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To cite this article: Mohammad Moshtari & Martin C. Schleper (25 Sep 2024): Supervisors' power sources and doctoral students' working conditions: a qualitative study of doctoral supervision in a developing country, *Studies in Higher Education*, DOI: [10.1080/03075079.2024.2408667](https://doi.org/10.1080/03075079.2024.2408667)

To link to this article: <https://doi.org/10.1080/03075079.2024.2408667>



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# Supervisors' power sources and doctoral students' working conditions: a qualitative study of doctoral supervision in a developing country

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## ABSTRACT

Higher education institutions around the world seek to expand their capacity to compete with one another in attracting more doctoral students and recruiting talented researchers by enhancing the quality and performance of their doctoral programs. In this study, we adopt a service perspective lens and explore the relationship between doctoral supervision and students' working conditions by investigating the influence of supervisors' power sources. Interview data was obtained from 22 doctoral students and 16 supervisors studying and working, respectively, at public universities in Iran. The findings suggest that the use of mediated power by supervisors is associated with poor-quality doctoral supervision, which negatively impacts the mental well-being and perceptions of decent work of doctoral students. Building on the literature and evidence from the interviews, we elaborate our arguments and offer several practical implications for higher education institutions.

## ARTICLE HISTORY

Received 30 September 2023  
Accepted 20 September 2024

## KEYWORDS


Doctoral supervision; power sources; service perspective; working conditions; resource-constrained countries; Iran

## Introduction

Universities prepare doctoral students to become scholars at higher education institutions (HEIs) or knowledge workers in industry. Like faculty members, doctoral students are at the core of universities' human resources (Baruffaldi, Visentin, and Conti 2016). They are the main contributors to more than half of all research projects conducted at universities and published papers (Barry et al. 2018) and are often an important source of public funding and/or tuition fees. Therefore, to generate income through tuition fees or recruit doctoral students to work on funded projects, HEIs across the world are seeking to expand their capacity to compete in attracting and recruiting more doctoral students by enhancing the quality and performance of their doctoral programs and bolstering their doctoral graduates' employability in academia and industry. To this end, HEIs and public policy should rigorously and continuously examine doctoral programs at the institutional level (Hnatkova et al. 2022).

This is particularly true as many doctoral students face challenges during their studies that can lead to negative results, including high attrition rates and delays in completion time. Jones (2013) reports that between 33% and 70% of those who start to do a doctorate never finish it, while van

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 Supplemental data for this article can be accessed online at <https://doi.org/10.1080/03075079.2024.2408667>.

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de Schoot et al. (2013) find that roughly only 10% of students finish a doctoral program within the designated years. High dropout rates among doctoral students are a key concern for universities, as they have a negative impact on their performance and reputation, as well as on the societies and funding bodies that invest in the training of doctoral students (Schmidt and Hansson 2018). Analyzing the factors that lead to abandonment or delay in completion is therefore essential to address these issues and reduce their impact (Iglesias, Entrialgo, and Müller 2020).

Previous research suggests that the working conditions of doctoral students have a key influence on dropout and attrition rates and students' success in terms of publication scores and larger scientific networks (Corsini, Pezzoni, and Visentin 2022). Consequently, scholars have called for research to understand the precursors of working conditions in the HEI context (Dinis et al. 2022). At the same time, the supervision experience (i.e. the student-supervisor relationship) is arguably the most important antecedent in students' perceptions of their working conditions, in the success of doctoral programs, and in achieving more rapid progress and lower attrition rates among students (McAlpine and Norton 2006).

Despite the substantial attention that supervision has received, scholars call for more nuanced research on this topic (McCray and Joseph-Richard 2021). Among the open questions to be solved are how the supervisory relationship is related to perceived working conditions, such as a lower sense of well-being among doctoral students, and how supervision can be improved to enable the working conditions that students need (Hunter and Devine 2016; Levecque et al. 2017). Furthermore, Schmidt and Hansson (2018) suggest that future research should consider interdisciplinary studies and employ theories from other fields, such as management and social sciences, to understand the complexity of working conditions and offer suitable coping tools or strategies. Lastly, the quality of doctoral supervision and its impact on students' working conditions has attracted the attention of many researchers in developed countries, but the same cannot be said of resource-constrained countries, especially in Asian countries (Wang et al. 2023) who face complex challenges that are insufficiently addressed in the literature (McCray and Joseph-Richard 2021).

This study responds to these various calls for research by exploring the relationship between supervisors' power sources, and type of doctoral supervision on one hand, and doctoral students' working conditions on the other. In this vein, we investigate the following research question: *Which power sources do supervisors rely on, and how do they influence the type of doctoral supervision and doctoral students' working conditions?*

To answer this question, we explore the working conditions of doctoral students in Iran, a resource-constrained country, through a service perspective. More precisely, we conceptualize doctoral students as service recipients and supervisors as service providers. Viewed through this lens, doctoral students are recipients of services provided by HEIs, such as doctoral courses, research resources, and supervision. Doctoral supervision is seen as an intensive, two-way interactional process in which, ideally, supervisor and doctoral student 'consciously engage each other within the spirit of professionalism, respect, collegiality and open mindedness' (Alam, Alam, and Rasul 2013, 876).

The data for our study were obtained through interviews with 22 doctoral students and 16 supervisors from public universities in Iran. Iran is among the top 10 countries in terms of the size of its higher education system, along with countries such as China, India, and the United States (Levy 2018). In 2022, there were more than 150,000 doctoral students at Iranian universities (Saeedi 2024). Doctoral programs in Iran last four years: two years of courses, a comprehensive examination, and a dissertation. Public universities do not pay salaries to doctoral students, but the latter are exempt from tuition fees for the first four years. If their studies last longer than the four years provided for, they must pay these additional fees.

So far, there is little research aiming to understand the student-supervisor relationship in this context (i.e. from a research-constrained country such as Iran). Exemptions are the study by Ahmadi and Weisi (2023) who focus on students' perceptions of supervisor-student research relations in teaching English as a foreign language and Ahmadi (2022) who explores the influence of student voice on assessments in the Iranian context.

