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THE PANDEMIC, DOCTORAL STUDENTS' MOTIVATION AND THE ROLE OF SUPERVISION

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Abstract English

The Ph.D. research and supervision process passes through different momentums of ups and downs, demotivation, and stress. Unexpected situations, such as the COVID-19 pandemic and its considerable influence on daily life and their working environment and research process, put new pressures on Ph.D. students. This study aims to investigate the effects of the COVID-19 pandemic on doctoral motivation and supervision strategies, as well as the importance of supervisors in helping students tackle demotivation and stress situations. In the study, we conducted both an online survey, including open-ended and Likert scale questions distributed among the doctoral students, and interviews with supervisors at Malmö University. According to the results of the survey, the pandemic has affected the doctoral students' research methodological process, the frequency and efficiency of their communication with their supervisors, access to the office and laboratory, and their motivation to write and finish their doctoral thesis. Stress, new life and family priorities, the uncertainty of fieldwork and research methods, isolation, skepticism about the importance of their research, and less connection with supervisors and peers have all been mentioned as their reasons for demotivation. In addition, the survey results showed that most respondents emphasized the importance of the supervisor's role in their motivation. The message from this study is that the clarity of feedback, setting realistic goals, time management, mutual understanding, caring and support, flexibility and availability, regular and informal meetings, and positive attitudes are essential factors in doctoral supervision during stressful situations. The findings pinpoint the most efficient supervision strategies during challenging situations such as the pandemic, which can be lessons for future similar events. However, the results also addressed the students' different needs and the importance of awareness and attention to the students' differences during supervision and mentoring.

Keywords: doctoral supervision, doctoral students, demotivation, pandemic, motivation

Introduction

Very soon after the beginning of the pandemic (COVID-19), many studies have been carried out on its impact on people, various groups, previous trends, and organizations. Xiong et al. (2020) conducted a document analysis of the publications about the consequences of the pandemic. They concluded that anxiety symptoms were assessed in 11 out of the 19 studies, with noticeable variation in the prevalence of anxiety symptoms, ranging from 6.33% to 50.9%. Rogowska et al. (2020) examined the association of anxiety with self-related general health, satisfaction with life, stress, and coping strategies of university students during the COVID-19 pandemic outbreak in Poland. According to this study, most students (65%) showed mild to severe Generalized Anxiety Disorder and high levels of perceived stress (56%). Mind wandering, including worrying about the latest news headlines, and worrying about loved ones, students, colleagues, and jobs, can potentially be generated by the pandemic (Boals & Banks, 2020). The negative consequences of mind wandering are worsening academic performance, impaired workplace functioning, and poorer performance on everyday tasks (Boals & Banks, 2020).

The COVID-19 pandemic and the resulting significant disruptions to everyday life, including mandatory quarantine, distance working, staying at home, fewer physical activities, and less social contact, influenced people's mental health (Tabisula & Uwaoma, 2022). The pandemic has brought an unmatched amount of stress on students in general, and doctoral students specifically, during their different study phases. Studies have shown that, in general, doctoral students experience psychological distress much more than the general population (Burman, 2018). Thus, the recent Covid-19 pandemic has had significant psychological and social effects on the population (Saladino et al., 2020) that can also appreciably impact doctoral students' well-being and mental health (Brinkert et al., 2020). As with the general population, doctoral students may experience various tensions during the pandemic. The transitions to distance working, online meetings, and receiving different instructions daily about avoiding crowded public facilities and public premises can be exhausting and devastating and create stressful situations for doctoral students; these effects are further compounded by the lack of physical activity, less social contact, and large amounts of negative news. Thus, doctoral students may have more periods of demotivation than usual in continuing their doctoral education.

Demotivation is a common phenomenon in higher education in general (Elliott et al., 2005) and occurs among Ph.D. students and their supervisors. It directly influences productivity and can reduce Ph.D. students' ability to achieve their study plan targets (Moore et al., 2004). Lack of motivation is a common reason for Ph.D. students who have not finished their degree within eight years. According to Högskoleverket's survey (Högskoleverket, 2012), 37% of all faculties give this as a reason for quitting. Across sexes, the motivation problem is of the same order: females 36% and males 38%. Thus, severe motivation dips seem to occur in all fields.

Moreover, doctoral students' lack of motivation can affect the supervisors' ability to perform to a good standard (Hockey, 1996). Supervisors can play an effective role in the general doctoral education results (in terms of doctoral education as a learning process and the doctoral thesis as the product of the whole doctoral education). The supervision process and the relationship between supervisors and supervisees play a significant role in students' motivation.

