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Personalized Supervision: Enhancing Supervision Strategies in Dissertation-Based Doctoral Programs

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Abstract

This study examines mental health and supervision experiences among doctoral researchers at a large public university in Finland, where the dissertation is the predominant degree requirement. Using semi-structured interviews and surveys, the study explores doctoral researchers' mental health, supervision experiences, and opinions on doctoral training. The findings reveal that 35 percent of respondents reported experiencing imposter syndrome and thoughts of inferiority, with 25 percent indicating these issues worsened since starting their doctoral studies. Burnout was reported by 30 percent of participants, particularly among those balancing research with external employment. While generally satisfied with supervision, respondents identified gaps in career guidance and academic training. Additionally, respondents expressed a desire for more frequent feedback, tailored support, and clearer communication about supervision and dissertation expectations earlier in the process. Supervision agreements were highlighted as a crucial tool for establishing clear expectations and responsibilities, ensuring transparency and accountability in the supervisory relationship. Researchers also highlighted a need for workshops on dissertation writing, grant writing, peer review, job applications, and conference participation due to the absence of a robust curriculum. Overall, the study underscores the importance of personalized supervision to enhance

doctoral researchers' academic success and well-being in dissertation-based doctoral programs.

Keywords: Doctoral Supervision; Doctoral Training; Dissertation Supervision; Thesis Supervision

Introduction

Pursuing a doctoral degree is a crucial stage in the development of scholars and researchers, often determining their future academic and professional careers. Effective doctoral supervision, which provides guidance, support, and mentorship, plays a pivotal role in this process. However, the quality of supervision varies widely, influenced by institutional policies, program structure, supervisor practices, and the specific needs of the supervisees (Pyhältö et al., 2012; Pyhältö et al., 2015). Research indicates that mismatches in perceptions of supervisory activities between supervisors and doctoral candidates can negatively impact student satisfaction and resilience, emphasizing the importance of well-aligned expectations (Pyhältö, et al., 2015).

The challenges of implementing effective supervisory and training practices are particularly pronounced in doctoral programs that lack a robust course curriculum, disciplinary subfield specializations, competency exams, and prospectus defenses. In such programs, much of the doctoral training and support falls on the shoulders of supervisors, as the dissertation represents the predominant task for degree obtainment. This substantial reliance on supervisors can influence doctoral researchers' well-being and success (Vekkaila, et al., 2013). Success is defined here as the timely completion of the degree, the development of a well-balanced CV that enhances prospects for future employment, and a strong foundation for ongoing academic success.

Mental health issues among doctoral researchers are a growing concern, with studies indicating higher prevalence rates of anxiety, depression, and burnout compared to the general population (Bolotnyy et al., 2022; Evans et al., 2018; Forrester, 2021; Ibrahim et al., 2013; Lipson et al., 2016). The demanding nature of doctoral research, combined with inadequate support, exacerbates these mental health challenges (Vekkaila et al., 2013). Effective supervision, characterized by clear communication, regular feedback, and supportive mentorship, has been shown to enhance doctoral researchers' academic performance and overall satisfaction (Cardilini et al., 2022;

Dericks et al., 2019; Pyhältö & Keskinen, 2012). However, there remains a need to better understand how specific supervision practices and training needs influence doctoral researchers' experiences, particularly in programs with a heavy emphasis on the dissertation. The gap in the literature is particularly salient in contexts where the supervisory relationship plays a central role in students' academic and personal well-being (Pyhältö et al., 2023; Tikkanen et al., 2024).

This study explores the doctoral researchers' mental health, experiences with supervision, attitudes towards effective supervision strategies, and views on training practices. This study seeks to answer the following research questions: (1) What are the key mental health challenges faced by doctoral researchers in dissertation-based programs? (2) How do doctoral researchers perceive the adequacy of supervision and training support in such programs? (3) What improvements can be made to supervision strategies to better support doctoral researchers' academic and personal well-being? Utilizing a mixed-methods approach, this study combines semi-structured interviews and survey data to explore these topics. The focus of the study is on doctoral researchers in the Faculty of Education and the Faculty of Social Sciences in a large, public university in Finland – University of Turku. The doctoral programs in these two faculties place a disproportionate weight on the dissertation as the primary task for degree attainment.

The findings from this study contribute to the ongoing discourse on suggested practices in doctoral supervision, particularly in program settings with overwhelming emphasis on the dissertation for degree obtainment. By identifying effective supervision strategies and highlighting the importance of tailored support and additional training, the study aims to provide valuable insights for doctoral supervisors and programs. The aim is to strategically enhance the quality of doctoral supervision, with clearly defined objectives that improve the well-being of doctoral researchers and increase the likelihood of them achieving their individualized academic success goals.

Doctoral Studies and Mental Health

Mental health challenges in graduate programs have been a significant concern, underscored by numerous studies highlighting their prevalence and severity among students (Ibrahim et al., 2013; Lipson et al., 2016; Pervez et al., 2021; Bolotnyy et al., 2022). For instance, Lipson et al. (2016) conducted a large-scale study involving 64,519 students at 81 colleges and universities, revealing that 35.5% reported some form of mental health problem, a rate higher than that of the general population.

Evans et al. (2018) further corroborated high rates of anxiety and depression among graduate students in the United States (U.S.).

Woolston (2019) emphasized the pervasive issue of overextension and stress throughout students' academic journeys, a problem exacerbated by increasing demands (Pervez et al., 2021). These demands include the "publish or perish" mentality discussed by Forrester (2021), which contributes to mental health challenges by emphasizing competition over individual growth. Vekkaila et al. (2013) revealed that disengagement in the doctoral process is often linked to a lack of support within the academic community, highlighting the psychological toll of an unsupportive environment. Bolotnyy et al. (2022) confirmed that approximately 25% of students in eight top U.S. Ph.D. programs experience moderate to severe depression and anxiety, with severity often peaking towards program completion. This issue may be more acute in lower-tier programs with fewer resources and less support for researchers.

