


PhD Journey: The Interplay between Learner Autonomy and Modes of Supervision

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Abstract

Autonomous learning has been the ultimate goal of education for over four decades and it is more so for doctoral students. However, the expectations and actual practices of both the supervisor and the supervisee may be conflicting. The degree of learner autonomy among doctoral students is an important aspect to examine especially with the varying supervision modes across the disciplines within the cultural context. This study investigates the relationship between learner autonomy and the modes of supervision. It also explores the expectations of doctoral students towards their PhD journey. Data were collected with two questionnaires: (1) the Autonomous Learning Scale (Macaskill & Taylor, 2010) and (2) the Quality in PhD Processes Questionnaire (Herrmann & Wichmann-Hansen, 2017). Participants were 152 Tunisian doctoral students from different fields of study. The results showed that learner autonomy positively correlates with the advising supervision mode and negatively correlates with the controlling modes. Overall satisfaction of the progress of the PhD was the most significant indicator of the Autonomous Learning Scale. The findings imply the necessity of supervisors to adjust and establish a balance between support and control so that doctoral students take ownership of the doctoral journey to autonomy.

Keywords: Learner autonomy, doctoral students, supervision, culture, advising supervision

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1. Introduction

Acquiring learner autonomy has been the one ultimate goal of education for over four decades. However, there is little agreement in the literature on what is autonomous learning. Some view it as the ability to be entirely independent in all the different stages of learning from defining the objectives, choosing the content, selecting the method, monitoring the procedure, to evaluating the learning experience (Betts, 2004; Holec, 1981, Ly, 2018). Others perceive it as control with decision-making, critical thinking, and without the rejection of the presence of a teacher or any kind of support (Benson, 2016; Little, 1995). Therefore, the degree of autonomous learning for doctoral students is expected to be higher because of their educational background. However, the variation depends on their educational system, cultural norms, and prior experience towards learning (Cotterall, 1995b, 2017; Lamichhane, 2017). This study examines learner autonomy among doctoral students enrolled at Tunisian universities and if it is modulated by the student supervisor relationship. The actual role of the supervisor and what the doctoral student expects are sometimes cause of confusion and can be traced back to low degrees or absence altogether of learner autonomy.

The importance of the supervision and its quality has been associated directly with completion rates (Haksever & Manisali, 2000). For students to finish their dissertations within the stipulated time, understanding the role of the supervisor in this journey is crucial. There is little consensus in the literature on the role of the supervisor. Haksever and Manisali (2000) divided supervision roles into three elements: (1) personal help, (2) indirect research-related help, and (3) direct research-related help. Personal help is about providing a support system with encouragement, motivation, and socializing. Indirect research-related help implies helping with contacts and equipment. Direct research-related help refers to helping with the actual work such as dealing with methodological problems, providing a critical analysis of the work and its trajectory. The results from this study showed that direct research-related help has the biggest discrepancy between expectations and current practices (Haksever & Manisali, 2000).

Mhunpiew (2013) asserted that there are five roles that the supervisor needs to fulfil for the success of the thesis

or dissertation: (1) specific technical support, (2) broader intellectual support, (3) administrative support, (4) management, and (5) personal support. He also investigated the current practices of the supervisor in contrast with the expectations of the role of the supervisor. Although the expectations of the role of the supervisor included current practices (guidance on the structure of the dissertation, establishment of rapport, and the agreement of having a common goal), it included 12 other roles that were not current practices such as training the student to present and defend and listening to the student problems. This mismatch between the roles as perceived by the student and the supervisor create an unbalance in the course of the project. It results in students' disappointment and dissatisfaction that might in turn lead to dropout (Litalien & Guay, 2015).

Barnard and Shultz (2020) examined how supervisors encourage their students to become more autonomous in the first year of the supervision. Results showed that supervisors intentionally abstained from helping the students in certain situations, talked about their own experiences as encouragement, and gave direct feedback with reflective questions, or asked their students to take part in a research group.

