketplace. Doctoral capital is a composite of various forms of capitals that seem to be relevant to academic success, and it can be further divided into cultural, social, and economic capital. In addition to these, field and habitus are related to doctoral capital. A field is the academic arena in which the struggle for capitals takes place, and capitals emerge through habitus. Access to or surviving in doctoral education can be challenging for first-generation students because they often lack the right knowledge or legitimate academic language. The education system rewards those possessing particular capitals and habitus and punishes those who do not (Gardner & Holley, 2011).

Walker and Yoon (2017) argue that the more doctoral capital one possesses, the more likely one is to secure an academic position post-graduation. One important aspect of doctoral capital is cultural capital, and it can be divided further as embodied (enculturation acquired before and during the PhD), objectified (production of cultural goods and objects, e.g. publications), and institutionalized (official recognition of competence, like degrees). Social capital in doctoral education refers to the useful network of social connections within and outside academia. PhD students can improve their social capital by networking at international conferences in their field, or by connecting with existing research networks. Examples of PhD students' economic capital include scholarships and paid employment in teaching and research positions (Walker & Yoon, 2017).

However, doctoral capital is not a widespread concept. Instead, in many studies, the concept of academic capital has been used when studying the identities, behaviors, and experiences of academics (Djajadikerta & Trireksani, 2010; Rowlands, 2018) and undergraduate students (St. John et al., 2011; Winkler & Sriram, 2015). In our view, doctoral capital comes very close to the concept of academic capital and can be seen as academic capital's sub-concept. St. John et al. (2011) defined academic capital "as social processes that build family knowledge of educational and career options and support navigation through educational systems and professional organizations" (p. 1). Academic capital is transmitted across generations, which is why it is not so often available to those students whose parents did not attend higher education.

According to St. John et al. (2011), underrepresented students often have concerns about costs (economic capital), do not have supportive networks (social capital), and do not know how to navigate through barriers or access trustworthy information (cultural capital). For this reason, they are discouraged from applying to tertiary education in the first place (Wrinkler & Sriram, 2015). Academic capital formation is a complex set of social processes and behavioral patterns that reinforce individual and family commitments to and actualization of cross-generation uplift (St. John et al., 2011).

We assume that a certain amount of capital is needed for succeeding in doctoral studies. Doctoral capital includes, for example, receiving scholarships and grants, publishing in academic journals, participating in international conferences and other networking activities, and possessing language and presentation skills, as well as other skills useful in the academic community. Moreover, we argue that success in the above-mentioned areas can contribute to the development of the scholarly habitus.

DATA AND METHODS

In this study, we utilize two datasets. The statistical dataset covers the whole population of doctoral students (N = 18,585) in Finnish universities in 2011. Statistics Finland compiled the dataset from the Population Register Centre's information system. In addition, we analyze a survey answered by 1,651 Finnish doctoral students from seven universities in 2015 (University of Helsinki, University of Eastern Finland, University of Jyväskylä, University of Lapland, University of Oulu, University of Tampere, and University of Turku). The selected universities vary in size, are located in different parts of the country, and their doctoral students make up almost 85% of all doctoral students in Finland. Data collection was carried out using an electronic Webropol survey with the assistance of graduate schools and doctoral program coordinators. The survey consisted of multiple-choice questions, Likert-scale statements, and open-ended prompts (see Appendix). The variables in both datasets describe, for example, study-related information, a student's family situation and life circumstances, previous education and current professional position, as well as the parents' and spouse's education and professional positions. There are some limitations to the study. First, the statistical data are from 2011 while the survey was conducted in 2015, and, while some of the 2015 respondents may have already been studying in 2011, they are generally different groups. Second, some individuals are more likely than others to complete surveys, and each respondent may interpret the answer options differently, while the statistical information is collected directly from the different registers which minimizes these forms of selection bias.

The statistical data were analyzed with cross tabulations (the data include the whole population, so a chi-square test is not needed) and cluster analysis. Cluster analysis is a multivariate method in which observations are grouped together in such a way that the groups are internally as similar as possible, but at the same time, the differences between the groups are as large as possible (Bahr et al., 2011; Nummenmaa, 2004). Cluster analysis is an explorative method, in which the researcher's own interpretation plays an important role (Nummenmaa, 2004). In the formation of groups, k-means cluster analysis was used. This method is suitable especially for large data. In k-means cluster analysis, the variables must be at least distance scaled. Because variables measured with different scales may lead to result misinterpretation, standardizing the variables before analysis is crucial. In k-means cluster analysis, a researcher sets the number of groups beforehand. Often, trying a variety of experiments before the best result is achieved is necessary. The focus is to study how the variables work as a system. No statistical method is used to select the variables; it is a matter of experimentation and interpretation. After the number of clusters is set, the mathematical center of each cluster is calculated. Then, each instance is assigned to its closest cluster center, and each cluster center is updated to be the mean of its constituted instances. The grouping proceeds iteratively, or until the cluster center values do not change any more (Wagstaff et al., 2001).

In this study, the suitable variables for a cluster analysis were age, years since the master's studies were completed, years since the doctoral studies were started, spouse's education, mother's education, father's education, and mother's income in 1980 (see Table 1). After several trials, the best model turned out to be a three-group model, in which the groups were internally homogeneous, and the differences between the groups were obvious. 6,193 cases were used in the model (33% of all the data). The groups were named Status Raisers, Educational Inheritors, and Long-term Plodders (see Table 1).