Recent studies highlight the significant impact of mental health on doctoral students' success and retention. Feizi et al. (2024) surveyed 2,486 doctoral students in Canada and found that higher levels of perceived stress were associated with lower program satisfaction and a greater likelihood of considering withdrawal. Similarly, Larcombe et al. (2022) identified mental health as the most critical factor predicting doctoral attrition among 1,017 researchers in Australia. Supervision quality also plays a pivotal role, as Cornér, et al. (2017) demonstrated that poor supervision practices were strongly linked to increased stress and burnout in Finland. Additionally, Pyhältö et al. (2023) reported that supervisor support, through structured guidance and fostering student autonomy, positively influenced emotional well-being and promoted persistence in doctoral studies. Collectively, these findings underscore the need to address mental health challenges and strengthen support systems to enhance doctoral researchers' academic success and retention.

Relationship Between Supervision and Satisfactory Outcomes

The development of a researcher's identity is a complex process that extends beyond mere academic achievements. It encompasses gaining confidence, recognition, and the ability to navigate research environments effectively. Mantai (2017) illustrates that this identity formation is socially constructed and often validated through everyday research activities and interactions, highlighting the importance of social and peer support during the doctoral journey. Such validation, whether through informal peer discussions or formal research outputs, is crucial for doctoral

researchers to perceive themselves as competent members of the academic community.

Adequate supervision, characterized by clear communication, regular feedback, and supportive mentorship, can lead to several positive outcomes for the doctoral researcher, as revealed by several studies across different contexts. Early research, like Appel and Dahlgren (2003), highlighted significant challenges for Swedish doctoral students, including insecurity about capabilities, navigating ambiguous expectations, and facing insufficient supervision and excessive autonomy. Doctoral researchers who indicated not receiving satisfactory supervision were less likely to report positive feelings about their work. Similarly, Dericks et al. (2019) emphasized that beyond academic competence, the supportiveness of supervisors significantly predicts doctoral researcher satisfaction globally, highlighting the essential role of emotional and academic support in cultivating a positive doctoral experience. Using interview data in Finland, Vekkaila et al. (2013) further demonstrated that a lack of supportive academic environments can lead to disengagement, emphasizing that proactive and empathetic supervision can sustain engagement and well-being.

In Belgium, Glorieux et al.'s (2024) study reaffirmed the detrimental impact of inadequate supervisor support on dropout rates. The authors emphasize supervisors' crucial role in fostering students' perseverance and success. This finding aligns with Heath's (2002) observation in Australia that frequent and structured meetings between supervisors and candidates correlate positively with satisfaction and productivity. Further insights from van Rooij et al. (2021) in the Netherlands noted the profound influence of workload and the quality of the supervisor-candidate relationship on doctoral candidates' satisfaction and retention. Factors such as supervisor support, the candidate's sense of belonging within the research community, and the relevance of the research project to the supervisor's expertise collectively contribute to positive outcomes and reduced dropout rates (van Rooij et al., 2021). Additionally, Pyhältö et al. (2015) found in Finland that the alignment between supervisor and student expectations is crucial for maintaining resilience and overall satisfaction throughout the doctoral process.

Supervision Strategies Advocated in the Literature

Studies on doctoral supervision provide a nuanced understanding of effective practices and perspectives aimed at enhancing doctoral outcomes across diverse academic settings. Cardilini et al. (2022) identify a common issue in Australia where supervisors perceive themselves as offering more guidance than doctoral candidates perceive receiving, highlighting the need for clear communication, and aligned

expectations early in the supervisory relationship. Hoover and Lucas (2014) similarly stress the importance of clear communication and expectation management, advocating for normalizing rejection and preparing students for setbacks to foster academic resilience. Pyhältö et al. (2012) underscore the importance of aligning doctoral students' and supervisors' perceptions of support and resources, demonstrating how mismatched expectations can negatively impact satisfaction and persistence.

Wichmann-Hansen and Schmidt Nielsen (2023) extend these insights by advocating a balanced supervisory approach that combines guidance and support while promoting autonomy among doctoral candidates. This approach seeks to tailor supervision practices to address the diverse academic needs identified by Hatemi and McDermott (2024). In their study, the authors surveyed recipients of prestigious supervision awards in political science, revealing an emphasis on flexible supervision methods and the cultivation of inclusive academic communities. Similarly, Pyhältö et al. (2023) emphasize that structured guidance, when paired with autonomy, positively impacts doctoral researchers' well-being and encourages persistence in their academic pursuits.

Motta and Bennett (2018) and Fattore and Fisher (2023) promote for a "pedagogies of care" approach within supervision. The approach emphasizes recognizing and addressing diverse student needs, engaging in meaningful dialogue, and promoting affective and embodied practices to enhance the supportive nature of supervisory relationships. These aspects of care and relationality are further underscored by Meier (2023), who stresses the importance of self-reflection among supervisors, adapting mentoring styles to student diversity, and maintaining humility in the supervisory process. Vekkaila et al. (2013) also argue that fostering an inclusive academic community is key to preventing disengagement, as feelings of isolation and lack of support are significant contributors to doctoral stress.

Supervision models that involve joint or multiple supervisors are increasingly discussed as a means to provide broader support for doctoral researchers. Lahenius and Ikävalko (2014) discuss joint supervision practices that offer complementary and diversified support, emphasizing their potential to enhance student experiences by mitigating the limitations of a single-supervisor model. These practices can expose students to diverse intellectual perspectives and distribute the supervisory load, which can make it easier for students to receive guidance tailored to various aspects of their research. However, Pyhältö et al. (2023) caution that without clearly defined roles, joint supervision can lead to conflicting advice and a diffusion of responsibility.