This study was carried out with a focus on Swedish doctoral education. The typical duration of doctoral studies in Sweden is 4 to 5 years. The study aims to identify the role of the supervisor in students' motivation during challenging times when confronted with external and uncontrollable pressures, with a view to finding effective strategies in the supervision process during such crises. This research further investigates the reasons for demotivation among doctoral students. Moreover, it attempts to determine which supervision strategies could avoid demotivation. The study implements an investigative approach using mixed qualitative and quantitative surveys with a sample of doctoral students and supervisors at Malmo University in Sweden. The tendency is not to view the problem from the perspective of a

psychological field of study, but as the knowledge the supervisors and researchers should have in dealing with challenging situations in a research timeline.

Literature Review

A recent research study at UCL has explored the effects of stressful events during the COVID-19 pandemic on doctoral students' well-being. The preliminary results of the study show higher levels of anxiety and depression among Ph.D. students compared with the general population. More than half of the participating doctoral students in this research stated that COVID-19 impacted their investigation. Three major themes were identified as the impacts of the pandemic on the respondents' analysis: "(a) adjustments to academic work to suit the new circumstances, (b) personal impact on isolation and working from home, and (c) feelings around financial struggle and uncertainty about the future" (Brinkert et al., 2020).

Many studies have been carried out on supervising doctoral students and the supervisors' tasks. At the same time, there is still a need for more studies about the factors affecting doctoral education and the efficiency of strategies supervisors adopt during the supervision process and under different circumstances. Lee's research in 2008 illuminates the power of the supervisor's own experience as a student (Lee, 2008). In her research, she mentions two key influences on the supervisor's approach to supervision: firstly, the concept of research supervision for the supervisors, and, secondly, their own experience as doctoral students (Lee, 2008). Brodin et al. (2020) cover many aspects of supervision in theory and practice.

On the other hand, more recently, Mullen (2020) analyzed the impact of the shift from in-person to online mentoring during the pandemic on the progress of doctoral proposals and dissertations. The study yielded three themes: 1) utilization of mentoring strategies, 2) the unsettled pandemic reality, and 3) the opportunities for personal and professional development. Mullan's study (2020) showed that the pandemic negatively impacted the progress of the proposal or dissertation and the mentoring experience. While the previous studies demonstrate the amount of anxiety and stress the doctoral students bear due to the disconnection and change of regular and predefined procedures in doctoral education, the role of supervisors in staying on track, guiding, and motivating students in this process has not been studied.

Stress and Demotivation among Ph.D. Students

Stress can be emotional or physical tension as the body reacts to a challenge or demand. While to a certain level it can be positive, high levels of stress can lead to physical and mental problems, career inefficiency, wrong decisions, and poor interpersonal behaviours. Researchers suggested various modes of coping with stress and stressors, which include:

- task-oriented: aimed at cognitively restructuring and solving the problem, attempts to alter the situation, focusing on task and planning;
- emotion-oriented: describes self-oriented emotional reactions in stressful situations (e.g., self-blaming, getting angry, becoming upset, becoming tense, self-preoccupation, and fantasizing), aimed to reduce stress; and
- avoidance-oriented: is designed to alleviate stress through activities such as distractions by other situations or tasks or social gatherings (Rogowska et al., 2020: 798).

According to the literature, various factors affect the amount of stress. Xiong et al. (2020) explain that females and the younger age group have often been shown to be associated with higher stress levels as

compared to males and the elderly. In addition, they state that in previous studies, the female gender, younger age groups (< =40 years), and the student population were repetitively reported to exhibit psychiatric symptoms. For example, females tended to be more vulnerable to developing the symptoms of various mental disorders during the pandemic, including depression, anxiety, and stress (Xiong et al., 2020). In addition, studies have shown that some personality traits such as individual coping styles, secure and avoidant attachment styles, and having more social support and time to rest correlate with positive psychological outcomes during the pandemic (Xiong et al., 2020). Stress and exhaustion are relatively common among doctoral students. It is noteworthy that "up to one-third of doctoral students often or always feel exhausted" (Cornér et al., 2017). The high stress level and prolonged work-related stress that students experience may result in exhaustion, demotivation, and burnout.

As defined by the *Cambridge Dictionary*, motivation is the enthusiasm or willingness to do something or the need or reason for doing something. Studies identified seven main factors that endorse motivation: challenge, curiosity, control, fantasy, competition, cooperation, and recognition, many of which are present in games (Gopalan et al., 2017; Malone & Lepper, 1987). Motivation is classified into two types: intrinsic motivation reflecting the natural human propensity to learn and assimilate, and extrinsic motivation, which can either reflect external control or true self-regulation (Ryan & Deci, 2000). Intrinsic motivation depicts an activity done only for own contentment without any external anticipation. Challenge, curiosity, control, and fantasy are the key factors that trigger motivation. In education, lots of will power and a positive attitude are required to sustain motivation" (Gopalan et al., 2017). Individuals are extrinsically motivated if they receive any reward or are under pressure or compulsion, at the same time, the motivation cultivated extrinsically at the initial stage could be transformed into intrinsic motivation in the learning process as it goes deeper (Gopalan et al., 2017). Demotivation as a common phenomenon in higher education (Elliott et al., 2005) directly influences productivity and can reduce Ph.D. students' ability to achieve their study plan targets (Moore et al., 2004).