After we found these groups in the data covering the doctoral population in Finland in 2011, we moved on to the survey and searched for similar groups. We want to emphasize that the groups formed by cluster analysis are some kind of ideal types. Therefore, we did not intend to look for identical groups in the questionnaire. What matters is *how these groups found differ from one another*. Therefore, we selected from the survey data three kinds of PhD students: doctoral students with *clearly lower home backgrounds* than average; students with *notably higher backgrounds* than the others; and students who had been doing their doctoral studies *for an exceptionally long time*.

In one question, the respondents were asked to estimate their childhood family's social class (upper class/middle class/working class/other). Those estimating themselves as children of upper class parents were labeled as Educational Inheritors, and those belonging to working class families were labeled as Status Raisers. At the beginning of the questionnaire, there was a question concerning the duration of doctoral studies ("What year were you granted a study right for your doctoral studies?"). We named all PhD students who had started their studies before 2005 Long-term Plodders.

Next, we wanted to know what had motivated the respondents to start their doctoral studies and what kinds of experiences they had had while doing a dissertation. For this, we analyzed two open questions: (1) "Please describe in your own words (briefly or in more detail) why you are pursuing a doctorate," and (2) "Why are you or why are you not satisfied with your performance in doctoral studies?" We used directed content analysis, focusing especially on finding out the meanings from the responses. As opposed to conventional and summative content analysis, directed content analysis starts with a theory or relevant research findings as guidance for developing initial codes (Hsieh & Shannon, 2005). Our premise was a Bourdieuian approach to backgrounds and resources, i.e., the doctoral student's childhood family, life situation, and earlier study path will inevitably influence his/her motives and experiences in PhD studies. With directed content analysis, our goal was to validate conceptually this theoretical framework of Bourdieu.

First, we read closely the answers to questions (1) and (2) mentioned above and highlighted all the text that appeared to represent our main theoretical concepts: capitals and habitus in the field of academia. Then, we categorized the answers as positive or negative. After that, we looked for emerging key themes. Typical themes related to student experiences were, for example, finance, time management, mentoring, experiencing community, intrinsic/extrinsic motivation, self-esteem, and self-confidence. For example, we assume that low confidence in one's own abilities may be due to a lack of self-esteem and feelings of not belonging to academia (lack of capitals, habitus problems, etc.). After that, we compared the coded answers and themes in different groups and checked if they differed.

In addition, we utilized one Likert-scaled question of the survey, which asked doctoral students to evaluate their scientific performance in their own discipline, including, for example, academic traits, abilities, and skills. (In fact, these competencies are highly needed in order to succeed in doctoral studies. They are thus one expression of doctoral capital.) In 13 out of 19 questions, there were statistically significant differences between the socioeconomic status (SES) of parents (upper class/working class) or between the age (young/mature) of doctoral students (see Table 2). We used the t-test to determine the significant differences between the groups (upper and working class, young and mature PhD students).

THREE GROUPS OF PHD STUDENTS WITH DIFFERENT AIMS AND EXPERIENCES

STATUS RAISERS: STUDYING WITH FEWER CAPITALS AND WEAKER SELF-ESTEEM

We named the first and the largest group Status Raisers because these students have the lowest family background in terms of parents' education level. About half of the parents have an upper secondary degree only. The mother's income was one of the variables used in the cluster analysis. The Status Raisers' parents, especially their mothers, earn significantly less than the others' parents do.

The Status Raisers are the youngest group, with an average age of 33 years (see also Figure 1). They started their doctoral studies approximately three years ago. In this group, there are more women (57%) than in the other groups. The majority (65%) of the Status Raisers are married, although their number is lower than that in the other groups. The Status Raisers' spouses have a low education compared with the spouses in the other groups (within the entire population, their education level is rather high, though). Almost half of the Status Raisers do not have children. The Status Raisers typically study in those fields that have been classified as popular, such as the natural sciences, health sciences, and pharmacy. They are also overrepresented in engineering.

Table 1. Variables used in the cluster analysis and the three doctoral student groups

Variable	Status Raisers	Educational Inheritors	Long-term Plodders
Age	33	35	42
Years since the master's level was completed	5	6	15
Years since the PhD studies were started	3	4	11
Spouse's education	lowest	high	highest
Mother's education	lowest	highest	low
Father's education	lowest	highest	moderate

Variable	Status Raisers	Educational Inheritors	Long-term Plodders
Mother's income	lowest	highest	moderate
N (%)	2,778 (45%)	2,275 (37%)	1,140 (18%)

The Status Raisers were also the largest group in our survey. Of the respondents, 549 doctoral students belonged to this group. The most common reasons for the Status Raisers to start their doctoral studies were genuine, a long-term interest and passion for research. A typical story was that the courage to apply for a doctoral study place was born after a successful and excellent master's thesis process. Often, the graduate's own supervisor encouraged him/her to apply for postgraduate studies.

> *"At a certain level, I believe that I "dreamed" of doctoral studies or the opportunity they offer to do research when I applied to university, but I never really dared to hope for such a chance for myself. However, while doing my master's thesis, the positive comments from my supervisor encouraged me to the extent that I dared to verbalize my interest in research."* [Female, 29 years, art and culture studies]

Besides intrinsic motives, many Raisers started their doctoral studies because there were difficulties in getting another job outside university.