Collectively, these studies advocate for a holistic approach to doctoral supervision that integrates clear communication, adaptive support mechanisms, recognition of student diversity, relational engagement, professional skill development, and resilience-building strategies.

Effective implementation of these supervision strategies can be achieved through various approaches. Hockey (1996) recommends establishing formalized supervision agreements to clarify expectations and responsibilities between supervisors and supervisees from the outset. This approach is particularly relevant as it aligns with the university's current practice, where supervision agreements are a key tool used at the start of every doctoral supervision relationship. A baseline agreement structure is provided to all supervisors to ensure consistency in outlining key expectations and responsibilities, while still allowing flexibility to accommodate the unique needs of each doctoral researcher. The administration at the university where this study was conducted places significant emphasis on the consistent use of these agreements to enhance transparency and accountability in the supervisory process. These agreements help mitigate potential sources of conflict, such as missed meetings or deadlines, by providing a structured framework for communication and expectations. Due to the identified usefulness of supervision contracts, both in the literature and as a mainstay of the university's supervisory framework, the topic is explored in-depth in the analysis.

Variance in Doctoral Degree Programs

As those who have taught at the university level across different countries or institutions can attest, there is considerable variation in the structure of doctoral programs between universities and nations (Andres et al. 2015). Some programs may include a substantial number of tasks and benchmarks that must be achieved before the dissertation is started or the degree is awarded. These requirements can include completing courses in multiple subfields within the discipline, methodological courses, preliminary or competency exams, a prospectus defense, and successful yearly evaluations related to progress, research and teaching assistantships, and course-responsible teaching. In such programs, while the dissertation is important, it is only one of several challenging barriers to overcome to obtain the degree. Therefore, the dissertation supervisor's role in training the doctoral researcher may vary and can sometimes be minimal, depending on their involvement in these other requirements. Further, it is not uncommon for a doctoral researcher to identify a dissertation supervisor only after they are firmly entrenched in the program. Thus, the supervisor becomes involved after the researcher has already undergone

substantial training. Additionally, doctoral researchers often convene a committee of supervisors, where different supervisors play various roles in the development of the dissertation and, at times, in professionalization training. In these instances, the role of the main supervisor in the training of the doctoral researcher might be further diminished.

Conversely, some programs require a minimal number of tasks for degree completion, such as the University of Helsinki in some instances requiring a single scientific publication for satisfaction of the dissertation (YLE 2023). In these programs, the role of the supervisor in assisting the supervisee to acquire knowledge about discipline-related material and academia as a professional enterprise is pronounced. The supervisor may be the sole individual responsible for training the doctoral candidate in these contexts. In such programs, the supervisor assumes both implicit and explicit responsibility for fostering the development of doctoral researchers' skills. Furthermore, the supervisor's role may commence upon the student's entry into the program, especially if a supervision agreement is mandated for acceptance.

Given the substantial differences in doctoral program structures, such as variations in required coursework, competency evaluations, and the role of the dissertation, and the contrasting responsibilities of supervisors in these contexts, effective supervision practices may need to be highly adaptable. Lahenius and Martinsuo (2011) highlight that doctoral experiences can be categorized into distinct types, each requiring tailored support strategies to promote degree success. However, research on supervision tends to overlook the need for nuanced recommendations based on program structure. Additionally, studies focusing specifically on programs where the dissertation plays a central role in degree attainment appear to be limited. By concentrating on programs with more robust requirements or those at elite institutions, research often overlooks the average doctoral researcher experience in dissertation-centric programs. This study aims to address this gap in the literature by exploring the experiences of doctoral researchers in such programs and identifying solutions to perceived training deficiencies resulting from the primary emphasis on dissertation completion.

Data and Method

This study utilizes a mixed-methods empirical strategy to investigate recent doctoral supervision experiences, attitudes towards effective supervision strategies, and opinions on current training practices. This research is conducted at the University of Turku, a large public university in Finland with nearly 2,000 graduate students across eight faculties. For comparability reasons due to the similar requirements of the

programs, research participants from two faculties, Faculty of Education and Faculty of Social Sciences, were included in the study. To conduct the research, research permits confirming ethical approval accordance with the Finnish National Board on Research Integrity (TENK), a data management plan in accordance with the European Union's (EU) General Data Protection Regulation (GDPR) law, and an anonymity plan in compliance with the university's regulations were obtained from both faculties.

For both doctoral granting faculties within the university, researchers are required to take an "ethics of academic research" course. Researchers are also required to obtain a set number of credits in tandem with completing the dissertation. The structure to obtain the credits is flexible with minimal guidelines. For example, researchers can get credit for publishing studies not directly associated to their dissertation, through the attendance and participation in departmental-wide research seminars, by taking courses at the university, by participating in conferences or workshops, and several other similar ways. The credits must be completed prior to the researcher being allowed to submit their dissertation for preliminary examination.

The requirements for the dissertation are similarly adaptable. Researchers can submit an article dissertation, which is composed of separate studies with different requirements by faculty regarding how many must be accepted for publication at the time of the defense. The articles are generally connected through an introduction that outlines the common themes among them. Alternatively, researchers could submit a manuscript dissertation, which is typically a single, cohesive document that is divided into chapters. Generally, the requirement for a manuscript dissertation is that no portion is required to be accepted for publication prior to the defense. To obtain permission to defend the dissertation, a pre-examiner (i.e., an academic expert) external to the university must provide an explicit statement that the thesis has been granted permission to defend. At this stage, acquiring the degree is all but a guarantee and the researcher can proceed with scheduling the formal dissertation public defense.