Cornér et al. (2017) state, "If students do not receive sufficient support to help them overcome the challenges, they are likely to be exposed to an increased risk of burnout, and, eventually, attrition." Lack of meaning, the complexity and uncertainty of the student's situation, lack of support in learning and research work, and exclusion are among the factors causing stress (Linden, 2020). Linden (2020) mentions that the personal interpretation of the work environment and the scholarly community, including the feeling of uneasiness and stress, is significant for psychological well-being.

The Significance of Supervision

Among the factors positively or negatively affecting a student's stress level is the type of supervision and support a student receives from their supervisor. Doctoral education is described as the gatekeeper of the academy and is one of the most individualized study routes available (Sonesson & Lindberg-Sand, 2020). It is a learning process leading to significant production, skill, and privilege. Supervision is a critical part of doctoral education. While it is hard to define doctoral supervision, it can be seen as a task within the academic teaching profession (Linden, 2020). Supervisors try to motivate students to progress towards increasing independence (Lee, 2008). Fataar (2005) believes that a supervisor's role in the supervision process is to facilitate a shift toward a scholarly identity.

The supervision process includes many different undertakings, such as providing instruction, holding mini-lectures, demonstrating, controlling, providing positive feedback, deciding on things, and holding philosophical conversations or reflective discussions (Linden, 2020). It "includes both an intellectual dimension entailing providing knowledge, suggestions, and feedback, and affective aspects such as caring, support, and friendliness" (Cornér et al., 2017, as cited in Barnes & Austin, 2009; Halse & Malfroy, 2010). Lee (2008) suggests a conceptual approach toward doctoral supervision. The main

concepts in this approach are functional thinking, enculturation, critical thinking, emancipation, and developing a quality relationship.

One of the critical aspects of supervision is the relationship between the supervisor and the doctoral student. Lee (2008) states that the relationship has many facets, opportunities, and problems. It is an arena where training can raise awareness, enable the creation of professional boundaries and prevent problems from arising" (Lee, 2008). Linden (2020) explains that working alliance, commitment and trust, group relationship and organization, and power relationship are the components of the supervision relationship. Supervisors can significantly impact the main approach, fundamental theories, and methods that students choose, as well as the overall quality of the thesis and publications.

Moreover, supervisors considerably affect the results of the learning process (the doctoral student as a member of the academic community and their experience and achievements gained from the doctoral education). Lee (2008) explains how supervisors can have a significant role in students' life: "The supervisor can make or break a Ph.D. student. More specifically, the communication between the supervisor and student is key" (Lee, 2008: 267, as cited in Ives & Rowley, 2005). According to Fataar (2005), successful supervision must be responsive to how the student's dynamic has shaped her approach to Ph.D. study. Fataar (2005) believes that a respectful, trustful, mutually affirming, comfortable, and carefully directed discussion of the intellectual parameters between supervisors and supervisees is essential.

Supervision and Overcoming the Demotivation

It is said that success on the doctoral journey is highly determined by a functional supervisor-student relationship (Cornér et al., 2017). Specifically, a lack of support from supervisors was cited as a crucial factor in dropping out of doctoral education (Brodin et al., 2020). The source of supervision, the form of a thesis, and inadequate supervision frequency are related to attrition intentions among doctoral students (Cornér et al., 2017). In addition, Cornér et al. (2017) showed that doctoral students benefit from having several different kinds of supervision activities and that lack of satisfaction with supervision and equality together with a lower frequency of supervision were related to the experience of burnout and students' attrition intentions. It is said that "a good match between supervisors' and doctoral students' perceptions of supervision has been associated with a reduced risk of dropout and increased satisfaction" (Cornér et al., 2017, as cited in Pyhältö et al., 2015). Moreover, Cornér et al. (2017) suggest that assisting doctoral students with sufficient support, especially equality within the scholarly community and frequency of supervision, group supervision, and other collective forms of supervision, can be helpful for doctoral students.

Methodology

The methodology adopted in this study was an analytical investigative and mixed descriptive approach comprising a quantitative survey method using questionnaires. The methodological approach was divided into three phases. The first phase comprised a literature study focused on motivation, and stress causing demotivation for students in higher education, with a focus on Ph.D. students. The second phase involved a qualitative survey for Ph.D. students and supervisors. The survey was distributed among the doctoral students and five supervisors at Malmo University in Sweden. We received 36 responses from Ph.D. students and three from supervisors within a three-week survey duration.

The samples used in this survey were stratified sampling chosen for enrolled, active Ph.D. students and supervisors. We designed two questionnaire survey forms, one for Ph.D. students and one for

supervisors. As it was a general survey, the student and their supervisor did not need to participate. The survey was meant to be anonymous in an online digital format to guarantee frank and honest answers.