> *"The problem with the physicists is that nobody wants us. The employment rate of graduates is good, but you must know what kind of job you are capable of. Many end up as coders. When this uncertainty vanished in my mind, and at the same time, I was able to try to become the second doctor in my father's family, it would have been difficult to say no."* [Male, 27 years, physics]

> *"After completing my master's degree, it was made clear that the only way to continue working in my current job was to become a doctoral student. There were no other jobs in my field (biology). To my surprise, I was accepted and got a four-year contract, for which I was paid a (small) salary. The work is consuming, and I would not have wanted to do a dissertation in any case; it just seemed to me that no other option was given (in addition to unemployment or unrelated jobs)."* [Female, 33 years, biology]

Sometimes, doctoral studies were the only reasonable option. In this situation, it is understandable that the doctoral students are not motivated to do their best. In addition, if circumstances at university are not as good as they should be, the motivation to study can vanish completely. As one doctoral student put it: *"I am quite dissatisfied, because I feel that my previous studies have been more interesting and more fruitful, and I have progressed considerably better than in the doctorate studies. Nowadays, I consider the academic world and especially my own discipline to be a bad joke, and I myself am no exception."* [Male, 35 years, political science]

There were also many positive comments. About half of the Raisers felt that everything was running smoothly. *"I have managed to develop myself and my abilities, more or less on a pre-set schedule, and I am mostly optimistic about the work I'm doing."* [Third sex, 29 years, art and culture studies] On the other hand, many had also experienced that duties outside the academia had slowed down their progress. *"I have, however, been able to take my studies further over the years, even though, as the only child, I had to arrange my father's funeral and then take care of my mother for several years, and, to top it all, look after my own family and run a business."* [Female, 52 years, management]

One of the common problems with undertaking doctoral studies was financial issues. Typically, the Raisers had to deal with temporary contracts and part-time jobs. This often slowed down the PhD process considerably. *"With no funding available at the moment, the process is on hold and motivation is lost."* [Male, 30 years, biology] However, some PhD students tried to make their dissertation while unemployed and with unemployment benefits, but this was very demotivating and frustrating, as expected.

Quite a few Status Raisers wrote that they had problems with self-esteem and self-confidence; they have constant doubt about themselves and their abilities and competencies.

> *"I have an imposter syndrome: I know I'm doing well, my dissertation is progressing well compared to many other students and I'm getting good feedback, but still nothing is enough for me. The social and networking side, in particular, is a problem: I am very nervous about appearances, and I do not speak or write good enough English, I do not come up with smart comments at seminars and I cannot open my mouth. I am afraid that I will be unemployed afterwards."* [Female, 29 years, Finnish and Finno-Ugric languages]

Many Status Raisers described experiences of inadequacy and incompetence. Based on our data, it appears that imposter syndrome affects especially women with low-educated family backgrounds. According to previous studies, individuals with the imposter syndrome experience intense feelings that their achievements are undeserved, and someday others will find out that they are complete frauds. (e.g., Clance & Imes, 1978; Sakulku & Alexander, 2011). These feelings may be related to the experiences of being an outsider in the academic world. Many Raisers came from families without academic competencies, and compared to the Educational Inheritors, the Status Raisers are, from the beginning, in a much weaker position in relation to knowing the unspoken rules of the academic field. This can be clearly seen in Table 2, where there are visible differences in doctoral capital between upper and working class students. The PhD students with high SES evaluate themselves as more able to "market" their expertise, are more outspoken and socially networked, consider themselves as convincing speakers, and have better foreign language skills than the low SES PhD students.

Table 2. Doctoral students' evaluations of their doctoral capital by SES and age
(1 = strongly disagree, 5 = strongly agree)

Variable	Upper class	Working class	Young (→ 40 y)	Mature (41 y →)	Upper/young	Upper/mature	Working/young	Working/mature
I'm dedicated to research and science	2.80	2.95	**3.04*** **	**2.70*** **	**3.00***	**2.47***	**3.07*** **	**2.71*** **
I want to go far in my career	2.90	2.95	**3.21*** **	**2.60*** **	3.10	2.58	**3.17*** **	**2.51*** **
I'm very productive in terms of writing and publishing	2.49	2.49	**2.58*** **	**2.35*** **	2.67	2.21	**2.57*** **	**2.32*** **
I'm willing to compete in order to be successful in my career	2.35	2.31	**2.50*** **	**2.00*** **	2.53	2.05	**2.49*** **	**1.94*** **
I want to stand out from the other students	2.35	2.55	**2.76*** **	**2.23*** **	2.53	2.05	**2.74*** **	**2.15*** **
I'm able to "market"/ bring out my expertise	**2.65***	**2.34***	**2.45***	**2.36***	2.52	2.79	2.36	2.29
I consider myself an outspoken person and it's natural for me to socialize with people	**3.18** **	**2.78** **	**2.82** **	**2.95** **	3.07	3.37	2.72	2.91
I'm a convincing speaker and performer	**3.16** **	**2.79** **	**2.84*** **	**3.04*** **	3.00	3.42	**2.70*** **	**2.98*** **
It's easy for me to get to know new people and create social networks	**2.73***	**2.43***	2.50	2.52	2.60	2.95	2.43	2.43
I have a lot of ingenious ideas and I consider myself creative	3.08	2.95	**2.99*** **	**3.12*** **	3.00	3.21	2.91	3.04
I have high tolerance for setbacks and criticism in terms of my dissertation project	2.94	3.00	**2.89*** **	**3.07*** **	3.00	2.84	**2.94** **	**3.13** **