The exploration here proceeds in two stages. First, semi-structured interviews were conducted with ten doctoral researchers from the two faculties. Participants were assured anonymity to mitigate potential power imbalances inherent in the supervisor-supervisee relationship and to encourage open and honest responses. The interviews lasted approximately 30 minutes and were conducted in English during the last week of March and the first week of April in 2024. Seven individuals were Finnish and three were from outside of Finland. The average age of the interviews was 34 and there was a gender balance (5 women and 5 men). The interviewees were

purposefully selected to ensure a representative sample of doctoral researchers based on demographics and degree field. A semi-structured approach was chosen to allow flexibility in probing topics raised by participants while still covering key areas related to supervision experiences, training needs, and mental health concerns. The interview questions focused on topics such as the frequency and quality of supervision, specific challenges faced during their doctoral studies, and suggestions for additional training or support. This approach ensured that participants could share detailed and varied experiences, which provided a richer understanding of the issues at hand. The qualitative interview data were transcribed and analyzed using thematic analysis. An inductive coding approach was applied to identify recurring patterns and themes related to supervision experiences, training needs, and mental health concerns, ensuring that the analysis remained grounded in participants' responses.

The information gathered from the interviews was crucial in identifying key areas requiring further exploration on a larger scale. Recurring themes, such as a lack of clarity in supervision expectations and unaddressed training needs, highlighted the need to develop targeted questions to better understand their prevalence and impact across a broader population. Additionally, mental health concerns raised during the interviews underscored the importance of incorporating questions related to well-being and stress management. By translating qualitative insights into structured questions, the study ensured a comprehensive examination of the issues identified. Furthermore, selected impactful quotes from the interviews are included in the analysis to provide qualitative context and enrich the interpretation of findings.

Second, a survey was disseminated to all current doctoral researchers in the two faculties between 12 April and 4 May 2024. The items contained in the survey were chosen based on the interviews with the researchers. On average, the survey took just over 15 minutes to complete. In total, 60 doctoral researchers across the two faculties participated in the survey, representing a notable response rate encompassing the majority of active researchers. Active researchers are defined as individuals who are currently pursuing their doctoral degrees and have neither paused nor discontinued their studies. Given the doctoral researchers' relative autonomy and the tendency for a significant proportion to leave programs informally, accurately determining the exact number of active researchers is challenging. However, estimates suggest this number to be approximately 100. The participants' backgrounds were representative in terms of age (minimum age 26, mean 37.5, and maximum age 59), gender (although slightly more women responded to the survey – 62 percent), parenthood status (28 percent parents), and foreign-born researcher status (11 percent foreign-born). The

percentage of the working week that the researchers reported spending on pursuing their degrees varied significantly, from 1 percent to 100 percent, with a mean of around 42 percent.

The survey contains modules with questions about experiences with supervision, experiences with mental health, opinions regarding supervision practices, views on supervision contract components, and opinions on additional training needs. Thus, the survey allows for the assessment of current experiences, as well as a blueprint for optimal supervision practices in dissertation-based programs. While mainly descriptive statistics are displayed from the results, bivariate regression analyses were conducted to determine if differences existed based on age, gender, parental status, or foreign researcher status. As will be highlighted, there were a few notable gendered differences in views on supervision and training. In the next section, results are presented on the mental health experiences of doctoral researchers.

Mental Health Experiences

In Finland, mental health issues such as anxiety and depression affect between 4 and 6 percent of the population (OECD 2020). These percentages tend to represent "major depressive disorders" that require medical intervention or treatment, which is why there exists fairly precise estimates. Additionally, studies have estimated that between 10 and 20 percent of individuals in Finland experience a clinical form of depression during their lifetime (Lahtinen 2006). The percentage of people in Finland experiencing less severe depression or mental health issues is undoubtedly higher. Since completing a doctoral dissertation can be a difficult process involving continuous self-reflection and often comparison to others, it is reasonable to assume that mental health issues are more prevalent among doctoral researchers (Mantai 2017).

In this study, respondents were asked to self-report their experiences with mental health issues, including anxiety, depression, imposter syndrome, and burnout. They were presented with these terms and asked to report any relevant experiences. It is important to recognize that terms like "depression" may carry different connotations and implications for different individuals. To address this, respondents were given a brief explanation clarifying that the study sought to understand their subjective experiences rather than to diagnose or categorize them clinically.

In Table 1, results from the survey module that asks doctoral researchers about their experience with mental health issues are presented. The two most prevalent mental health issues reported by respondents (around 35 percent) were thoughts of

inferiority and imposter syndrome. Additionally, around 25 percent of respondents indicated that these two issues had worsened since beginning their doctoral degree. In contrast, less than 41 percent of respondents reported not experiencing these issues. Given the scale of these challenges, supervisors should recognize how their actions can effectively mitigate mental health issues among doctoral researchers.

Table 1: Experience with Mental Health Issues During Ph.D. Research

Mental Health	Emerged	Worsened	No Issue
Thoughts of inferiority	35.19%	25.93%	38.89%
Imposter syndrome	35.19%	24.07%	40.74%
Burnout	29.63%	12.96%	57.41%
Anxiety	22.22%	29.63%	48.15%
Depression	14.81%	16.67%	68.52%

No statistically significant age, gender, parenthood, or foreign-born student differences in issues.

The third significant mental health issue that respondents indicated emerged after beginning their doctoral research was burnout, reported by around 30 percent of participants. Only about 13 percent of respondents indicated that burnout was an issue prior to starting their doctoral studies. One explanation for the initial emergence and subsequent worsening of burnout as indicated by the data is that this issue was more prevalent among individuals balancing their doctoral research with work outside the university. This finding serves as a cautionary note for individuals considering pursuing their doctoral degree on a part-time basis.