Our study contributes to previous literature on doctoral supervision quality in the higher education domain by examining how the quality of supervision and the working conditions of doctoral students in the management and economics departments in Iran can be enhanced. We provide insights into the relationship between doctoral supervision as a service and the working conditions of doctoral students. Moreover, we elaborate on power source theory to investigate the influence of sources of power in doctoral supervision. The study has several implications for leaders and policy-makers in higher education to enhance the non-mediated power of supervisors and mitigate the risks of their mediated power. Besides the obvious advantages for HEIs, the findings should also help reduce brain drain and bolster the human capital of resource-strained countries by revealing pathways that can lead to fewer talented students leaving home for more competitive HEIs abroad.

The remainder of this article is structured as follows: Next, we present the theoretical background of our study, comprising an overview of the literature on power sources, doctoral supervision from a service perspective and doctoral students' working conditions. Section 3 presents the qualitative methodology, including the approach, data collection and data analysis, while Section 4 provides our findings. Subsequently, we discuss these findings in light of previous studies and present the theoretical and practical implications. The final section concludes this article with the study's limitations and avenues for future research.

## Theoretical background

### *Supervisory relationships*

Although there has been a growing demand for doctoral programs in recent years, previous research has pointed out that doctoral students face considerable challenges, such as financial insecurity, project difficulties, worries about uncertain futures, and heavy workloads attributable to multiple commitments (McCray and Joseph-Richard 2020). These factors decrease students' productivity and progress toward degree completion (e.g. McCray and Joseph-Richard 2020; Schmidt and Hansson 2018). For many students, these factors may even lead to dropping out of doctoral programs (Castelló et al. 2017) and/or mental disorders (Buirski 2020; Levecque et al. 2017). One way to mitigate these concerns is to address how supervision is practiced.

The most significant factor in doctoral candidates' satisfaction is their supervision (Halbert 2015) and hence, a significant amount of research has focused on the supervisory dynamics central to postgraduate education. This body of work has explored various supervision models (e.g. single supervision vs. group supervision; peer support (Hutchings 2017; Wang et al. 2023)) and the essential tasks and functions required for postgraduates to achieve independence as scholars. Besides these elements of the supervisory relationship, the styles and characteristics of supervisors have been identified as key for the effectiveness and quality of supervision relationships (Peng 2015). For instance, Armstrong (2004) finds that students perceive an improved supervision quality when their supervisors possess an analytical cognitive style (Armstrong 2004). Peng (2015) finds the supervisor leadership style affects students' supervision satisfaction, paternalistic leadership in particular. Kam (1997) advocates to jointly consider factors like quality and style of supervision and the role expectations of students and supervisors as well as the particular subject that is studied. Furthermore, previous studies identified power dynamics as an important factor in supervision relationships (e.g. Shang et al. 2019).

From a negative perspective, supervision relationships can encompass a wide range of descriptions, such as non-cooperative, exploitative, authoritarian, unreflective, or non-collaborative, as when no attention is paid to the differences between students and their learning needs. From a positive perspective, collaborative supervision does not undermine students' individual and social creativity and talents.

In the following we will first summarize the literature on power sources and subsequently introduce doctoral supervision from a service perspective. Lastly, we will give a brief overview of the factors of doctoral students' working conditions.

### **Power sources**

Power is a complex and sociologically amorphous construct which can be discussed from very different sociological and philosophical perspectives. In this study, we apply a Weberian relational understanding of the concept, according to which power is described as ‘the probability that one actor within a social relationship will be in a position to carry out his own will despite resistance, regardless of the basis on which this probability rests’ (Weber 1947, 152). This perspective foregrounds the asymmetry in the relationship between two parties. Power has been investigated in detail, and power asymmetries between recipients and suppliers are regarded as the rule rather than the exception (Nyaga et al. 2013). These asymmetries can have various sources; one of the most frequently used is French and Raven’s (1959) distinction between coercive and non-coercive power sources, which was refined by Maloni and Benton (2000) and defined as mediated (i.e. coercive, reward, and legal legitimate) and non-mediated (i.e. referent, expert, and traditional legitimate) power.

The verdict in previous research on power asymmetries is largely negative as they have been found to lead to issues around unfair value appropriation and exploitation (Schleper, Blome, and Wuttke 2017), quality and performance issues (Crook and Combs 2007), sustainable and responsible management (Hoejmoose, Grosvold, and Millington 2013), and collaboration and commitment in general (Brito and Miguel 2017). However, others have noted that such asymmetries can sometimes be beneficial if the two parties have high goal alignment, if the weaker party also gains advantages from maintaining the relationship (Hingley, Angell, and Lindgreen 2015), and if the source of power is not coercive or mediated (Schleper, Blome, and Wuttke 2017). If relationships are governed by non-mediated power sources like expertise or legitimate or referent power, the less powerful party does not necessarily perceive the asymmetry as problematic and might even be emotionally tied to the more powerful party (Ke et al. 2009) because of a belief that inter-party differences are (largely) justified.

Power has been identified as influencing the supervisor–supervisee relationship in previous research (Hemer 2012; Wang et al. 2023) and it is generally believed that the supervisor’s behavior sets the tone for the relationship (Deuchar 2008). Traditionally, the power source of the supervisor is often defined in terms of referent power; that is, a power–knowledge asymmetry that gradually shifts toward a more evenly distributed power relationship as the doctoral student progresses and gains more knowledge (Lee and Green 2009). When perceived this way, supervisory relationships can be viewed as close and potentially mutually respectful mentorships and forms of co-operation (Petersen 2007).