Variable	Upper class	Working class	Young (→ 40 y)	Mature (41 y →)	Upper/young	Upper/mature	Working/young	Working/mature
I master English and/ or another major foreign language fluently	**3.16***	**2.88***	**3.17*****	**2.71*****	3.17	3.16	**3.00*****	**2.60*****
I'm well socialized in the customs and rules of the academic life	2.90	2.67	**2.84*****	**2.43*****	3.03	2.68	**2.80*****	**2.41*****

*** p ≤ 0.001; ** p ≤ 0.01; * p ≤ 0.05

EDUCATIONAL INHERITORS: DOCTORAL STUDIES AS A NATURAL CONTINUUM OF EDUCATION PATH

The Educational Inheritors indicate the inheritance of education. Both parents (especially fathers, with as many as 70% of the fathers having completed at least a master's degree) are usually highly educated and well paid. The majority of the Inheritors' parents are in upper white-collar positions. Among the parents, there are also professors from different fields.

Fifty-five percent of the Educational Inheritors are women. They are a couple of years older (35 years) than the Status Raisers (see Figure 1), and they have been conducting doctoral studies for four years, on average. The majority of their spouses have completed a university degree as well. About 60% of the Educational Inheritors live in the metropolitan area, and the number of urban people is slightly higher (94%) than that in the other groups. Their most typical fields are elitist, such as law, medicine, and veterinary science, and they are also found in the social sciences.

In the survey, the Educational Inheritors group was the smallest, consisting of only 47 students. They have typically started their doctoral studies as a natural continuum after completing their master's degrees. Usually, a supervisor had asked the student to continue his/her research after graduation.

> *"When doing my master's thesis, the professor suggested that I could continue my research on the same subject. This created a very good job base with my supervisor, and I had the basic knowledge of my research topic."* [Female, 25 years, law]

> *"I had thought about it before I was pursuing a master's degree, so I applied for a doctoral study place soon after my undergraduate studies began. The Faculty of Medicine at the University of Helsinki also encourages undergraduate students to pursue postgraduate studies, and I applied to the medical scientist program in the first year of study."* [Female, 23 years, medicine]

Many Educational Inheritors studied medicine, a discipline in which one can apply for the medical scientist program in the first year of master's level studies. Hence, these students made their career decisions long before graduation. On the one hand, many said that doctoral studies had been a childhood dream, maybe because there were already doctors in their family, and they were familiar with the dissertation process. On the other hand, some were already working when the idea of a dissertation first came to mind.

> *"When I worked as a dentist, certain experiential problems began to interest me. I wanted more information about these and became interested in doing the research. As I talked to the docent of that specific field, he inspired me to do research and start doctoral studies."* [Female, 54 years, dentistry]

Even though the Educational Inheritors often had clear visions and schedules for the dissertation, many also had the feeling that there was not enough time for doctoral studies. Many doctoral students in this group work full-time, and conduct the thesis only during their spare time. *"A good job has prevented me from dedicating myself to research. I can't even have unpaid holidays!"* [Female, 43 years, law] Some also felt that they have to scatter too much of their work. As one respondent put it: *"I'm a jack of all trades, master of none."* [Female, 23 years, medicine]

None of the respondents blamed their supervisors or other study-related reasons when they pondered the reasons for their slow progress. This was interesting because our next group, Long-term Plodders, frequently blamed poor supervision or teaching for the delay in their doctoral studies.

Long-term Plodders: The Mature Learners of Doctoral Education

The Long-term Plodders completed their master's degree approximately 15 years ago, and over 10 years have passed since the beginning of their doctoral studies. The Long-term Plodders are the oldest doctoral student group; three-quarters are over 40 years of age, and one-quarter are over 50 years of age (Figure 1), whereas about 90% of the Status Raisers and the Educational Inheritors are under 40 years. As regards gender distribution, the Plodders are the most even group (51% women). Nearly 90% are married, and they usually have one to two children. In this group, there are more rural people than the average of the three groups.