The third phase was a critical analysis based on our personal thoughts as researchers using reflexivity. We tried to assess the whole outcome of the survey using guidance from recent literature tackling the influence of COVID-19 on students' psychology. As the pandemic experience is still new, it was hard to draw concrete conclusions, so we thought using reflexivity could add some depth to this study.

Results

The questionnaire distributed among Ph.D. students at Malmö University framed a few general descriptive questions about the participants (age, gender, and the name of the university and faculty or department). Most respondents were women (72%); 28% were men in the range 23 to 67 years old (72% between 23 to 34 years old). The students who participated in the survey were from the faculties or departments of Education and Society, Odontology, Global Political Studies, Technology and Society, Arts and Communication, Culture and Society, Health and Science, Natural Science, Mathematics and Society, Childhood, and Education and Society. Moreover, the questions focused on students' reflections on the COVID-19 pandemic and its influence on their research and education, the main reasons for demotivation, the supervisor's role, and the positive and negative impacts on the students' motivation.

In response to the question, "How do you think the pandemic has affected the different aspects of your research and education?" 61 percent stated that their previously agreed and selected research methods had been changed. Seventy-two percent stated that their motivation in writing had been influenced. More than half of the participants said their access to the office and laboratory had been modified. The communication frequency and efficiency with the supervisors had been altered for the majority (73%) of the doctoral students, and 56% stated that their motivation to finish their doctoral education had been affected during the pandemic. However, fewer doctoral students were concerned about their publication process (34%) and funding (36%) (Figure 1).

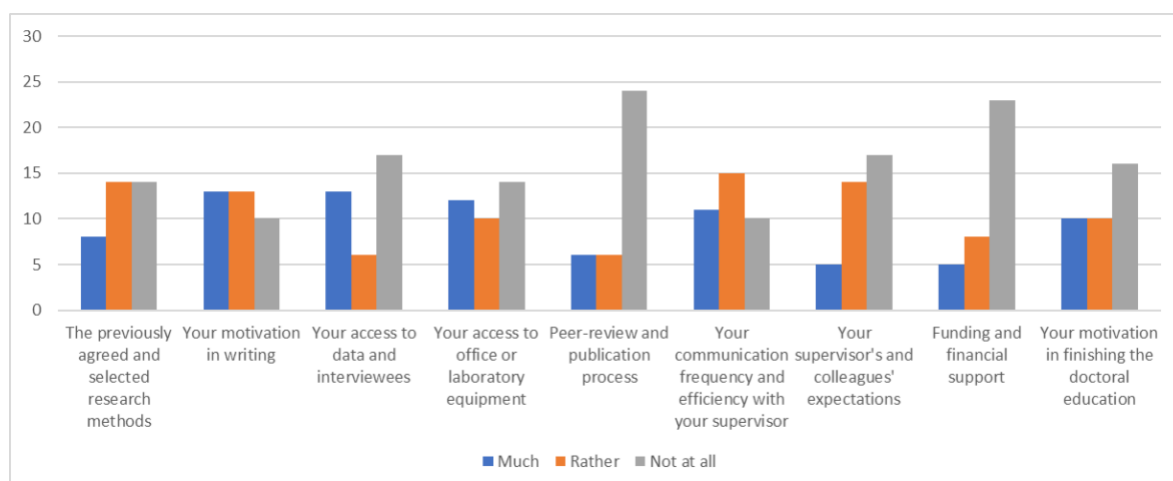


Figure 1. Answer to the question: How do you think the pandemic has affected the different aspects of your research and education?

In an open-ended question, the participants pointed out their reasons for demotivation. These included the stress of the pandemic and new priorities in their families, a sense that their research was not important anymore, and feelings of being trapped and isolated at home, with difficulties in focusing and being self-disciplined. These reasons seem similar to many people's feelings during the pandemic and

lockdown. However, the other reasons mentioned by the Ph.D. students for their demotivation included additional workload due to the re-scheduling of the fieldwork, uncertainty of the fieldwork, concerns about the feasibility of the chosen research methods, and work pressure (particularly for the students in the clinical-related fields) preventing them finding time for writing. Besides, the students pointed out the lack of an academic research environment, not enough academic and social meetings, and not enough meetings with supervisors, as well as the feeling of being lonely in their work. Furthermore, students addressed the lack of fun and rewards. Some students addressed both the positive and negative impacts of the pandemic on their motivation:

It has affected my motivation to write because my opportunities to diversify my work day were significantly limited as I was on lockdown in my apartment. It also motivated me to reframe my research design to a) make my planned research as covid proof as possible b) maintain my ambition to finish on time (student n, statement 1).

I still want to finish it, but it is difficult to stay motivated when there are constant setbacks, in my case, mostly because fieldwork is going so slow (student n, statement 2).