However, power sources in doctoral supervision have also been discussed more skeptically, potentially leading to ‘conflict, isolation from others, trauma and “fraught discipleship”’ (Hemer 2012, 828). For instance, Green (2004, 154) sees a high degree of structural asymmetry in these contexts, with supervisors having hierarchical power and playing several roles: ‘boundary maintainer, gatekeeper, judging eye’. Vähämäki, Saru, and Palmunen (2021, 2) state that this darker side of power has been neglected for too long in studies of supervision and that more critical discourse is needed; they propose ‘that the power inherent in all social relationships might prevent a balanced negotiation of roles in the supervisory relationship.’ Supervisors have all forms of power sources available, including punishment and the allocation of resources of different kinds; consequently, they also have the option to abuse the supervisory relationship (Lian et al. 2014).

### **Doctoral supervision from a service perspective**

We argue that if doctoral supervision is to be effective, it should be considered a service rather than a commodity—or even worse, a burdensome chore—and take fully into account the characteristics of service delivery that distinguish it from product delivery. For instance, service operations are based on client–supplier duality, with the client providing at least some input into the transformation

processes that create the service (Sengupta, Heiser, and Cook 2006). Service quality heterogeneity, which is an intangible capacity rather than a physical inventory, and simultaneous production and consumption are other features characteristic of service operations (Ellram, Tate, and Billington 2004). When HEIs see doctoral supervision as a standard commodity and consider students to be mere consumers with little or no impact on the service, it is hardly surprising that supervision so often fails to be collaborative.

In general, supervision can be collaborative or exploitative. In the former scenario, both supervisor and doctoral student stand to gain. Supervisors can benefit from the social and academic activities that come with supervision (McCray and Joseph-Richard 2021). In genuinely collaborative supervision, the unique set of each student's needs, experiences, and capabilities will be assessed and considered. Students should readily share their opinions and reflect honestly on their educational gaps. Therefore, offering quality collaborative supervision requires professors to spend enough time with each student and not to leave doctoral students alone during their study journey. To this end, advisors and faculty should be informed of students' needs and encouraged to support them, a role that goes beyond traditional classroom teaching and research project supervision (Litalien and Guay 2015).

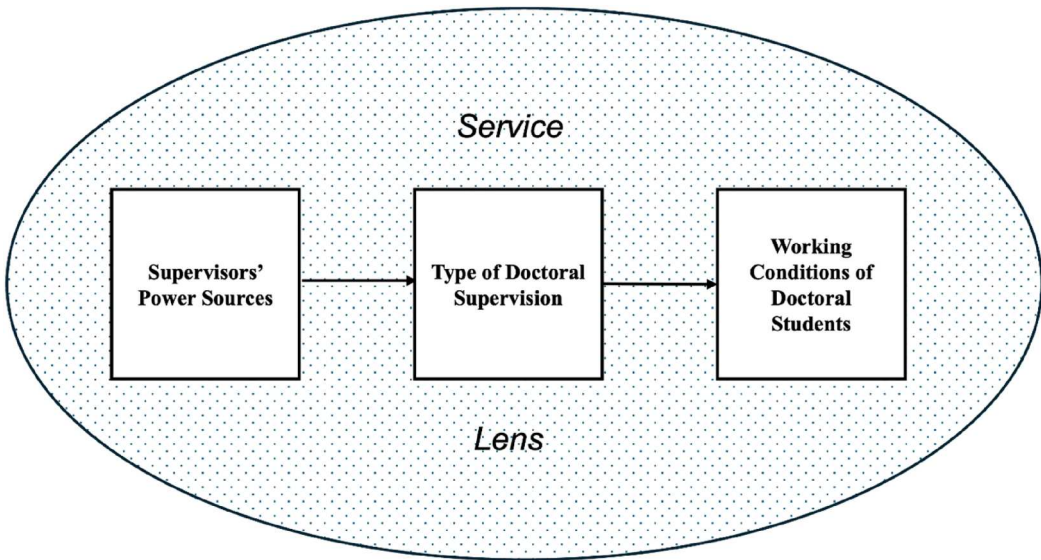
Supervision can be more collaborative when a doctoral student's thesis topic is closely related to the supervising faculty member's research area(s) (Hemmati and Mahdie 2020). Establishing a personal relationship also helps provide a safe environment for students to share concerns, ask questions, and solicit feedback. Along these lines, interpersonal and communication skills are crucial in good student-supervisor relationships (Deuchar 2008). Supervisors should clearly communicate their expectations to students to minimize tensions in the relationship (McCray and Joseph-Richard 2021). In non-collaborative supervision, students' differences and experiences will not be considered, undermining their individual and social creativity and talents (Hemmati and Mahdie 2020).

### ***Working conditions and doctoral students***

Assessment of doctoral training is often focused on numbers of publications and the intensity of conference participation, but it is important to investigate doctoral programs from different perspectives to learn about satisfaction levels among doctoral students (Schmidt and Hansson 2018). One aspect of doctoral student satisfaction relates to their working conditions, an indicator that can help estimate attrition, retention, and progress to completion.

A review of the literature reveals that working conditions are comprised of two key components: mental well-being (e.g. Schmidt and Hansson 2018) and decent work (e.g. Dinis et al. 2022). Mental well-being issues in doctoral students refer to anxiety, depression, burnout, and general psychological distress and have recently been discussed in the literature due to their impact on attrition, retention, and progress to completion (Hunter and Devine 2016). Fatigue and tiredness are two terms that describe burnout, which permeates all aspects of the daily lives of those who suffer from it. People in all kinds of careers are susceptible to burnout. However, it is more prevalent among academic staff since interactions with people (i.e. between service providers and service recipients) can be a significant source of stress (Graça et al. 2021).

The second aspect relates to the issue of decent work. Scholars have begun paying increased attention to decent work and how it can be improved. The International Labour Organization defines decent work as follows: work that is productive and delivers a fair income, security in the workplace and social protection for families, better prospects for personal development and social integration, freedom for people to express their concerns, organize, and participate in the decisions that affect their lives, and equality of opportunity and treatment for all women and men. It is important to consider respect for the human dignity and autonomy of doctoral students, who should feel supported and trusted and be treated impartially and fairly (e.g. Löfström and Pyhälä 2020).