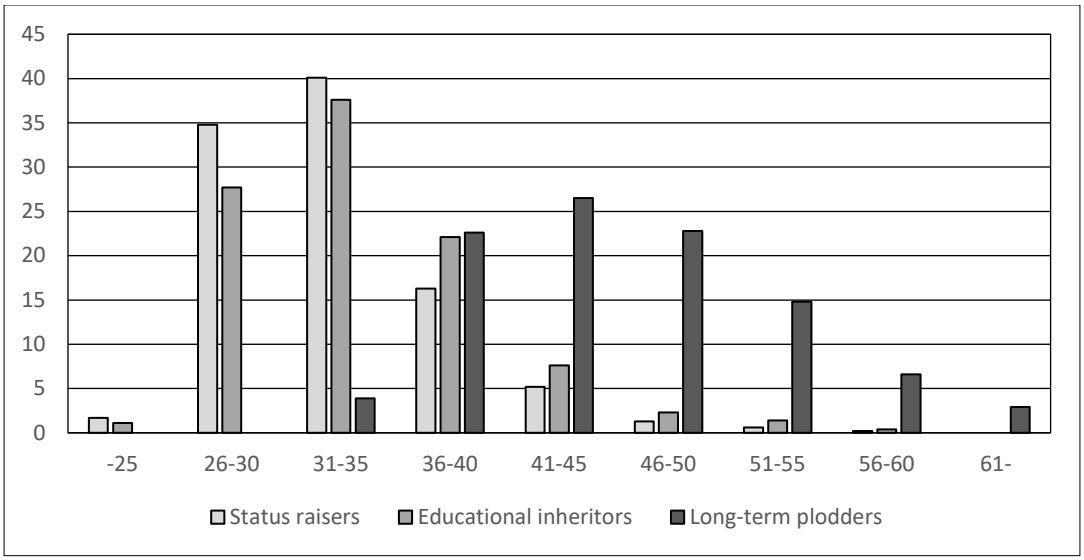

Figure 1. Age distribution by groups

The Plodders' socio-economic status is slightly higher than the average, with three out of four classified as upper white-collar employees. They also earn the most, more than 56,000 euros per year. Their income is, of course, associated with their socio-economic status, occupation, and age. The spouses of the Long-term Plodders are also highly educated. However, the education level of their parents, especially their mothers, is quite low. When we compare the education level of the Status Raisers' and Plodders' parents with that of the Educational Inheritors' parents, rather significant differences can be observed. Whereas almost 60% of the Educational Inheritors' mothers and over 70% of their fathers have at least a tertiary level higher education degree, within the Plodders, these are 11% and 33%, respectively, and within the Raisers, only 5% and 12%, respectively.

The Long-term Plodders have concentrated particularly in the soft and/or applied fields of study, such as education, economics, and arts. They are overrepresented also in the fields of agriculture and forestry, theology, and sport sciences.

There were 110 Long-term Plodders in the survey. Many reported having an intrinsic motivation to do research. Although the Plodders were often slightly older when starting their doctoral studies, and their studies have proceeded slowly, many describe doctoral studies as a spiritual and intellectual oasis beside burdensome and sometimes unfulfilling employment. Some even wanted to leave their permanent occupation and become full-time doctoral students.

> *"I taught at the university for six years in fixed-term contracts, until the work ended. After that, I worked as an elementary school teacher, but very soon, I wanted to leave that job and apply for doctoral studies. Work at the elementary school seemed to diminish my ability to think. Every day was like cutting through stone, a dull eating away of my thoughts."* [Male, 42 years, education]

A common story is that the student had started doctoral studies soon after graduation, but for one reason or another, the thesis has not progressed. Often work outside academia has taken the person away, or the family situation did not give much choice.

> *"I started my doctoral studies right after graduation. However, full-time work elsewhere took me along, and I returned to doctoral studies a decade later. Years elsewhere in working life had enormously increased my working life skills. The intellectual challenge and long-term, independent research about a topic I have pondered for many years just feels the right choice today."* [Female, 39 years, political science]

The majority of the Long-term Plodders feel that their doctoral studies have progressed too slowly, which puts pressure on them.

> *"My doctoral studies have been delayed for unexpected reasons in my personal life. Doctoral studies do not withstand delays, biases, questioning the research frame, or distortions in the supervising process. The delay in doctoral studies increases financial problems, the accumulation of pressures (both for the doctoral student and the productivity of the institution), weakens motivation, and increases the risk of interruption."* [Female, 41 years, social sciences]

The Plodders also often felt that they were doing their doctoral dissertation alone, and many felt loneliness in academia. Some especially criticized the supervising, describing it as either very poor or almost non-existent. Among the responses was one extreme example of neglected guidance, even bullying. This example shows how a supervisor can make it very difficult for a doctoral student to progress in his/her studies.

> *"After the initial slipperiness, my supervisor has made it impossible for me to progress throughout the research process. The supervisor does not respond to messages or requests for discussion, does not support my grant applications, does not read the text I have provided to him or the pre-material of the seminar presentations, does not greet me in the corridor, throws barbs at me and publicly humiliates me. If a supervisor does not want you to succeed and gain a foothold in the community, you will not get it either. Where is the line between bad or neglected guidance and bullying?"* [Female, 47 years, education]

Compared to the other two groups, the Plodders were the most dissatisfied with their studies and academic supervision. At the same time, many felt that their own persistence and resilience have played an important role in their doctoral studies. There were even a few 'heroic tales' about hard work and survival in spite of all the hurdles and distresses.

> *"All in all, I am very dissatisfied with this process and the fact that it has taken so long. But at the same time, however, I am very happy with myself and the fact that, in spite of all the hardships, I've been able to hang on resiliently with this project and it is now almost ready."* [Female, 41 years, medical genetics]

As one can see in Table 2, the most statistically significant differences in doctoral capital were found between young and mature doctoral students. Therefore, we can assume that the PhD student's age is a critical factor when evaluating doctoral capital. Younger doctoral students have taken a more explicit approach to current education policy, focusing on competition, self-promotion, efficiency, productivity, and internationality. Mature PhD students, on the other hand, have more confidence in themselves and their abilities. They are also more resilient when facing barriers during the doctoral journey. We argue that age-related certainty, in a way, compensates for SES-related shortcomings in doctoral capital.

DISCUSSION

Similar to this study, previous studies (Lahenius & Martinsuo, 2011; McAlpine & Turner, 2012; Peura & Jauhiainen, 2018; Sauermann & Roach, 2012; Vuolanto et al., 2006) have shown that doctoral students differ in their prospects, aspirations, study processes, and orientation towards an academic career. The Long-term Plodders represent the traditional Finnish PhD student type preparing his/her dissertation for a long time and with dedication, usually alongside university tasks, and mostly in the soft fields. In many respects, they resemble traditional adult learners. In the study by Peura and Jauhiainen (2018), a group called the Self-civilizers resembled the Plodders in age and study field. The Self-civilizers were aware of the expectations around productivity but reacted to these by positioning themselves on the margin. They did not actively pursue a research career, but rather studied according to the Humboldtian tradition (see e.g., Pritchard, 2004), which prioritizes individual development. In Lahenius and Martinsuo's study (2011), two groups of doctoral students, the Hobbyists and the Wanderers, resembled the Long-term Plodders. Both groups engaged in slow, explorative, and hobby-like study activities.