Wichmann-Hansen and Schmidt Nielsen (2023) investigated the relationship between student autonomy and directive supervision among 1.243 doctoral students at a research-intensive Danish University. Directive supervision is plainly defined as placed along a continuum: the controlling supervision mode on one extreme and the advising supervision mode on the other extreme. The results showed that learner autonomy positively correlates with the advising supervision mode and negatively correlates with the controlling supervision mode.

2. Methods

2.1 Participants and procedure

The participants were 152 Tunisian doctoral students or recently graduated doctors (92 women and 59 men). Eighty-eight participants came from a variety of hard science specialties (chemistry, physics, mathematics, demography, and IT) and 63 participants came from social sciences (Public law, private law and criminology, political sciences, Islamic economics and finance, history, philosophy, linguistics, psychology, sociology, French literature). The participants were preselected from the database of the Tunisian ministry of higher education and scientific research concerned with doctoral enrolment system (theses.tn). The doctoral students enrolled or recently graduated in the earlier mentioned specialties received an email introducing the researcher affiliation, the questionnaire and its duration, and a guarantee for anonymity.

The volunteer sampling technique was used because the participants volunteered to answer to the link in their email and they were able to exit the online questionnaire at any moment. The participants enrolled before 2016 were excluded from this study because the database does not automatically remove the dropout. All the participants were sent the two questionnaires in one online form via email. The same content was sent to all the participants, which included a small introduction of the researcher, a brief introduction to the questionnaire, its approximate duration, and the link of the questionnaire.

2.2 Setting

Doctoral cycle in Tunisia is part of LMD system that introduced in 2006. Doctoral degree is obtained relies mainly on the PhD doctoral requirement. Seventy percent of the score is obtained through the doctoral dissertation. The remaining 30% is composed of enrolment in methodology and writing workshop courses, the publication of articles, carrying out an exchange program or internship, participation in conferences, organization of study days or international conferences. The doctoral student is expected to finish the doctoral thesis after three years or extended to a maximum of two more years.

2.3 Materials

Two questionnaires were used in this study: (1) the Autonomous Learning Scale and (2) the Quality in PhD Processes Questionnaire. The two questionnaires were translated from English into French and were later independently checked by two teachers of French. The Autonomous Learning Scale was adopted from Macaskill and Taylor (2010). It is a brief measure of learner autonomy targeted at university students. The 12 items-scale is primarily concerned about the independence of learning and study habits. The participants are required to rate on a 5-point Likert scale from 1 as "very unlike me" to 5 as "very like me" the 12 statements. In this study, the alpha coefficients for this scale is .736.

The second questionnaire, the Quality in PhD Processes Questionnaire, is adapted from Herrmann and Wichmann-Hansen (2017). The included items can be divided into three subscales. The first one is concerned with five basic information (sex, year of enrolment, degree of progress, scientific branch, and specialty). The

second one is concerned with supervision and contains ten items to which the participants rate from 1 as “strongly disagree” to 5 as “strongly agree” on a 5-point Likert scale. The third subscale is concerned with overall satisfaction. The participants are required to rate on a 5-point Likert scale from 1 as “never” to 5 as “always” for two items and then directly respond by “yes”, “no”, or “I don’t know” to two final questions.

3. Results

3.1 Sex

A Pearson correlation was calculated to examine the relationship between sex and the Autonomous Learning Scale and found no correlation, $r(150) = -.040, p > .05$. The sex of the participants is not related to their learning autonomy. The results are in line with the Gender Similarities Hypothesis that argue that males and females are similar on most, but not all, psychological variables (Hyde, 2005). She claims that sex differences are overemphasized in such a way that the differences between sexes are small in comparison with differences within the same sex and she emphasized the significance of the context in creating or removing sex differences.

3.2 Year of enrolment

A Pearson correlation was calculated to examine the relationship between the year of enrolment and the Autonomous Learning Scale and found no significant correlation, $r(150) = .105, p > .05$. Figure 1, below, demonstrates that the participants report their learner autonomy the highest in the first year of enrolment and after PhD graduation. As demonstrated in Figure 1, a decline is reported in the second and third year and an increase in the fourth and fifth year. The obtained results entail that inaccurate perception of autonomy in the first-year result in a decline and an increase after graduation.