It's harder to know how you are doing when you don't have informal meetings and discussions. Also, it becomes less clear how your research fits into the bigger picture (student n, statement 3).

Lack of opportunities to process information, discuss, learn, develop, experiment with different thoughts, etc. But also harder to navigate in the field in general, understand what's expected by you, etc. (student n, statement 4).

Because writing is what is possible these days, this is what I try to focus on (student n, statement 5)

Finishing the doctoral education depends solely on my intrinsic motivation. Other things seem more important than before the world changed...(student n, statement 6)

In addition, most participants believed that supervisors had a significant role in their motivation (figure 2). Some (25%) believed that there had not been any positive impacts on the part of their supervisors during the pandemic. Conversely, others reported some positive effects of their supervisors on their motivation, such as being clear, keeping focus and setting realistic goals and ambitions, giving feedback and encouragement, time management, being supportive and patient, being caring, being accessible, and having a regular discussion.

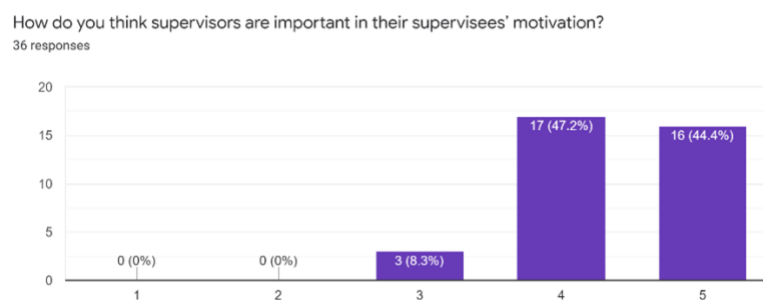


Figure 2. Supervisors' role in the Ph.D. students' motivation during the pandemic

In response to the questions about the probable negative impacts of their supervisor or the supervision process on their motivation, 27 percent answered there were no negative impacts. However, some addressed the following issues: spending less time and less energy; giving less feedback; being late in providing feedback and arranging meetings; not meeting in person; fewer meetings; pressure to finish

in time; not discussing the situation and its impacts on my research; not supporting; and online meetings not being effective tools for brainstorming and discussion.

In addition, the Ph.D. students' suggestions for a better supervision process, particularly during such a crisis, are summarized in the following themes:

- having regular and constant meetings,
- being caring and having mutual understanding,
- time management,
- having a positive and understanding attitude,
- giving more feedback,
- being flexible and creative about methods and data, and
- setting group meetings.

Overall, the participants emphasized the regular tasks of supervisors in the supervision process (giving feedback, regular meetings, time management, and being clear and caring). But also, there were some specific suggestions about the fact that supervisors should be flexible and creative, and supportive when it comes to challenges for data gathering and fieldwork:

Access to data is a problem for many of us... I guess the supervisors need to be creative and innovative, and supportive so the studies can be re-designed (student n, statement 7)

In addition, having informal meetings and talks, as well as ongoing encouragement and focusing on the process were mentioned:

Make time and effort to not only look at what is done formally but also focus on the process and be there with the Ph.D. candidate (student n, statement 8)

Besides, some of the doctoral students suggested more group discussions, seminars, and group meetings to help them keep on track, stay motivated, and have social contact with their colleagues.

Working from home is quite lonely. I would appreciate if the supervisors could enable some kind of research environment to discuss research with others to feel empowered. E.g., arrange seminars, journal clubs or similar on Zoom with active research personell/other PhD-students in the department (student n, statement 9)

I am not sure if the problem is with supervisors but with larger university structures, especially in dealing with international staff/students who are even more isolated than before because of travel restrictions and loss of community support. In our department, all the social fika times that have been put in place for raising the morale of the staff is happening in Swedish, which automatically excludes me (student n, statement 10)

I think, in general, the university should be clearer towards the students and supervisor on how they expect us to react to the pandemic. For example, apparently, we are now expected to change our research if our methods are not suitable to use during a pandemic, but for months this was unclear. So, communication on all levels should improve so that both supervisors and students know what is expected and work together to plan the doctoral student's education (student n, statement 11)

On the other hand, three supervisors of Ph.D. students at Malmö University answered our questions about the influence of the pandemic on doctoral students and the proper supervision strategies that could be taken to avoid demotivation among the students. Although the number of responses received from the supervisors was limited, the results included valuable inputs to be considered in the cross-correlation

of the survey's results and the literature review. Overall, the supervisors highlighted the importance of giving positive feedback, commenting on the students' manuscripts, and supporting the Ph.D. students' motivation.

The supervisors addressed the relationships between themselves and students and how these influence students' motivation. The supervisors identified their relationship with students as "colleagues" and "friends". Some would talk to students when facing motivation problems themselves. On the other hand, students wished to speak to their supervisors when they had issues with the research. Accordingly, we suggest that a professional relationship between supervisor and students in which effective and timely communication can be experienced is crucial for motivating research.