With regard to selection, the Status Raisers are a very interesting group. This group seems to represent the ideal type in the tradition of equality of Finnish HE, for whom academic studies mean upward mobility. The Educational Inheritors are very much the opposite of the other groups. With regard to their background, they resemble in many ways the elite of society. They come from families with a high cultural and economic capital, and they study in so-called elitist fields. Interestingly, they are also the inheritors of academic capital, more often than the others are; for example, they are professors' sons and daughters. Doctoral education serves as one of those institutions of society that enable people in the highest social positions to transfer their power and capital to their offspring (Silvennoinen & Laiho, 1994) in order to maintain their position and avoid the decline of social status. The Educational Inheritors' own professional position or income is not necessarily that high yet, but they are most certainly the winners of the future.

The statistical data we analyzed show that there is not just one doctoral student prototype, but that the students significantly differ with regard to their age, duration of studies, family background, social status, and life situation. The motives and goals for applying to postgraduate studies vary, and a doctoral student's background and life situation inevitably affect his/her studies (see Table 3).

Table 3. Study motives and experiences of the three doctoral student groups

	Status Raisers (n = 549)	Educational Inheritors (n = 47)	Long-term Plodders (n = 110)
Motives	Intrinsic and extrinsic: Passion for research, own long-term interest Master's thesis supervisor encouraged Unemployment	Mainly extrinsic: Master's thesis supervisor encouraged Natural next step after master's level studies Own interest (childhood dream)	Mainly intrinsic: Own interest, studies as a "spiritual oasis" Professional development
Experiences	Positive and negative: Self-development Lack of time (duties outside the academia) Funding problems Lack of motivation and self-esteem (imposter syndrome, habitus problems).	Mainly positive: Clear visions and schedules, BUT many had lack of time to do their PhD studies because of full-time work duties Did not problematize PhD studies or being a PhD student: felt like a fish in the water.	Mainly negative: Lack of time (duties outside the academia) Feelings of loneliness, experiences of poor supervising and teaching Still, there were a few 'heroic tales' about hard work and survival

The Status Raisers often started their postgraduate studies simply because they had a passion for research. In this group, there were also PhD candidates whose motives for doctoral studies were more extrinsic, such as difficulties in getting another job. The motivation for starting the studies was naturally reflected in how the studies were perceived. The main challenges for the Status Raisers were duties outside the academia, difficulties in funding postgraduate studies, and motivational and self-esteem problems. Some felt that they were not good enough. Although their studies had progressed well, they experienced a sense of inferiority commonly referred to as the imposter syndrome (Chakraverty, 2020). In Cotterall's (2015) study, international students lacking previous cultural capital experienced similar feelings. The imposter syndrome applies to individuals who reflect differences (Chakraverty, 2020), especially when compared to the perceived majority of the institution (Gardner & Holley, 2011). Feelings of inferiority created by imposter syndrome can challenge student confidence and overall well-being, potentially leading to diminishing diversity, graduation delays, or even non-completion (Chakraverty, 2020; Cisco, 2020; Corcelles et al., 2019; Cotterall, 2015; McAlpine & Norton, 2006). Doctoral students suffering from imposter syndrome feel academically unprepared (Cisco, 2020) and often refrain from asking for help (Chakraverty, 2020) which seriously undermines one of the core aims of doctoral education to grow an individual's independence as a researcher (McAlpine et al., 2014). In addition, imposter syndrome adds an extra layer to the already challenging environment of doctoral education which has been seen to discourage students from planning academic futures (Sauermann & Roach, 2012).

For the Educational Inheritors, doctoral studies seemed to be a natural next step after graduation. The world of academia was well known as most of their parents had a university degree. Unexpectedly, for them, the dissertation was more of a sideline alongside more important assignments (like full-time work). Especially those Inheritors who studied medicine felt that there was simply a lack of time for postgraduate studies. Unlike the previous two groups, the Long-term Plodders usually had an intrinsic motive for starting postgraduate studies. Many of them felt, however, that they were alone and somehow "in the margins" of academia.

In conclusion, we can say that there are clear differences in the amount and quality of doctoral capital between the groups. The Educational Inheritors felt that things were going pretty well and experienced themselves as "fish in the water." There were no big challenges in their lives, even though interesting full-time jobs sometimes did not allow them to concentrate properly on their doctoral studies. This study does not suggest that they had any shortage of doctoral capital. The situation of the Status Raisers is completely different, however. In line with previous research (Cotterall, 2015; Gardner & Holley, 2011), their dissertation journey was slowed down by the lack of sufficient doctoral capital – especially economic and cultural capital. Along with this, they doubted their own skills and felt that they were in some way inferior. In Bourdieuian terms, they have an inappropriate habitus, for which they blame themselves.