The two mental health issues with the smallest percentages of respondents indicating that they emerged included anxiety (around 22 percent) and depression (around 15 percent). However, despite these lower percentages, it is crucial to note that anxiety and depression remain a substantial issue among doctoral researchers. The percentage of respondents indicating that the issues of anxiety and depression worsened since beginning doctoral research was around 30 percent and 17 percent, respectively. Taken together, just over a majority of respondents indicated that depression emerged or worsened, and around 32 percent reported the same for anxiety. These results confirm prior research demonstrating that mental health issues are much more prevalent among those seeking advanced degrees when compared to the general population. Given the reported issues with mental health, practices that could alleviate the challenges doctoral researchers face beyond the normal struggles

of completing a dissertation would be helpful. Next, results on experiences with supervision are highlighted to uncover any areas where doctoral supervision could be improved.

Experiences with Supervision

In Table 2, the mean level of agreement on a scale from 0-10 (with 0 indicating "completely disagree," 5 indicating "neither agree nor disagree," and 10 indicating "completely agree") for the statements on supervision is presented. On average, respondents leaned towards agreement with five out of the eight statements. The researchers found a mean positive agreement with three statements regarding the sufficiency of contact, feedback, and information received from the supervisor. Additionally, respondents agreed that the supervisors' expectations were clear and known and that the supervisors helped them develop clear goals for completing the doctorate. The outcomes indicate that students generally have positive evaluations of their experiences with doctoral supervision.

Table 2: Evaluations of Current Ph.D. Supervision

Statement	**Mean (SD)**
Amount of contact I have with my supervisor is sufficient.	6.84 (2.85)
Amount of feedback I receive from my supervisor is sufficient.	6.41 (2.72)
Amount of information I have received is sufficient.	6.26 (2.57)
Supervisor's expectations for me are clear and known.	6.25 (2.66)
Supervisor has helped me to develop clear goals for finishing my doctorate.	5.84 (2.39)
Supervisor has sufficiently taught me about academia as a professional enterprise.	5.11 (2.90)
Supervisor has adequately discussed expectations and opportunities related to career path.	4.65 (2.78)
Supervisor informs me of opportunities external to department that could help me succeed.	4.53 (2.90)

0-10 scale, with 0 = "completely disagree", 5 = "neither agree nor disagree", and 10 = "completely agree".

No statistically significant age, gender, parenthood, or foreign-born student differences in agreement.

That being said, even though the mean response level indicates agreement with these five statements, the agreement levels are quite unremarkable. The only statement where the modal choice was "10 = completely agree" was the one regarding the sufficiency of contact with the supervisor. However, even for that statement, there is significant variance in agreement. Additionally, the modal category never exceeds a 7 on the 0-10 scale for any of the other statements. These results indicate that, even for these more general statements on supervision, there is substantial room for improvement.

There was one statement where the mean level of agreement was close to "5 = neither disagree nor agree." Specifically, this was the statement indicating that the supervisor sufficiently taught the researcher about academia as a professional enterprise. When exploring response agreement with this statement, responses were quite evenly distributed across the 0-10 scale. In contrast to the statements with positive agreement, some individuals selected "0 = completely disagree" for this statement. The result indicates that researchers' experiences with this aspect of the training are quite varied. The negative responses are cause for concern because the literature has identified that positive outcomes are linked to professionalization training. Some scholars, such as Schnaiberg (2005), advocate for supervisors to take a much more active role in this type of teaching. Thus, this is an area where some supervisors could focus on improving their supervision.

There were two statements where the mean level of agreement leaned towards disagreement. In particular, the statements regarding supervisors adequately discussing career paths, and supervisors adequately discussing opportunities external to the department for success, reported mean levels of disagreement. Here also, some respondents selected the category "0 – completely disagree." The results align with the sentiment uncovered in the interviews. Doctoral researchers generally viewed their supervision positively overall, but their responses grew more negative when addressing specific aspects. Students regularly expressed frustration with how little they knew about opportunities or aspects of academia beyond their dissertation and/or applications to fund their degree. While these findings highlight areas for potential improvement in supervision, it is also important to acknowledge systemic constraints that may limit supervisors' ability to provide comprehensive guidance, such as heavy workloads, competing responsibilities, and institutional policies that shape the scope of their engagement with doctoral researchers. Nevertheless, the results point to areas where supervision might be improved. Therefore, the following section explores opinions on supervision practices in greater detail.

Opinions Regarding Supervision Practices

Table 3: Supervision Contact

The supervisor should touch base with supervisees about…	**Mean (SD)**
…every two weeks or more frequently.	4.82 (2.79)
…once a month.	6.92 (2.61)
…once a semester.	3.80 (3.50)
…once a year.	1.76 (2.87)
It is the responsibility of the…	**Mean (SD)**
… supervisee to contact the supervisor.	7.26 (1.76)
… supervisor to contact the supervisee.	5.19 (2.35)

0-10 scale, with 0 = "completely disagree", 5 = "neither agree nor disagree", and 10 = "completely agree".

No statistically significant age, gender, parenthood, or foreign-born student differences in agreement.

In Table 3, mean values are presented for respondents' agreement with several statements regarding supervisor and supervisee contact. At the top of the table, results are displayed where respondents were asked how often a supervisor should touch base with a supervisee. The respondents were presented with statements suggesting various frequencies of contact, including every two weeks or more frequently, once a month, once a semester, and once a year. As prior, the respondents were offered the 0-10 agreement scale. The highest mean level of agreement (6.92) was with the statement that supervisors should touch base with supervisees about once a month. The other three statements had mean levels of agreement that either leaned towards disagreement (i.e., every two weeks or more frequently = 4.82, and once a semester = 3.8) or indicated strong disagreement (i.e., once a year = 1.76). Therefore, supervisors should consider regular monthly meetings with their supervisees. Overall, the statistics in the top of Table 3 indicate that doctoral researchers prefer a balance between too little and too much contact, which was a sentiment expressed by all interviewees.