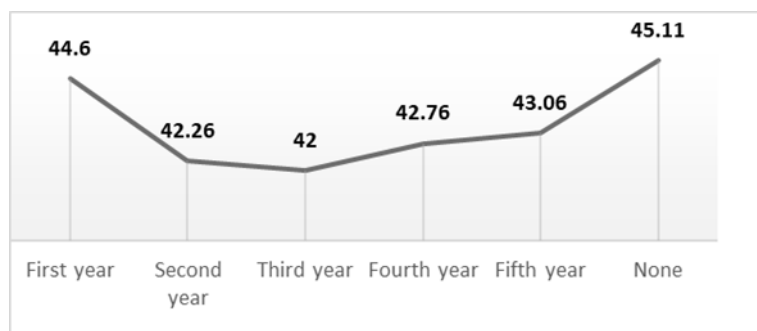


Figure 1. The autonomous Learning Scales across the years of PhD journey

3.3 Stages of progress

A Pearson correlation coefficient was calculated for the relationship between stages of progress and the autonomous learning scale. A strong positive correlation was found, $r(150) = .302, p < .001$, indicating a strong linear relationship between the two variables. The more advanced the participants are in their PhD project, the more autonomy they gain. Linear Regression indicated that the stage of progress, which is the progress of students in their PhD thesis project, predict their Autonomous Learning Scale, $F(1,150) = 15.06, p = .000$. The stage of progress accounts for 8% of the variance of the Autonomous Learning Scale as indicated by the adjusted R^2 .

3.4 Science branch

Science branch referred to two main branches: Hard science and soft science. Fifty eight percent of the participants come from hard science while 42% come from soft science. The science branch of the participants does not correlate with the Autonomous Learning Scale, $r(150) = -.144, p > .05$.

3.5 Specialty

The specialties of the participants were diverse, as illustrated in Table 1, below. The specialty of the participants does not correlate with the Autonomous Learning Scale, $r(150) = -.136, p > .05$. There is no empirical evidence on the relationship between learning autonomy and specialty.

Table 1. Specialty of participants

Specialty	Frequency	Percent	Specialty	Frequency	Percent
Chemistry	14	9.2	Philosophy	6	3.9
Biology	2	1.3	Economics	2	1.3
IT	25	16.4	Psychology	4	2.6
Mathematics	16	10.5	Sociology	11	7.2
Physics	29	19.1	Criminology	1	.7
Demography	3	2.0	Legal science	2	1.3
History	5	3.3	Political science	4	2.6
Linguistics	12	7.9	Others	16	10.5
Total	152	100			

3.6 Supervision modes

The majority of the participants ($n = 63, 41\%$) strongly agreed that the supervisor is available when needed. The Pearson correlation indicated that the availability of the supervisor is positively correlated with the Autonomous Learning Scale, $r(150) = .224, **p < .01$. It predicts the autonomy scale of the participants, $F(1,150) = 7.88, **p < .01$, as it is responsible for 4% of the variance. Participants who had available supervisors reported more autonomy than those who had unavailable ones. Thus, availability of the supervisor is an important element in the making of an autonomous learner.

The Autonomous Learning Scale positively correlates with the supervisor's friendliness and accommodation, using the Pearson correlation coefficient, $r(150) = .209, p < .01$. The vast majority of the participants strongly agreed ($n = 76, 50\%$) or agreed ($n = 41, 27\%$) that their supervisor is friendly and accommodating. The perception of the supervisor as friendly and accommodating predicts the autonomous learning scale of the participants, $F(1,150) = 6.84, p < .01$, as it is responsible for 3% of the variation. The participants who perceive their supervisor as very friendly and accommodating are more autonomous than those who perceive them as less or otherwise.

More than half of the participants strongly agreed ($n = 58, 38.2\%$) or agreed ($n = 48, 31.60\%$) that their supervisors leave the control of the project to them. However, no significant correlation was found, $r(150) = .098, p > .05$.