This study revealed how age and life experiences may reduce the influence of the childhood home background. The Long-term Plodders are a good example of this situation. Even though they lack social and cultural capital, they believe in themselves and in their prosperity. Like Gardner and Holley (2011) have stated, many non-traditional PhD students demonstrate a sense of resiliency when facing barriers. This kind of attitude resembles the aspirational capital described by Yosso (2005), which is the ability to maintain one's hopes and dreams for the future even in the face of real and perceived barriers. The problem is not the wrong kind of habitus, but rather poor supervision and teaching. It is also worth mentioning that although the Plodders had not gained much capital from their childhood home, their current family – including, for many, a highly educated partner – was a source of great support (see also Walker & Yoon, 2017).

How, then, can the academic community best support its novices? Doctoral programs should be developed to take better account of PhD candidates' different life situations, backgrounds, study motives, and aims. We argue, based on our research, that there are three critical points we need to pay special attention to: (1) supervision and support, (2) funding, and (3) granted research periods.

With proper and close supervision and support from a supervisor and a research group, a doctoral student can more easily socialize into the academic community (Holley & Caldwell, 2012). Feelings of belonging can increase in group contexts where insecurity is allowed and accepted (Cisco, 2020). Supervisors and other staff need to demonstrate understanding of the various ways in which doctoral students access research culture (Deem & Brehony, 2000), recognition of students as academics (Emmioğlu et al., 2017), and greater valuation of diversity (Cotterall, 2015) in their interactions with doctoral students since just being a member of the community is insufficient (Corcelles et al., 2019). For example, new doctoral students could have a mentor (postdoc or an older PhD student) to help them learn about their field and faculty and thus smooth their journey (Cisco, 2020). This would especially benefit the Long-term Plodders, who often have feelings of isolation and marginalization, as well as the Status Raisers, who face problems with low self-esteem and motivation. Previous research has found that full-time students are able to benefit from the resources and support of the research community while part-time students have trouble establishing appropriate contact for support (Deem & Brehony, 2000; Lahenius & Martinsuo, 2011). Allocating funds for full-time students directs and promotes the path towards successful completion of the process (Lahenius & Martinsuo, 2011). According to Maunula (2014), the "amateurishness" in doctoral study has vanished as professionalism has increased. Nevertheless, not all students head for a research career (Lahenius & Martinsuo, 2011; Peura & Jauhiainen, 2018). There is no professional doctoral education in Finland, as opposed to, for example, Anglo-Saxon countries (Neumann, 2005). Maunula (2014) suggests, however, that some universities could concentrate on educating younger doctoral candidates for research careers while others could focus on mature students working outside of academia.

Many doctoral students have difficulties with research funding. Particularly the Status Raisers reported how a shortage of funding had slowed down their dissertation process considerably. According to Corcelles et al. (2019), funding issues were among the main challenges faced by doctoral students during their studies. Whenever possible, the duration of funding should be lengthened and short funding periods should be avoided. The slow progress of doctoral studies also bothered the Educational Inheritors, but the reason behind their delay was usually full-time employment. In these cases, the possibility of granted research periods should be considered.

Falconer and Djokic (2019) studied how academic self-efficacy and academic self-handicapping behaviors were related to the PhD student's gender, race, age, and socioeconomic status. Their results revealed that there was not a statistically significance between these factors. The aim of our study was to investigate how the background factors of doctoral students are related to their study experience and progress of PhD studies. Although the concepts and theoretical starting points we use are different from those of Falconer and Djokic (2019), we are talking about similar issues. We assume that self-efficacy and all behavior in the academic field are an essential part of doctoral capital and habitus.

CONCLUSION

Three groups of PhD student can be identified based on our results: Status Raisers, Educational Inheritors, and Long-term Plodders. PhD students in these groups have different resources, experiences, and chances to survive in the academic community. Our research has also shown that the influence of the childhood family extends all the way to doctoral education, even in Finland, which is considered to have one of the most equal HE systems in the world (Marginsson, 2015). Some PhD students from low-educated families even experienced so-called imposter syndrome (Clance & Imes, 1978; Sakulku & Alexander, 2011). They described experiences of inadequacy, incompetence, and inferiority in relation to doctoral studies and fellow students. However, the influence of family background may diminish with age and life experiences. In our study, many mature doctoral students had become empowered and emancipated to such an extent that they relied more on their own abilities and skills than on their family backgrounds. Many felt that their own persistence and resilience have played an important role in their doctoral studies. When faced with problems, they did not doubt

themselves exclusively, but were able to see potential problems and shortcomings in their surrounding community as well. These 'heroic tales' told about hard work and survival in spite of all the hurdles and distresses.

We therefore argue that adequate support and supervision, extended funding, and granted research periods would improve doctoral students' well-being and sense of belonging. Future research should explore whether this kind of support would be sufficient to reinforce the self-confidence of students with imposter syndrome or if the academic community must do more. Finland and the other Nordic countries have a long tradition of equal educational opportunity, and so comparative studies with nations with higher educational disparities are also required.

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APPENDIX

[Please note that the actual survey has 16 pages, so this appendix contains only the main questions, not the answer options.])

BASIC INFORMATION

1. What is your gender?
2. What is your year of birth?
3. What country are you from?
4. Which Finnish region ('maakunta') do you live in?

BASIC INFORMATION ABOUT YOUR DOCTORAL STUDIES

5. What is your discipline and your main subject?
6. In which university are you pursuing your doctoral degree?
7. What year were you granted a study right for your doctoral studies?
8. What year did you start your doctoral studies?