**Figure 1.** Preliminary research model.

Doctoral students with low decent-work perceptions are less creative and innovative, have lower motivation to publish papers in high-quality journals, are less engaged in academic activities such as conferences and academic societies, and are less likely to rigorously follow ethical practices in their academic efforts. High pressure conditions trigger unethical conduct and can result in plagiarizing students or the use of ghost writers. In a study of academic staff, Graça et al. (2021) concentrated on four aspects of decent work: enough working time and a manageable workload, meaningful and productive work, social protection, and opportunities. The authors found these four characteristics to be significantly and positively related to several aspects of work engagement: specifically, vigor, dedication, and absorption. The relevance of decent work was amplified when it was identified as the eighth UN Sustainable Development Goal.

Figure 1 outlines the preliminary research model. The supervisor's power source is related to the type of doctoral supervision and, ultimately, the working conditions of doctoral students.

## Methodology

### Research design

To derive pertinent insights, we employed a qualitative methodology in our study. Our study is grounded in abductive reasoning (Paavola 2021), whereby the 'empirical area of application is successively developed, and the theory is also adjusted and refined' (Alvesson and Sköldbberg 2017, 5). We began with an existing conceptual model based on power source and service perspective. We began with an existing conceptual model based on the power source and service perspective. More specifically, we theorize the relationship between power sources, type of supervision (i.e. collaborative or exploitative), and working conditions in doctoral programs in Iran. The study is designed as qualitative research which enables researchers to develop a particularly detailed and nuanced view of phenomena embedded within a national context (Ozcan, Han, and Graebner 2017). Iran was chosen as an exemplar of a resource-constrained country, for which there is little existing research to date. The country is also among the top 10 countries in terms of the size of its higher education system worldwide (Levy 2018).

We undertook this study with the primary objective of exploring the issues surrounding the quality of doctoral supervision and to develop theoretical insights around its impacts and causes. In line with the principles of theoretical sampling (Yin 2014), we specifically chose students who expressed dissatisfaction with their academic programs or the progress of their theses. This sampling method involved selecting subjects representing an extreme, offering us the opportunity to replicate and consequently enhance the emerging theory.

### **Data collection**

The doctoral students in the present study were identified by having registered for a doctoral workshop staged by the Iranian Academy of Management and Economics (IAME) in 2021 about doctoral supervision in management and economics departments. Those who signed up were invited to participate in individual interviews with the authors to confidentially share their opinions. We invited doctoral students to share their experiences to understand how they made sense of their study journey. To do so, we used a semi-structured interview guide that included topics related to the doctoral journey in general, such as admission, course selection, choice of thesis topic, and so on. The doctoral students were also asked to describe their supervisor–supervisee relationships, highlighting challenges that may have resulted in lower productivity or slower progress toward their degree completion. Later, we reached out to their supervisors and invited them to share their opinions and experiences on doctoral supervision. Interviewing supervisors helped us to obtain a more complete picture of the research model. The questions were similar to those asked in the interviews with students, but our focus was on the types of power sources and type of supervision and the relationship between them. We also discussed the perceived challenges by doctoral students, and whether their views are complementary, confirmatory or there is disagreement between their opinions, but were careful to not disclose the identity of students who had been interviewed previously. Eight supervisors of interviewed students accepted that invitation, and six others were added to the interviewee list to help avoid bias, validate the results, and ensure data saturation (Corbin and Strauss 2014). Ultimately, our data includes eight samples in which we interviewed both doctoral students and their supervisors, along with several unmatched doctoral students ( $n = 14$ ) and supervisors ( $n = 6$ ).

All interviews were conducted by two researchers in Farsi and lasted between 40 to 165 min. In total, around 46 h of verbal data were recorded, and 368 pages of data were transcribed. Two researchers were responsible for data collection. Whenever the participants agreed, the data were recorded and subsequently transcribed. All interviews were conducted in person in Farsi, transcribed, and subsequently translated into English.

All participants were from disciplines where formal supervision consisted of a student being assigned to a primary supervisor who supervised the dissertation. At the time of data collection, all interviewed students had completed at least half of their doctorate. Some students worked almost full-time on their dissertation, while others pursued employment outside academia in parallel with their doctoral studies. To complete these programs, all students had to write monographs and submit two articles to national or international journals. The profiles of the interviewees are presented in Table A1 (online Appendix), where interviewees are identified by numbers to maintain anonymity. No personal details are disclosed.

### **Data analysis**

Data reduction and data coding were the two stages of the data analysis process (Miles et al. 2013). The data was manually coded using a color-coded system through cross tabulations and tables in Microsoft Word by two researchers. The transcripts were read several times and notes taken in tabular form. Initial codes that contained interesting features of the data were generated after the authors' repetitive reading and familiarization with the transcribed data. With the two-part research question in mind, the authors looked for themes that touched on the working conditions of doctoral



students; supervision quality and sources of supervisor power were highlighted during the syntheses and summaries that were developed during the data reduction process. The codes were extracted and linked to secondary themes in our conceptual model. To connect our data to the existing literature (Yin 2014), the data were coded following an iterative process in which data collection, data analysis and coding, and interpretation all occurred throughout the study and thus influenced one another. Afterwards, an IAME workshop was arranged to present the findings to doctoral students, professors, and directors of doctoral programs to increase the validity of our findings and obtain additional input from informants.

### **Ethical concerns**

The authors protected the identity of participating doctoral researchers and supervisors. All obtained data was kept strictly confidential. For example, the doctoral students were not forced to name their supervisors and vice versa. The authors assured both supervisor and student interviewees that anything they shared during the interviews would be kept strictly confidential. It was communicated to all participants in advance that an anonymized summary report of all interviews would be shared at an IAME meeting. The purpose of this was to discuss and identify strategies to improve doctoral supervision in Iran. Since the authors were affiliated with non-Iranian universities, there were no conflicts of interest between the authors and the interviewees. This allowed all participants there a safe environment to share their views and experiences. Throughout the whole research process, all researchers followed thorough ethical guidelines to protect informants. At every step in this research process, when presenting the data and writing the manuscript, we took care to ensure that the data could not be traced back to individual study participants.