According to the responses, "good feedback from supervisors", "getting your research results published", and "appropriate acknowledgment after finishing big tasks" were the three most important motivating agents for students. In line with this, the supervisors who participated in the study thought acknowledging well-performed work/achievements was a good strategy for building confidence. Some supervisors mentioned that they schedule a meeting or talk when the students face a motivation problem. Good communication can prevent students succumbing to demotivation or help them recover from low motivation. Positive feedback and timely acknowledgment appeared to be particularly important in stimulating motivation.

Discussion and Conclusion

The results of this research emphasize the importance of proper supervision, supporting the students through giving them efficient feedback, positive comments, emotional support, and time management.

The reasons for the doctoral students' demotivation during the pandemic could be summarized as the lack of contact with the supervisors and the reduction in feedback from supervisors or peers. Other relevant factors include difficulty in focusing, self-discipline, and writing; additional workload; re-scheduling the fieldwork; uncertainty regarding the feasibility of the research methods chosen for the study; and lack of fun and rewards, along with the other general anxieties and concerns raised after the spread of the virus. Although exhaustion is relatively common among doctoral students (Cornér et al., 2017), in typical situations, the risk of demotivation could increase during unpredicted crises that influence regularities such as social meetings, working hours, access to data, daily routines, and other life-related concerns. The literature discusses that to trigger intrinsic and extrinsic motivation, factors such as challenge, curiosity, and reward or compulsion could be helpful (Gopalan et al., 2017; Malone & Lepper, 1987). In this regard, the following could be valuable: planning new challenges or events (in this case, online events); participation in some competitions and challenges; and awarding and encouraging efforts toward coping with the stressful situation and its impacts on the research process. The events could be planned to encourage students to share their ideas in rethinking the fieldwork and in considering other methods in the research process, as well as to discuss the techniques for effective time management, creative thinking, and writing. Group work and participation in the above-mentioned social activities also help students avoid stress and burnout.

Supervisors have critical roles in preventing demotivation and influencing doctoral students' productivity (Moore et al., 2004). The pandemic has affected the supervisors' personal life and stress levels, and they may have experienced new struggles in their responsibilities. However, the studies showed that students, especially Ph.D. students, are vulnerable groups against the pandemic; notably, supervisors can play a crucial role in alleviating the situation.

The cross-correlation of the survey results for Ph.D. students and supervisors highlights some practical supervision strategies for stressful and unpredictable situations. Accordingly, the supervisor's presence and accessibility, regular meetings with them, their relationship with the students, their feedback, and their flexibility and creativity influence the doctoral students' motivation. Supervisors enroll to encourage students and facilitate their research path (Lee, 2008; Fataar, 2005) through, among other measures, developing a quality relationship, containing commitment and trust (Lee, 2008); respect; and mutually affirming and comfortable reflective discussion (Fataar, 2005; Linden, 2020). Thus, the relationship between supervisors and Ph.D. students is a critical point to observe, especially regarding how it correlates with supervisors' strategies to prevent demotivation and, where appropriate, boost students' motivation. The students and supervisors who participated in the study addressed the importance of quality relationships between the two parties, and of having effective and friendly discussions about the research process and its challenging and stressful working situations. Being accessible, having frequent and timely communication, and being caring and supportive are also crucial supervision strategies mentioned by both the doctoral students and the supervisors, as well as the literature (Cornér et al. 2017). In addition, a significant number of both Ph.D. students and supervisors have pointed out that the extended periods of waiting involved in the writing process can lead to a loss of motivation. Besides, receiving negative review comments can degrade motivation severely, especially after experiencing a challenging writing process while trying to change the thesis direction after the pandemic. Positive, constructive, and sufficient supervisor feedback was the most commonly mentioned strategy triggering the students' motivation. Linden (2020) also suggests that positive feedback and reflective conversation are critical to a successful supervision process.

On the other hand, some scholars suggest preventative techniques to avoid demotivation, such as envisaging your final aim and goal, remembering your previous achievements, celebrating small wins, surrounding yourself with positive people, sharing your fears with your mentors, and asking for advice (Kwo et al., 2004; Schunk et al., 2006; Harackiewicz & Sansone 2000). Accordingly, supervisors as mentors could help students prevent demotivation by having informal and friendly conversations about the students' situations and providing support.

Flexibility and creativity are the other supervision strategies addressed by the students, particularly in tough and stressful situations such as the pandemic. Successful supervision depends on emotional intelligence and flexibility (Lee, 2008). Therefore, it is essential to give the students enough space and opportunity to discuss and rethink their methods and research approach, writing style, and working hours or situations. Doctoral education is dependent on the supervisors but also the organization of the research (Sonesson & Lindberg-sand, 2016). Many participants addressed the significant role of group meetings, having discussions and meetings with their peers and colleagues, and working in their offices or labs. Even though the lockdown limited the students' access to the physical arenas, several virtual spaces for socializing, meetings and workshops as well as mingling sessions have been initiated during this time that could support the students and influence their motivation. Socializing and discussing fears and challenges with friends and colleagues are key tactics to alleviate stress and cope with demotivation. In cooperation with other supervisors, a supervisor could plan regular group meetings with the students.