Seventy-eight per cent of the participants agreed ($n = 51, 33.60\%$) or strongly agreed ($n = 68, 44.70\%$) that their supervisors encourage them to work independently. No significant correlation was found in that regard with the autonomous learning scale, $r(150) = .104, p > .05$.

The largest group of participants ($n = 48, 31.60\%$) were unsure whether their supervisors set the agenda for supervision. No significant correlation was found with the autonomous learning scale, $r(150) = .140, p > .05$. However, the participants significantly differently in their learning autonomy scales between those who agreed and those who neither agreed nor disagreed that their supervisors often set the agenda for the supervision, using the independent samples t test ($t(76) = 3.58, p < .001$).

The Autonomous Learning Scale negatively correlates with supervisors' rarely giving advice on the best thing to do, $r(150) = -.168, p < .05$, using the Pearson correlation coefficient. The more often the supervisor gives advice to his/her students on how to do things, the higher their autonomous learning scale to be. The frequency of giving advice from the part of the supervisor is a predictor of the Autonomous Learning Scale, $F(1,150) = 4.36, p < .05$. It predicts 2% variation.

Seventy-five percent of the participants ($n = 114$) strongly agreed that their relationship between their supervisors and them is characterized by mutual respect. The student-supervisor mutual respect relationship positively correlates with The Autonomous learning Scale, $r(150) = .189, p < .05$. The mutual respect relationship is a strong predictor of the Autonomous Learning Scale, $F(1,150) = 5.56, p < .05$, with 2% of the variation.

Forty percent of the participants agreed ($n = 28, 18.40\%$) or strongly agreed ($n = 33, 21.70\%$) that they prefer to

have a supervisor telling them what to do. Preferring one's supervisor telling the student what to do negatively correlated with the Autonomous Learning Scale, $r(150) = -.240, p < .01$. It also predicted the Autonomous Learning Scale, $F(1,150) = 9.155, p < .01$. Therefore, having the room to make important decisions about one's project predicts 5% of the variation of the Autonomous Learning Scale, as indicated by the adjusted R^2 . It is worth mentioning that the negative correlation refers to not preferring the supervisor telling the students what to do is the inclination found in this study.

More than half of the participants agreed ($n = 51, 33.60\%$) or strongly agreed ($n = 39, 25.70\%$) that they usually have a clear goal of what they want to get out of the supervision. This statement does not mean that the supervisor and the student have the same definition of their roles. The goal clarity of students on what they want to get out of the supervision correlates positively with the Autonomous Learning Scale, $r(150) = .161, p < .05$. The clarity of the goal of the supervision by the doctoral students predicts the Autonomous Learning Scale, $F(1,150) = 3.99, p < .05$. The variance of predictability, as indicated by the Adjusted R Square is quite low as it accounts for 1% of the variance.

Sixty-four percent of the participants agreed ($n = 49, 32.20\%$) or strongly agreed ($n = 49, 32.20\%$) that it is important that they are the ones to make all the critical choices in their PhD project. The importance of making all the critical choices by the student correlates positively with the Autonomous Learning Scale, $r(150) = .381, p < .01$. It also predicts the Autonomous Learning Scale, $F(1,150) = 25.42, p < .001$, using the linear regression test. Making all the critical choices in their PhD project predicts 13% variation of the Autonomous Learning Scale, the highest predictor in this study. Having a say in their project is an essential element that goes hand in hand with learner autonomy. It is about being in charge of their own project and being able to take the important decisions.

Thirty percent of the participants reported that they sometimes feel that they act alone and lack the necessary feedback to make progress. Feeling alone and lacking the necessary feedback negatively correlated with the Autonomous Learning Scale, $r(150) = -.200, p < .05$. The participants who feel the most alone are the ones who have less learning autonomy and vice versa. Therefore, not feeling alone and having the necessary feedback is a predictor of the Autonomous Learning Scale, $F(1,150) = 6.26, p < .05$, with 3% of the variation.