### **Findings**

Based on the study's research question, in this section, three observed themes—poor-quality doctoral supervision, doctoral students' working conditions, and sources of supervisors' power, along with the relationships between those themes—are presented and described with empirically grounded data.

#### **Doctoral supervision**

Our observations revealed a notable divergence of opinions among supervisors and students concerning the collaborative nature of supervision. Some supervisors advocate for a perspective wherein supervisors play a crucial role in the success of Ph.D. students, aligning more closely with a service-oriented approach. According to this stance, professors' support should be tailored to meet the distinct needs and unique characteristics of each doctoral student whether some students aspire to become researchers or faculty members within the university, while others seek careers as researchers or knowledge workers in the industry. Along with this line, one professor mentioned that:

The success of a PhD depends on the student's effort (50%) and the professor's support (50%). The main problem is that many of our professors don't follow the right path, they are not familiar with journals, and they can't guide their students either. [...] My students must report to me every week. I will follow up. When I tell a student to go and read an article in this area, if he reads 10 articles, I will search at least for 20 articles. I will send him 20 so that he can easily identify the research gap, if he can't, I will help him in developing it. I introduce good methods to them. I go forward with them step by step. In the first stage, weekly, in the second stage, two weeks, then three weeks, and then monthly, when they must report. I can see for myself that if a student wants to succeed, he must have a good supervisor, one that already went the way' (S<sub>8</sub>).

Additionally, their research interests are different and have diverse capabilities, some are fast learners, and some require more daily support in the beginning of their studies, therefore each need

customized mentoring and methodological or theoretical courses. However, doctoral programs in Iran are standard as mentioned below by one of the doctoral students.

'Another problem that exists in most of our universities is that by the end of the 3rd semester, almost 80% of the courses and professors of our doctoral students have already been determined, and you closed the possibility of changing courses for him, and then you expect him to work on a new topic! Well, this does not happen. A student should be allowed to take various courses based on his project or his research interest. But we don't have this happening in Iran, that is, we have defined a completely inflexible system, and we say that you should do research in this structure. Well, finally, new and different research do not come out of the similar or standard path. Most of the work you see is similar, one of the main reasons is that it is the same path. Unless he is an exceptional person' (PhD<sub>21</sub>).

Conversely, most supervisors perceive non-collaborative supervision as a legitimate approach, wherein students assume the primary role in defining the entire research process. In this perspective, supervisors function as gatekeepers, admitting students and providing them with general guidelines or directives in a command-and-control or top-down approach, ultimately awarding them the doctoral diploma.

According to this perspective, students are expected to work independently, with full autonomy to choose their research subjects, methods, data collection, and paper writing, even if their thesis deviates from the previous papers or research interests of their supervisor. Therefore, the success of the doctoral journey hinges on the student's capabilities and commitment, with any underperformance attributed to the students themselves rather than the expertise of supervisors and their academic skills and networks or the allocated time for supervision. If the student is interested in getting a faculty position in Iran or abroad or making an impact in the industry, he will be more engaged in the process. Along this line, several faculty members mentioned that:

'Supervisors have a limited role in both selecting the thesis topic and overseeing its execution. Their involvement is primarily superficial, extending to providing their name. Individual student motivation is crucial, making the process highly student-centric. In fact, supervisors emphasize the need for students to independently determine the course of their research, explicitly stating that completing the thesis is the students' responsibility. In this context, the emphasis is on self-discovery and self-directed learning, rather than receiving explicit instruction' (S<sub>2</sub>).

Our interviewees with doctoral researchers revealed the abundance of non-collaborative supervision where supervisors perceive students as paper writers and even force them to put the names of supervisors and other colleagues on papers, even when those individuals did not contribute to the articles in question. In some departments, the first or corresponding author must be the supervisor. These professors are considered opportunistic people who exploit their doctoral students for their own career advancement. The doctoral student interviewees stated that professors do not spend time on supervision, are not aware of the content of their theses, and do not provide sufficient feedback, as these examples show:

'Professors put pressure on students to publish but do not take the time to read students' papers and comment on them; they do not take research seriously' (PhD<sub>12</sub>).

Some PhD interviewees mentioned that supervisors do not provide robust guidance during the student's journey and do not spend adequate time reading students' work and giving feedback on their progress; they generally leave students alone to do their thesis work. One interviewee mentioned that:

'I am not sure if my research design is good and if I am taking the correct steps in its implementation. I need professors to spend more time. However, professors are busy with their daily activities. They wait for students to bring suggestions and then choose among options. They are not knowledgeable about my research area and are not good at guiding me' (PhD<sub>14</sub>).

The next observation is that supervisors do not pay attention to doctoral student workloads and their ability to cope. For example, although students do not receive a salary or scholarship funds, they often must do free work for their supervisors, such as supervising master's student theses:

'[In parallel to studying,] working is not legitimate in the eyes of the faculty. Professors schedule their doctoral courses in a way that means students cannot easily work. The professors close their eyes to reality' (PhD<sub>9</sub>).

'[When I was a doctoral student,] I was a slave to my supervisor. I was given an ultimatum to stay and complete all the requested tasks, such as taking care of all the MSc students, or quitting the doctoral program. My supervisor used his power to force me to comply' (S<sub>2</sub>).

Some students also noted a lack of proper communication channels between themselves and supervisors. In many situations, they do not spend enough time together or listen carefully to each other. Hence, challenges in the supervisory relationship are often neglected or ignored in their entirety:

'My professor did not spend sufficient time to meet with and guide me. I waited for his feedback on my thesis proposal for a year' (PhD<sub>15</sub>).