At the bottom of Table 3, mean levels of agreement are presented for statements regarding the responsibility for contact between supervisors and supervisees. Surprisingly, there is a statistically significant higher level of agreement with the statement indicating that contact is the responsibility of the supervisee (mean = 7.41). Additionally, the variance in responses is much smaller compared to the statement indicating that the supervisee is responsible for contact (SD = 1.76) when compared to the statement indicating the supervisor is responsible (SD = 2.35). These results suggest that doctoral researchers tend to place strong responsibility for maintaining contact in their supervisor-supervisee relationship on themselves. This tendency may be influenced by the unequal power dynamic between the two parties. Nevertheless, the finding highlights an area where supervisors could clarify expectations regarding communication responsibilities during supervision regarding the mode of contact that is preferred.

Table 4: Additional Supervision Help

Supervisor…	**Mean (SD)**
…providing greater feedback earlier in the dissertation process.	7.41 (1.90)
…helping you develop a work/progress schedule.	6.82 (2.28)
…increasing the number of meetings with you.	6.61 (1.99)
…providing a reading/literature list.	6.33 (2.48)
…increasing the number of email contacts with you.	5.61* (2.33)

0-10 scale, with 0 = "not at all helpful to 10 = "extremely helpful.

* Indicates women's statistically significant higher importance ($p < 0.05$).

No statistically significant age, parenthood, or foreign-born student differences in agreement.

In Table 4, mean levels of helpfulness are presented for statements asking what actions the supervisor could take to help doctoral researchers increase their probability of successful completion. For each statement, the respondents were asked to place the level of helpfulness they assign to each activity on a ten-point scale from "0 = not at all helpful" to "10 = extremely helpful". The statement that respondents indicated would be the most helpful mentions the supervisor providing feedback earlier in the dissertation process (mean = 7.41). During interviews, researchers frequently discussed feeling lost during the first year of their degree. Many expressed a sense of uncertainty, with some admitting they were unfamiliar with the structure of a dissertation. Overall, it appears that a significant amount of time at the outset of

the doctoral pursuit is dedicated to, or for some researchers wasted on, learning basic aspects of academia and formal dissertation guidelines.

In addition, respondents indicated that a supervisor helping to develop a work/progress schedule would be quite helpful (mean = 6.82). However, there was considerable variance in responses regarding how helpful respondents thought a supervisor developing such a schedule would be. The reason for this variance was evident during the interviews. While some researchers expressed a desire for a strictly planned schedule, others strongly opposed the idea. Those in favor often emphasized their inclination toward routine and their desire for explicitly laid-out dissertation tasks. Conversely, those who rejected the idea emphasized academic freedom and their right to pursue completion of their dissertation at their own pace. The respondents that reacted negatively to the idea indicated that having a schedule planned with the supervisor would be too stressful and could negatively affect their mental health. This topic emerged as one of the most polarizing during the interviews. The results highlight the need for supervisors to recognize individual differences and inquire into whether collaborative scheduling or similar tasks would be viewed as beneficial or harmful by each supervisee.

The proposed supervisor assistance that received the third highest level of helpfulness was simply increasing the number of meetings with the supervisee. When respondents were asked about their experience with supervision regarding the amount of supervisor contact, prior results indicated a tendency towards agreement that the amount of contact was sufficient. However, the level of agreement that the amount of contact was sufficient was not strong, and there was considerable variance in responses. The finding explains why respondents were indicating that increasing the number of meetings would be helpful. Interestingly, during the interviews, attitudes towards increasing the number of meetings were accompanied by caveats, with many of these caveats contradicting those conveyed by other interviewees. Areas where caveats clashed included whether the meetings should be formal or informal, planned or spontaneous, occur at the office or over coffee or lunch, and be organized by the supervisor or the supervisee, as well as disagreement over the meeting's content. Overall, the frequency of areas of disagreement highlights an aspect of supervision where individualized communication between supervisors and supervisees can enhance the comfort and effectiveness of meetings.

The results in Table 4 also indicated that some respondents believe a supervisor providing a reading or literature list would be helpful for degree completion. Responses to this statement exhibited the largest amount of statistical variance

(standard deviation = 2.48) in attitudes towards this activity being helpful. During the interviews, the desire for a supervisor to provide a literature list evoked strong reactions among interviewees. Some interviewees adamantly expressed that such guidance would have significantly eased their work, as they struggled to locate pertinent literature on their own. In some cases, individuals who supported this idea reported not knowing where to find relevant literature on their dissertation topic during the first year of their supervision. Conversely, other individuals emphasized that exploring the literature was solely the researcher's responsibility. One participant even argued that the researcher's exploration of the literature fell under academic freedom, allowing them to "choose which literature to engage with." Despite some negative responses, these individuals acknowledged that this practice could be beneficial for others. Overall, the results imply the value of offering some guidance or starting point regarding foundational literature to facilitate dissertation development.

Finally, the activity that doctoral researchers responded to with an average neutral stance was whether supervisors should increase the number of email contacts. However, responses exhibited a notable amount of variance, which indicates that views on this activity are not static. Therefore, supervisors should consider whether they maintain sufficient contact with supervisees overall email, especially for those that are working outside of the university. Interestingly, views on increasing the number of email contacts represented the first instance explored here where responses were statistically correlated with a demographic variable in a bivariate regression analysis ($p < 0.05$). In this instance, women assigned a statistically significant, stronger level of helpfulness to this activity. The finding highlights an area where gender may need to be considered when assessing the efficacy of certain practices. Future research should further explore gendered differences in supervision experiences, examining how they intersect with broader issues of equity and inclusivity in doctoral training. Beyond these specific activities, the next section explores views on the types of information that should be included in an initial supervision contract between the supervisor and supervisee.