Overall, the results of the study, in line with the literature and the previous studies, focused on some supervision strategies, including the supervisor's presence and accessibility; the quality relationship between the supervisors and supervisees; the frequency and quality of feedback; flexibility; creativity in the new situations; and providing group supervisions and meetings. The results also addressed the students' different needs and the importance of awareness and attention to the students' differences during supervision and mentoring. Supervisors need to know which parts of the Ph.D. studies are perceived as the most demotivating/toughest and what the Ph.D. student considers as their main motivating agents in order to boost them again. By awareness and adopting helpful strategies, Ph.D. students' well-being can be improved. Also, Ph.D. students can progress in their projects if they stay

motivated throughout, and the scientific results can be improved. However, the results of this study did not include financial struggles as a reason for demotivation, while similar international studies have found this to be the leading cause of stress among students (Brinkert et al., 2020). We assume this has not been taken into account in the current Swedish education policy in providing funding support for the student's doctoral program.

Finally, it could be interesting to study the relationship between particular fields of study and demotivation during the pandemic or similar situations. Such investigation was beyond the limits of this study, but could be suggested for further studies.

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References

- Boals, A., Banks, J. B. (2020). Stress and Cognitive Functioning During a Pandemic: Thoughts From Stress Researchers, *Psychological Trauma: Theory, Research, Practice, and Policy* 12 (S1), 255-257. DOI: 10.1037/tra0000716
- Brodin, E., Lindén, J., Sonessn, A., Lindberg-sand, Å. (2020). *Doctoral Supervision in Theory and Practice*. Lund: Studentlitteratur AB.
- Burman, Å. (2018). *The doctoral student handbook : master effectiveness, reduce stress : finish on time*. First English edition. Finish on Time Publications. Available at: <https://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,cookie,url,shib&db=cat05074a&AN=malmö.b2408083&lang=sv&site=eds-live&scope=site> (Accessed: 8 December 2022).
- Cornér, S., Löfström, E., Pyhältö, K. (2017). The relationships between doctoral 'students' perceptions of supervision and burnout. *International Journal of Doctoral Studies*, 12, 91-106.
- Elliott, J. G., Hufton, N. R., Willis, W., Illushin, L. (2005). Motivation, engagement and educational performance [Elektronisk resurs] : International perspectives on the contexts for learning. Basingstoke: Palgrave Macmillan.
- Fataar, A. (2005). Negotiating Student Identity in the Doctoral Proposal Development Process: A Personal Reflective Account, *Journal of Education* 36 (1): 37-58.
- Harackiewicz, J. M. & Sansone, C. (red.) (2000). Intrinsic and extrinsic motivation [Elektronisk resurs] : the search for optimal motivation and performance. Burlington: Elsevier.
- Hockey, J. (1996). Motives and Meaning amongst PhD Supervisors in the Social Sciences *British Journal of Sociology of Education* , 17(4), 489-506.. DOI: 10.1080/0142569960170405
- Hockey, J. (1996) A contractual solution to problems in the supervision of PhD degrees in the UK, *Studies in Higher Education*, 21 (3), 359-371, DOI: 10.1080/03075079612331381271
- Högskoleverket (2012). Orsaker till att doktorander lämnar forskarutbildningen utan examen: en uppföljning av nybörjarna på forskarnivå läsåren 1999/2000 och 2000/01. Rapport 2012:1 R. <https://www.uka.se/download/18.12f25798156a345894e2b8e/1487841900934/1201R-doktoranderforskarutbildning.pdf>
- Högskoleverket (2012). Orsaker till att doktorander lämnar forskarutbildningen utan examen: en uppföljning av nybörjarna på forskarnivå läsåren 1999/2000 och 2000/01. Rapport 2012:1 R. <https://www.uka.se/download/18.12f25798156a345894e2b8e/1487841900934/1201R-doktoranderforskarutbildning.pdf>
- Kwo, O., Moore, T., Jones, J. (2004). *Developing learning environments: creativity, motivation, and collaboration in higher education*. Hong Kong: Hong Kong University Press.
- Kwo, O., Moore, T., and Jones, J. (2004). *Developing learning environments: creativity, motivation, and collaboration in higher education*. Hong Kong: Hong Kong University Press.
- Lee, A. (2008). How are doctoral students supervised? Concepts of doctoral research supervision, *Studies in Higher Education*, 33 (3), 267-281, DOI: 10.1080/03075070802049202
- Lee, A. (2008). How are doctoral students supervised? Concepts of doctoral research supervision, *Studies in Higher Education*, 33 (3), 267-281, DOI: 10.1080/03075070802049202