During the interviews, it became increasingly clear that students' experiences and needs are not properly considered during coursework and the overall thesis process. For example, students must sometimes take a course simply because it is offered by the supervisor or another advisor, regardless of its relevance to their doctorate projects. Supervisors do not acknowledge the differences among students in areas like cultural background, expertise, experience, and functioning:

'Doctoral training is not customized to the needs of each student. There are standard research methods courses that are not about what I am using in my thesis. [...] I was forced to take courses with my supervisor and advisor that were not relevant to my thesis topic' (PhD<sub>2</sub>).

'Some professors accept doctoral students every year. They do not care about students' progress and just want them to graduate and receive income for each student' (S<sub>6</sub>).

### **Supervision and working condition**

The abundance of non-collaborative supervision noted above does not empower doctoral students to be proactive, take responsibility, and shape coursework design and research topic selection. Together, these unsupportive supervision features affect the working conditions of students. We find evidence for two components of working conditions: mental health well-being and perceived decent work. The interviews revealed high levels of frustration and even burnout—as manifested by exhaustion, cynicism, and poor professional efficacy—that reduced doctoral students' engagement with and dedication to their thesis work. The low levels of perceived supervisor's support and encouragement decrease their motivation to conduct high-quality, impactful research, as one faculty member mentioned below based on his PhD experience:

'Some professors suffer mental disorders and are psychologically sick, making students experience stressful situations' (S<sub>1</sub>).

'Doctoral students are responsible for publications, mainly based on their trial-and-error efforts, and these are the professors who are promoted' (PhD<sub>19</sub>).

As to perceived decent work, several students mentioned different experiences and offered several opinions. One issue is the high level of isolation students faced in thesis-related work, such as topic selection, data collection, and writing up papers. Some students feel isolated because they cannot even meet with their supervisors on a regular basis. Some interviewees even reported feeling humiliated when they had to wait for an appointment, even after several cancellations of such meetings by their supervisors, with one doctoral student stating that:

'They behave in a way that makes students cry; they do not respect students' time and make them wait outside their offices to meet them' (PhD<sub>12</sub>).

Additionally, students lack working relationships or communication with other doctoral researchers, although an exchange of experiences and feedback or access to supervisors' networks in

industry or other HEIs are perceived as valuable resources. Under such conditions, developing a full-fledged identity as a researcher is highly unlikely. Furthermore, students referred to unfair treatment in supervision relationships, as inclusiveness and the principles of diversity are not always respected. Students are not treated as capable creative agents and genuine stakeholders whose opinions should be heard, as one student noted:

'Supervisors must be the corresponding authors or may invite other faculty to join author teams without consulting with or justifying those decisions to the doctoral student, even though most of the work is done by students. This is another sign of not valuing students' efforts and of the exploitation of students by faculty members' (PhD<sub>9</sub>).

Another aspect is that students do not have sufficient opportunities to give feedback and influence supervision and their department's academic direction. As a result, many students feel neither valued nor respected, and their self-esteem and academic identity suffer:

'There was a desire to change the seminar or proposal defense deadline, which all 12 students signed, but the faculty members did not approve it. Even though it was not a major request, the reaction of faculty signaled that the students' concerns are not heard in the department; therefore, they do not feel valued' (PhD<sub>9</sub>).

### ***Supervisors' power sources and type of supervision***

Our observations from the interviews with both doctoral students and supervisors revealed that supervisors rely heavily on mediated power. This is rooted in their positions and can be wielded by enabling or hindering the awarding of doctoral degrees, writing recommendation letters for positions in Iran or abroad, getting access to jobs or projects from the professor's network, and forcing students to carry out practices such as supervising master's theses without payment.

'Compared with years ago, current doctoral students do not have much hope of obtaining faculty positions. There are not the same number of vacancies as there used to be. This gives professors the opportunity to ask their doctoral graduates to work with them for free by writing papers and receiving recommendation letters in return. Some doctoral students—especially women—work as freelance researchers and write theses or papers for others; otherwise, their skills would become outdated after several years of unemployment' (S<sub>2</sub>).

On the other hand, there is intense competition to be admitted to doctoral programs in Iran's public universities, such that students can sometimes feel indebted to their supervisors simply for accepting their applications. Supervisors receive additional payment for supervising doctoral students, so professors often compete for doctoral students. However, as to the promotion or assessment of departmental performance, supervisors are not evaluated on the quality of their supervision and the longer-term success—or failure—of their doctoral students.

'The quality of the thesis is not very important because the professor is busy and does not have time to supervise the thesis. The student is probably involved in a job or project other than the thesis. Because they do not interact with each other, there is no discussion at all about the thesis and the article' (S<sub>15</sub>).

As revealed from interviews with doctoral students and faculty members, supervisors have no significant non-mediated power based on their expertise or reputation in international academic circles. Many supervisors do not have sufficient academic skills to train and supervise students at a high-quality level that will result in conducting impactful research, publishing in leading international journals, or being hired at highly ranked universities abroad. Furthermore, professors usually lack research experience and international or industry collaborations:

'Professors' relationships with international academics are not especially strong for supporting students to visit universities abroad; again, the students must do the through their own effort' (PhD<sub>16</sub>).

'Many of our colleagues [professors] have not had experience studying and conducting research abroad and want to repeat their own negative experience with students by behaving toward their doctoral students they were treated by their supervisors' (S<sub>13</sub>).

Another observation was that many supervisors do not have a clear research agenda and thus accept projects in different areas in which they may not have sufficient expertise. Therefore, they do not have the latest knowledge of literature streams or relationships with leading scholars in the field, which reduces their non-mediated power; they are thus not fully capable of guiding students and less likely to engage in collaborative supervision. Two students noted this issue:

'The other factor is that professors are working in different research areas. Therefore, they may not be up to date about recent literature in all fields' (PhD<sub>17</sub>).

'Both my supervisor and my advisor were not very familiar with my research area and expected me to find my own way toward thesis completion and publishing papers' (PhD<sub>11</sub>).