Supervision Contract Components

Hockey (1996) advocated strongly for a contractual solution to problems in supervision. He argued that these contracts should be explicit as possible about expectations and procedures for handling issues. The university where the survey was conducted provides a list of "responsibilities, duties, and rights of the supervisor and supervisee" that both parties agree to when formalizing doctoral supervision

(see, Appendix A). The agreement contains useful information, such as the supervisee's ultimate control over decisions concerning the research. Nevertheless, many of these statements are quite vague, such as the requirement for the supervisor to provide "feedback at regular intervals and within a reasonable time," making them difficult to assess, comply with, or enforce. The vagueness of the contractual statements has led some supervisors to create additional supervision contracts with more detailed information that can be uploaded to the online system when formalizing doctoral supervision. To provide guidance for the creation of these additional supervision contracts, respondents were asked about the types of information they think would be helpful to include.

Table 5: Views on Ph.D. Supervision Contract Inclusions

Potential Inclusions	**Mean (SD)**
Information on regularity of meetings with supervisor and supervisee.	8.37 (1.50)
Information on expectations for frequency of supervisor feedback.	7.89 (1.86)
Rough dissertation schedule/plan.	7.83* (1.93)
If multiple supervisors, clearly defined roles for each supervisor.	7.59 (2.29)
Dissertation Criteria (# articles, monograph length, published, etc.).	7.56 (2.69)
List of benchmarks for completion of the doctoral degree.	7.19* (2.19)
Information on expectations for the type of supervisor feedback.	7.19 (2.31)
Criteria for assessing the dissertation.	6.78 (2.55)
Expectations for supervisee with funding vs. no funding.	6.56 (2.85)
Blueprint for acquiring the credit requirements.	5.76 (2.52)

0-10 scale, with 0 indicating "not at all important" to 10 indicating "extremely important".

* Indicates women's statistically significant higher importance ($p < 0.05$). No statistically significant age, parenthood, or foreign student differences in agreement.

Respondents were presented with ten statements on topics that could be included in a supplementary doctoral supervision contract. The doctoral researchers were asked to assess the importance of including each topic in the contract on a scale of 0 to 10, with "0" indicating "not at all important" and "10" indicating "extremely important." Table 5 provides the results from these questions regarding topics for inclusion in the supplementary contract. Overall, the respondents assigned substantial importance to the inclusion of the ten items.

The item that solicited the greatest level of importance for inclusion in the supplemental contract was information on the regularity of meetings with the supervisor and supervisee (mean = 8.37). The result indicates that doctoral researchers believe that the expectations for meetings are unclear and something that needs to be specified at the outset of the supervision process. A similar level of importance was assigned to the inclusion of information regarding the expectations for the frequency of supervisor feedback (mean = 7.89), as well as defined roles for multiple supervisors (mean = 7.59) and information on type of supervisor feedback (mean = 7.19). Interviewees also addressed these topics, revealing significant variation in known expectations for the levels of supervisor engagement and support. The results indicate a need to have greater clarity in expectations regarding the supervisor and supervisee relationship.

The results also indicate that there were several additional items related to the organization of the doctoral degree that would be helpful if included in the supplementary contract. For example, there existed a high degree of importance assigned to the inclusion of a rough dissertation schedule/plan (mean = 7.83). The result aligns with the findings from the interviews, in which doctoral researchers often reported feeling unsure about their progress. Moreover, two additional items were deemed substantially important for inclusion to address this issue. First, respondents assigned a high degree of importance to inclusion of dissertation criteria in the contract, such as number of articles, monograph length, acceptance for publication requirements, or additional information (mean = 7.83). Although each faculty has its own dissertation guidelines that apply to everyone, interviews revealed that individuals were generally unaware of the specifics of the guidelines. In tandem, several interviewees expressed uncertainty regarding the adequacy of their future progress plans to complete their dissertations, particularly in terms of uncertainty about whether the planned articles for publication would suffice. Second, respondents assigned importance to the inclusion of a list of benchmarks for completion of the doctoral degree (mean =7.19). For both items, gender disparities were statistically significant, with women assigning greater importance to the inclusion of this items. The result suggests varying needs among different groups regarding feedback. Overall, despite general guidelines for dissertations, the inclusion of supplementary information in a contract would be advantageous.

Lastly, respondents rated the inclusion of criteria assessing the dissertation (mean = 6.78), expectations for supervisees with and without funding (6.56), and a blueprint for acquiring credits (mean = 5.76) at a moderate level of importance. Notably, these three items contained the largest amount of variance in assigned importance (2.52 ≤

standard deviation ≤ 2.85). Some doctoral researchers indicated that these items were extremely important whereas others thought they were not at all important. These findings underscore the necessity of individually tailoring information provided to supervisees to support their progress towards degree completion. A system with a rigid, vague set of responsibilities is unlikely to meet the diverse needs of all individuals.

Additional Training Needs

Finally, there were five statements that asked about the helpfulness of additional training in the form of workshops to help doctoral researchers' succeed. This module of questions was included in the survey after interviewees revealed a systematic lack of understanding about the peer review process or careers in academia. Given the structural limitations of doctoral programs in offering formalized professional training, workshops could significantly supplement general knowledge about academia that is currently insufficiently conveyed. Beyond the general practice of writing a dissertation, doctoral researchers expressed a strong desire and need to gain deeper insights into other facets of academia.