- Malone, T.W., & Lepper, M.R. (1987). Making learning fun: A taxonomy of intrinsic motivations for learning. In R.E. Snow & M.J Farr (Eds.), *Aptitude, learning, and instruction volume 3: Conative and affective process analyses* (pp. 223-253). Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.
- Malone, T.W., and Lepper, M.R. (1987). Making learning fun: A taxonomy of intrinsic motivations for learning. In R.E. Snow and M.J Farr (Eds.), *Aptitude, learning, and instruction volume 3: Conative and affective process analyses* (pp. 223-253). Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.
- Mullen, C.A. (2020). "Online doctoral mentoring in a pandemic: help or hindrance to academic progress on dissertations?", *International Journal of Mentoring and Coaching in Education*, Vol. ahead-of-print No. ahead-of-print. DOI: 10.1108/IJMCE-06-2020-0029
- Mullen, C.A. (2020). "Online doctoral mentoring in a pandemic: help or hindrance to academic progress on dissertations?", *International Journal of Mentoring and Coaching in Education*, Vol. ahead-of-print No. ahead-of-print. DOI: 10.1108/IJMCE-06-2020-0029
- Rogowska, A. M., Kuśnierz, C., and Bokszczanin, A. (2020). Examining Anxiety, Life Satisfaction, General Health, Stress and Coping Styles During COVID-19 Pandemic in Polish Sample of University Students. *Psychology Research and Behavior Management*, 13, 797–811. DOI: 10.2147/PRBM.S266511
- Rogowska, A. M., Kuśnierz, C., Bokszczanin, A. (2020). Examining Anxiety, Life Satisfaction, General Health, Stress and Coping Styles During COVID-19 Pandemic in Polish Sample of University Students. *Psychology Research and Behavior Management*, 13, 797–811. DOI: 10.2147/PRBM.S266511
- Ryan, R. M., and Deci, E. L. (1999). Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions, *Contemporary Educational Psychology* 25 (1): 54-67, DOI:10.1006/ceps.1999.1020
- Ryan, R. M., Deci, E. L. (1999). Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions, *Contemporary Educational Psychology* 25 (1): 54-67, DOI:10.1006/ceps.1999.1020
- Saladino, V., Algeri, D., and Auriemma, V. (2020). The Psychological and Social Impacts of Covid-19: New Perspectives of Well-Being, *Frontiers in Psychology* 11, DOI: 10.3389/fpsyg.2020.577684
- Saladino, V., Algeri, D., Auriemma, V. (2020). The Psychological and Social Impacts of Covid-19: New Perspectives of Well-Being, *Frontiers in Psychology* 11, DOI: 10.3389/fpsyg.2020.577684
- Schunk, D. H., Pintrich, P. R., & Meece, J. L. (2010). *Motivation in education: theory, research, and applications*. 3. ed., International ed. Upper Saddle River, N.J.: Pearson Education International
- Schunk, D. H., Pintrich, P. R., Meece, J. L. (2010). *Motivation in education: theory, research, and applications*. 3. ed., International ed. Upper Saddle River, N.J.: Pearson Education International
- Sonesson, A., and Lindberg-Sand, Å. (2016). Doctoral Education and the task of Supervision, in the book *Doctoral Supervision, in Theory and Practice* edited by Eva Brodin, Jitka Linden, Anders Sonesson, Åsa Lindberg-sand, Lund: studentlitteratur.
- Sonesson, A., Lindberg-Sand, Å. (2016). Doctoral Education and the task of Supervision, in the book *Doctoral Supervision, in Theory and Practice* edited by Eva Brodin, Jitka Linden, Anders Sonesson, Åsa Lindberg-sand, Lund: studentlitteratur.
- Tabisula, B., & Uwaoma, C. (2022, July). The Need for an Adaptive Sociotechnical Model for Managing Mental Health in a Pandemic. In *2022 IEEE International Conference on Digital Health (ICDH)* (pp. 66-68). IEEE. DOI: 10.1109/ICDH55609.2022.00019
- Xiong, J. Lipsitz, O., Nasri, F., Lui, L. M. W., Gill, H., Phan, L., Chen-Li, D., Iacobucci, M., Ho, R., Majeed, A., McIntyre, R. S. (2020). Impact of COVID-19 pandemic on mental health in the general population: A systematic review; *Journal of Affective Disorders* 277: 55-64 DOI: 10.1016/j.jad.2020.08.001
- Xiong, J. Lipsitz, O., Nasri, F., Lui, L. M. W., Gill, H., Phan, L., Chen-Li, D., Iacobucci, M., Ho, R., Majeed, A., and McIntyre, R. S. (2020). Impact of COVID-19 pandemic on mental health in the general population: A systematic review; *Journal of Affective Disorders* 277: 55-64 DOI: 10.1016/j.jad.2020.08.001