Professors' inadequate abilities in research, teaching, and reaching out to industry partners are related to their extra commitments, such as taking on several projects to compensate for the low salary and to increase their income. However, these consulting projects do not require producing new knowledge; professors can earn money working for firms using their existing knowledge. Along these lines, one faculty member said that:

'Research is not the main job of most professors [...]. Even if a professor comes to Iran from the best universities, he reduces his research activities due to the high cost of living. The second reason is that professors consider executive responsibilities and consulting activities to companies and organizations more useful or effective, and since these consulting activities are not research in nature and can be done with existing knowledge, they are not considered research activities' (S<sub>5</sub>).

In addition, capacity building of professors in methodologies, publishing in leading journals, data management, and dissemination of research results are not valued and thus not prioritized by Iranian HEIs, with one faculty member noting that:

'At our university, professors do not receive any pedagogical or academic leadership training. When they are recruited, they are on their own, not mentored by senior professors' (S<sub>10</sub>).

Some interviewees referred on more than one occasion to promotion criteria that do not encourage publishing in top journals or quality supervision, which means that some professors do not consider to be central to their career advancement. Moreover, the promotion criteria used at HEIs do not encourage multicultural and social skills, an academic attitude such as openness and information sharing, or being active in international academic communities. Additionally, when the professors are tenured or their working contract would be permanent, they are less motivated for high quality supervision and research engagement. Consequently, supervisors have little motivation to increase their own skills:

'Currently in our department they are 3 or 4 out of 16 faculty members who are engaged in academic research. Promotion is mostly based on publication record in such a way that quality does not matter. So, we do not see the serious academic seminars we see in top management schools in the United States or Europe' (S<sub>9</sub>).

The next factor related to the use of mediated power is the low level of commitment to research activities among many professors. Supervisors generally have too much on their plates, whether in terms of teaching load or teaching at other HEIs, running their own businesses, consulting with companies, or engaging in political activities. Public universities rely on government funds, and Iran's recent economic challenges have resulted in a decrease in the financial resources allocated to HEIs. Given the economic situation of country, supervisors must have multiple skills and work in different projects to survive in Iran's complex and uncertain working environment. For example, supervisors take on multiple consulting projects that distract them from supervising doctoral students and their loyalty to the HEI at which they work. This situation also discourages professors from committing themselves to academic activities, such as dedicating sufficient time to each of their students. In this vein, one faculty member stated that

'I assure you that over 70% of the papers and theses produced and published in the country often go unread by supervisors or advisors, due to the lack of a systematic performance evaluation system. Consequently, students miss out on constructive feedback. This raises the question: where can a student learn how to conduct a high-quality paper or thesis and gain insights into potential issues within their work? Furthermore, having approximately 20 units of lessons last semester, it's evident that a professor with a similar workload may not prioritize research. This prompts reflection on the broader question: Who, then, is motivated to engage in research activities?' (S<sub>1</sub>).

## Discussion

### *Theoretical implications*

While doctoral students learn how to do research and publish papers, they also experience working conditions that can influence their outcomes, such as the length of time required for completion, dropping out of a specific doctoral program, or giving up on an academic career entirely. The present study responds to calls to investigate the working conditions of doctoral students which—given the importance of talented human resources in the knowledge economies of today and tomorrow—urgently requires extensive research, especially in resource-constrained countries (McCray and Joseph-Richard 2021).

Our study reveals that supervision is close to non-collaborative or outright exploitative, as perceived by interviewees, contrary to newer styles of supervision, which highlight mentoring and collaboration rather than the traditional 'expert-disciple model' (Hemer 2012; Vähämäki, Saru, and Palmunen 2021). We found evidence that in such non-collaborative supervision, there is a lack of acknowledgment of students' diverse backgrounds and experiences, ultimately diminishing their individual and social creativity and their inherent talents, as highlighted by Hemmati and Mahdie (2020). In addition, insufficient interpersonal skills and the failure to foster personal connections between supervisors and students have not allowed for cultivating a successful supervisory relationship and shaping an environment conducive to the development of students' potential and creativity (Deuchar 2008; Vähämäki, Saru, and Palmunen 2021).

In line with previous research on higher education (e.g. Taylor et al. 2011; Cruz, Alves, and Rodrigues 2024), we applied a service perspective lens to doctoral supervision and conceptualize doctoral students as service recipients and supervisors as service providers. We observed that the type of the supervision depends on the quality of the supervisor and his or her interactions with students. Our data revealed that supervisors do not work with students to jointly identify those students' research and training skills or needs. They do not use the information, knowledge, and resources of both service provider and recipient. The students as service recipients are not empowered or motivated to be an active entity in the overall service process. From the service perspective, when supervisors and doctoral students do not interact meaningfully over time and tend to work independently instead, service delivery is poor.

Our findings suggest that type of supervision is closely related to the working conditions of doctoral students. Supervisors' inexperience, inaccessibility, or inattention result in higher levels of stress, isolation, and anxiety among advisees (Buirski 2020; Hunter and Devine 2016; Levecque et al. 2017). In addition, this non-collaborative approach to supervision does not foster students' autonomy, perceived competence, identity development, and sense of agency (Litalien and Guay 2015).

The results of the present study also suggest that supervisors' power sources can profoundly impact the working conditions of doctoral students. Our data reveal that supervisors mainly use mediated power sources that reduce their interactions with students and ultimately reduce the quality of supervision. Relying on coercive, reward, and legalistic legitimate power and less on the referent, expert, and traditional legitimate power reduces the motivation for adequate interactions between supervisors and doctoral students and their commitment to invest in collaborative relationships to tailor supervision based on the capabilities and expectations and resources of individual students as service recipients.

We followed the suggestion of Schmidt and Hansson (2018) in adopting interdisciplinary studies and employing theories and perspectives from operations and supply chain management to understand the complexity of working conditions and offer suitable coping tools or strategies. In this study, we theorize the relationship between supervision's sources of power, type, and quality and doctoral students' working conditions. We thus contribute to the higher education literature by providing insights into the relationship between doctoral supervision as a service and the working conditions of doctoral students, using Iran as an empirical setting. Moreover, we elaborate on the influence of sources of power on doctoral supervision.