Table 6: Additional Training Needs

Workshops on…	**Mean (SD)**
…tips for dissertation writing.	8.48 (1.48)
…grant writing.	8.06 (1.77)
…the peer review process.	7.94 (1.83)
…applying for academic jobs.	7.20 (2.14)
…conferences.	6.89 (2.04)

0-10 scale, with 0 = "not at all helpful to 10 = "extremely helpful.

No statistically significant age, gender, parenthood, or foreign student differences in agreement.

In Table 6, the results from the questions regarding the helpfulness of workshops on various topics are displayed (0-10 scale, with "0 = not at all helpful to "10 = extremely helpful"). Consistent with previous findings, the workshop rated as most helpful was one on tips for dissertation writing (mean = 8.48). Given that the dissertation is the primary requirement for obtaining a doctoral degree, it is logical that this task receives the most emphasis. Additionally, respondents rated a workshop on grant

writing as similarly useful (mean = 8.06), which is also intuitive. The vast majority of doctoral researchers rely on funding external to the university in Finland. At this university, funds are available for a limited number of doctoral positions, and they are extremely competitive. Consequently, researchers must seek funding, often times on projects in collaboration with faculty members, from cultural foundations, the Research Council of Finland, and/or other private funding agencies. In many instances, researchers must piece together multiple grants from different funders throughout their degree pursuit. There are only a few instances where doctoral researchers do not seek external funding and do not have funding from the university, typically because they have full-time employment outside the university. Thus, grant writing is closely intertwined with doctoral research in a way that is uncommon in other countries. In countries where this is the case, programs should consider the need to provide training on grant writing.

The other three workshop topics were also regarded as highly useful. Respondents indicated that a workshop on the peer review process (mean = 7.94) was nearly as valuable as one on grant writing. The result can be explained by the fact that article-based dissertations often require a certain number of articles to be accepted for publication prior to a defense. Similarly, workshops on applying for academic jobs (mean = 7.2) and on attending conferences (mean = 6.89) were also seen as useful. There was notable variance in the perceived helpfulness of these three workshops ($1.83 \leq$ standard deviation ≤ 2.1). The variance can be attributed to individuals who are pursuing their degree alongside full-time jobs and those who have no intention of pursuing an academic career. Thus, all three workshops might be more beneficial to some doctoral researchers compared to others. Overall, the results indicate a need for additional academic training for supervisees.

Conclusion

In conclusion, this study provides a comprehensive analysis of doctoral supervision experiences, attitudes towards effective supervision strategies, and opinions on current training needs at a large public university in Finland. This research is essential for developing optimal practices in supervision and training in dissertation-based programs without a course curriculum, competency examinations, and a prospectus defense. By utilizing a mixed-methods empirical strategy, the research uncovers key insights from both semi-structured interviews and surveys. The findings highlight significant areas for improvement in doctoral supervision, emphasizing the necessity for tailored support and enhanced communication between supervisors and supervisees.

The mental health experiences of doctoral researchers revealed concerning trends, with a substantial proportion of respondents reporting issues such as imposter syndrome, thoughts of inferiority, and burnout. In addition, a substantial number of researchers reported developing or worsening issues of anxiety and depression. These mental health challenges are exacerbated by the pressures and isolation associated with doctoral research. The findings reinforce previous research by Bolotnyy et al. (2022) and Evans et al. (2018), which identified heightened levels of anxiety and depression among doctoral students. However, it is worth noting that this is an issue that students deal with at all levels of university education (Hansen 2024). Similar to Vekkaila et al. (2013), this study also underscores the significant role of supervisory support in buffering against these stressors. Respondents who reported clear communication, regular feedback, and supportive supervisory relationships experienced lower levels of imposter syndrome and burnout. Supervisors who provided structured guidance and proactive career discussions contributed to reduced feelings of isolation and uncertainty, reinforcing the importance of mentorship in fostering academic confidence and well-being. Finally, the results extend this literature by highlighting the specific demand for tailored guidance and structured feedback earlier in the dissertation process, an area that has received limited empirical attention in existing studies.

Experiences with supervision varied significantly among respondents, with general satisfaction in some areas but notable dissatisfaction in others, particularly regarding career guidance and understanding academia as a professional enterprise. The findings suggest that while basic supervisory practices are generally adequate, there is substantial room for improvement in more specialized areas of supervision. Areas of improvement include providing clearer expectations, more frequent and meaningful feedback, and better support for career development. Tailoring supervisory approaches to individual needs could enhance the overall effectiveness of doctoral programs. A useful tool for individualizing supervision and providing clear expectations would be to formalize a supervision contract. Beyond the survey, interviews revealed that supervisors who customized the supervision contract beyond the university's template reported greater satisfaction with how the supervision process unfolded.

However, while the desire for more supervision time, increased meetings, and greater support may appear universally beneficial, these suggestions must also be balanced with the realities of a supervisor’s workload and available resources. Implementing more intensive supervision practices may require institutional support, such as

allocating additional resources or adjusting faculty responsibilities, to prevent supervisor burnout and ensure sustainability.

Finally, the study highlights the critical need for additional training workshops on key aspects of academic and professional development in dissertation-based programs. Workshops on dissertation writing, grant writing, peer review, applying for academic jobs, and attending conferences were all deemed highly useful by respondents. Given the competitive and multifaceted nature of academic careers, these workshops can fill the gaps left in these programs. By implementing these recommendations, supervisors and universities can better support their doctoral researchers, enhancing their academic progress and well-being.

Nonetheless, this study has a couple limitations that should be acknowledged. First, the data is limited in scope, as it is drawn from a single institution, which may affect the generalizability of the findings to other settings or contexts. Second, discussions of mental health rely on self-reported experiences, which may lack clinical specificity. Self-reports are inherently subjective and may be influenced by individual interpretations or recall biases, limiting the precision with which mental health challenges can be assessed and compared to clinical diagnoses.

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