LIFE SITUATION

9. Which of the following best describes the progress of your doctoral studies?
10. Please, describe why you are currently studying part-time or not at all.
11. Which of the following best describes your current employment situation?
12. What is your monthly gross income (€)?
13. Which of the following best describes your current economic situation?
14. Do you have children?
15. What is your spouse's or cohabitant's highest education?
16. Which of the following best describes your spouse's or cohabitant's socioeconomic status?
17. Does your spouse/cohabitant work in the academia?

PARENTS´EDUCATION AND OCCUPATION

18. What is your mother's (or female guardian's) basic education?
19. What is your mother's (or female guardian's) vocational education?
20. What was your mother's (or female guardian's) principal socioeconomic status during your childhood/youth?
21. What is your father's (or male guardian's) basic education?
22. What is your father's (or male guardian's) vocational education?
23. What was your father's (or male guardian's) principal socioeconomic status during your childhood/youth?

CHILDHOOD HOME

24. Please, estimate what was your childhood home's financial situation like?
25. Estimate how common the following issues were in your childhood home?
26. Estimate whether the following statements apply to you.
27. Next statements concern your parents' (or guardians') attitudes towards education and studying.
28. Please, describe in your own words (in brief or in detail) what kind of issues in your childhood home (= the social and cultural environment you grew up in) has either furthered or hindered your performance in your study career (from basic education to university studies).

STUDY HISTORY

29. Choose the grade that best describes your performance in senior high school.
30. What master's degree do you hold?
31. In what country did you complete the master's degree mentioned in the previous question?
32. How would you evaluate the ranking position (or the "prestige") of the university you graduated from (master's degree)?
33. What year did you graduate (master's degree)?
34. Choose the grade that best describes your performance in master's studies.
35. Have you finished some other academic degrees besides the master's degree mentioned in previous question?

APPLYING TO DOCTORAL STUDIES

Please reply to the questions in this section from the point of view of your current doctoral studies in Finland.

36. What was your primary status at the time you decided to apply for doctoral studies?
37. Which of the following were required in order for you to be granted a doctoral study right?
38. Estimate how easy or difficult it was for you to get study right for doctoral studies (in the scale 1–10).
39. Estimate how much the following matters motivated you to start pursuing doctoral degree.
40. How important the following issues were for you when you were choosing the suitable doctoral program and/or university for your doctoral studies?
41. How systematic/planned was your decision to apply for doctoral studies?
42. Did someone working at the university encourage you to apply to doctoral studies?
43. Please describe in your own words (briefly or in a more detailed manner) why you are pursuing doctorate.

FUNDING

44. Which of the following best describes the funding of your doctoral studies at the moment?
45. Have you got research grants during your doctoral studies? By research grants we mean personal grant that is intended to cover the working and living expenses of the student.
46. Have you applied and been granted funding from your home university's graduate school/doctoral program?
47. Estimate how important the following forms of funding are in your doctoral studies at the moment.
48. The next statements concern the funding of your doctoral studies. Choose the answer alternative that best describes your experience.

DISSERTATION AND PUBLICATIONS

49. Are you writing a monograph or article-based dissertation?
50. How important were the following factors when choosing the topic/theme of your dissertation?
51. How many publications etc. have you produced by now by yourself? Incorporate also manuscripts that are presently under evaluation or already admitted.
52. How many co-authored publications etc. have you produced by now? Incorporate also manuscripts that are presently under evaluation or already admitted.

SUPERVISION, SUPPORT AND SOCIAL NETWORKS

53. Where does your main supervisor work?
54. What is the gender and age of your main supervisor?
55. Estimate how well the following statements describe the scientific and supervision merits of your main supervisor?
56. How often do you receive supervision from your supervisor(s)? Take into account all one-to-one guidance offered by all your named supervisors.
57. How much supervision/support do you need in the following matters?

SCIENTIFIC PERFORMANCE AND FUTURE PLANS

58. Estimate the importance of the following traits, abilities and skills in the doctoral studies in your discipline.
59. Estimate how well the following descriptions apply to you.
60. Are there any other traits, abilities and skills (not mentioned in the previous questions) that you find significant in doctoral studies in your discipline?
61. Estimate how well the next descriptions reflect your experiences. Under each statement choose the answer that best describes your experience.

62. Please, reflect your answer to the last statement: Why are you or why are you not satisfied with your performance in doctoral studies?
63. Estimate how many years will it take for you to graduate (the total number of years from the beginning until graduation)?
64. Please, describe in your own words what kind of career you are pursuing after graduation?
65. Finally I would ask you to estimate which social class or social stratum your childhood family belonged to?

66. Please, explain your answer to previous question: Why did your family belong to the particular social class/stratum?

THANK YOU FOR REPLYING!

BIOGRAPHIES

Hanna Nori is a sociologist and university researcher at the Department of Education and the Unit for University Pedagogy at the University of Turku, Finland. Her research explores access to higher education, master's and doctoral students, and educational equality in terms of social, regional, linguistic, and gender influences. Dr. Nori also leads the Gaining Access to Tertiary Education (GATE) project which aims to explore the state of equality within Finnish higher education at the turn of the 2020s and map ways of improving equal access.

Marja Peura is a doctoral candidate at the Department of Education, University of Turku, and in the Centre for Research on Lifelong Learning and Education (CELE). Her research examines the experiences of internationally mobile doctoral students from life-course and identity perspectives.

Arto Jauhiainen is a professor of education at the Department of Education, University of Turku, and in the Centre for Research on Lifelong Learning and Education (CELE). His research interests cover sociology and policy, especially in relation to higher education, doctoral education, and academic governance.