### ***Practical implications***

Several implications based on the developed model and the literature is now presented to inform university doctoral supervision enhancement in resource-constrained countries and improve the working conditions of doctoral students. The first suggestion is to create guidelines or protocols on the rights and responsibilities of supervisors and students. That would help faculty live up to the written expectations in supervision delivery and mitigate tensions in their relationships with their doctoral students. In situations where mediated power and exploitative supervision are present, clear solutions at the department or university level should be crafted and carried out. In addition, issues like maximum working hours, holiday arrangements, roles, authorship credit, and changing supervisors should be transparently laid out in the guidelines (Cheng and Leung 2022).

Supervisors need to have enough expertise to provide quality supervision. Thus, it is important to establish strict requirements, such as having a minimum number of quality publications, being active at international and national conferences, and reviewing journal papers, for a faculty member to begin supervising doctoral students or to increase their number of supervisees below a modest level. Those clearly lacking the skills or achievements should be supported by their departments to reach the relevant thresholds to supervise students (Corsini, Pezzoni, and Visentin 2022).

The next suggestion is to match the number of doctoral students to the realistic capacity and time constraints of supervisors. A study by Pommier et al. (2022) in France suggests that a lack of thesis progress is observed when supervisors have more than four students at any given time. In addition, while admitting the potential coordination costs or tensions, using two supervisors or a supervisory team could benefit students by offering them more access to experience, knowledge, networks, and support as they carry out their studies.

Classifying supervisors and doctoral students is simply crucial. Supervisors who intend to publish papers in leading journals may have different expectations than doctoral students who want to engage more with consulting and practical research in collaboration with industry partners. In addition to expectations, their skills and experience are different. The publication-driven scholarly track is intended to help students land an academic position, but the latter is more successful in educating doctoral graduates with high employability skills to work in industry. A more transparent and rigorous acknowledgement of this distinction could help match supervisors with students more effectively. In addition, instead of allocating supervisors to students at the time of admission, instituting a suitably long probationary period would be more helpful (Cheng and Leung 2022).

Another suggestion is to support the overall supervision process and avoid overreliance on the supervisory team by training students to improve their personal resilience and well-being in light of the challenges they are quite likely to face during the doctoral journey. These trainings or capacity building initiatives can be led by a formal program in the department that is an integral part of the orientation to doctoral studies (McCray and Joseph-Richard 2021). In addition, actions are necessary to build a learning environment that supports openness, encourages staff to participate in decision-making processes, and promotes dialogue between doctoral students and department leadership.

We acknowledge that implementing these suggestions will require reorienting the priorities of HEI leaders toward quality and the long-term impact of doctoral education rather than quantitative outcomes like the number of doctoral candidates, diplomas awarded, and publications. In addition,

future research needs to provide insights into how successful (or unsuccessful) interventions and institutional changes have been, and why they succeeded (or failed).

Doctoral supervision has multiple stakeholders, each with specific constraints and needs. Hence, any change or intervention should be discussed with all relevant and to facilitate the successful implementation of reforms (Andres et al. 2015). All countries, and HEIs within each country, operate in specific contexts. In other words, it is crucial to consider both national and institutional cultures when implementing the recommended practices. For instance, in Iran, informal or personal relationships among professors play a significant role in shaping supervision practices. This influence is evident in instances where exchange invitations to join the supervision or advisory team occur, often without a thorough assessment of the value these engagements bring to the student's thesis. Thus, the recommendations must be viewed as suggested directions for policies and interventions that need to be embedded, with appropriate modifications, in local contexts (McAlpine, Castelló, and Pyhältö 2020). They should be implemented only after considering the specific constraints and needs of different HEIs and adjusted accordingly (Andres et al. 2015). For example, some HEIs need to attract new resources, while others already have the requisite resources but need to use them more effectively or adopt a control system to track the impact of implementing new practices or policies (McAlpine, Castelló, and Pyhältö 2020).

## Conclusion and recommendations for future research

The findings of the present study suggest that the use of mediated power by supervisors in economics and management departments in Iran is often associated with non-collaborative doctoral supervision and negatively impacts the mental well-being of doctoral students and their perceptions of decent work. We acknowledge that this study does have certain limitations that are also possible avenues for future research. Regarding the empirical data and the scope of the study, we call for caution when it comes to generalizing the findings across different countries, cultures and HEIs. The study focuses on a single, resource-constrained Asian country, Iran, and two closely related disciplines, economics and management. Hence, future research should broaden this scope and collect more diverse data from a wider array of contexts, geographically, culturally and in terms of academic specialization. Especially the way power is perceived and exercised might differ between cultures (i.e. 'power distance') and has been found to be an important factor in doctoral supervision (Wang et al. 2023). Iran is usually defined as a hierarchical society (Hofstede Insights 2023). Follow-up studies should evaluate the statistical significance of the conceptual model through either experimental designs or large-scale surveys. Future research should also consider the influence of gender, ethnic status, international students, and other socio-demographic characteristics that differ across HEIs (Lindahl, Colliander, and Danell 2021). For example, men and women as both supervisors and supervisees may perceive and react differently to triggers like power sources, supervisory approaches, learning environments, and working conditions. In addition, students with an international background may face cultural or communicative challenges that do not enable them to have the same power or voice as domestic students (Fotovatian and Miller 2014).

## Acknowledgements

The authors express gratitude to the review team for their constructive comments, which played a crucial role in enhancing the quality of the paper. Special thanks are extended to all participants in the interviews for generously contributing their time and valuable insights during the data collection process. Additionally, the authors would like to acknowledge and appreciate the support of their research assistant in facilitating the data collection.

## Disclosure statement

No potential conflict of interest was reported by the author(s).



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