3.7 Severe stress levels

More than half of the participants reported that they usually ($n = 38, 25\%$) or always ($n = 51, 33.60\%$) felt severe symptoms of stress because of the PhD. However, no significant correlation was found between stress symptoms and the autonomous learning scale, $r(150) = -.040, p > .50$. However, sex was negatively correlated with frequency of experiencing severe stress symptoms, $r(150) = -.210, p > .050$. An independent-samples t test calculated the differences between male and female frequency of experiencing severe stress symptoms and found significant differences ($t(150) = 2.62, p < .050$). The results showed that female participants experienced significantly more severe stress symptoms than their male counterparts ($m = 3.76, sd = 1.34; m = 3.17, sd = 1.37$).

These results are supported by earlier studies which showed that females are under more stress symptoms than their male counterparts for various reasons because of the conflict engendered of their role in society (Kralj, 1989; Trocki & Orioli, 1994). The conflict refers to the impossibility of women being able to fulfil what is expected of them from the society, namely care givers, in charge of the household, academia, and their jobs. It is possible to deduce that gender roles put a lot of responsibilities on women in Tunisia to excel at every aspect.

3.8 Completion time

Forty-five percent of the participants reported that they can realistically finish within the stipulated time ($n = 69$). Twenty percent ($n = 31$) reported that they cannot and 34.20% ($n = 52$) were not sure. Their estimation of completion within the stipulated time correlated negatively with the Autonomous Learning Scale, $r(150) = -.196, p < .05$, using the Pearson correlation coefficients. It also is a predictor of the autonomous learning Scale, $F(1,150) = 5.98, p < .05$, which is yielded via the linear regression test. It is responsible for 3% of variation, as indicated by the adjusted R^2 .

3.9 Overall satisfaction

Forty-eight percent of the participants admitted they were not happy with the progress of their PhD project ($n = 73$) while 42.80% ($n = 65$) reported they were happy with the progress of their PhD project. The participants who were satisfied with their progress were more autonomous than those who were not ($m = 46.11, sd = 5.65; m = 40.78, sd = 5.35$). The Pearson correlation yielded negative significant results, $r(150) = -.363, p < .001$. The degree of happiness about the progress of the PhD project is a predictor of the Autonomous Learning Scale, F

(1.150) = 22.70, $p < .001$. Overall satisfaction of the progress of the PhD accounts for 12% of the variance of the Autonomous Learning Scale, as indicated by the adjusted R^2 , the second highest found predictor in this study.

4. General Discussion

The results showed that autonomous learning is strongly related to the PhD journey experience. The mode of supervision, advising or controlling, influenced significantly the attained degree of the autonomy among Tunisian doctoral students. The results revealed the absence of relationship between the Autonomous Learning Scale and only two items of the Quality in PhD Processes Questionnaire. The items are “My supervisor leaves the control of the project to me” and “My supervisor encourages me to work independently”. This could be explained by the fact that doctoral autonomous students reported that they needed the availability of the supervisor while at the same time they preferred that the latter does not interfere with the important decision in the project. They also admitted that they did not want to feel alone and they did not want to have the supervisor tell them what to do. In other words, doctoral students need their supervisor to be present when needed for advice or feedback while they are doing the work. Doctoral students preferred to work in an environment of advising supervision mode and not in a controlling supervision mode. These results are in line with Wichmann-Hansen and Schmidt Nielsen (2023) whose results showed that learner autonomy positively affects the advising supervision mode and negatively affects the controlling supervision mode. It can be deduced that advising supervision mode advantages promotes more the quality of PhD supervision and learner autonomy than controlling supervision mode advantages.

These results are in line with Mhunpiew (2013) who discussed the realistic five roles of the supervisor as specific technical support, broader intellectual support, administrative support, management, and personal support. Tunisian doctoral students from different specialties reported that they are the ones making all the crucial decisions not their supervisors. It is however inconsistent with Haksever and Manisali (2000) who found irregularities between expectations and current practices in the direct research-related help. This can be explained by the fact that they worked on engineering students while this study incorporated doctoral students regardless of specialty or age. Finally, making sure that the doctoral students are the ones in control of their PhD project and not their supervisor is vital for the successful completion of the project within the stipulated time in the Tunisian context.

5. Conclusion

Statistics in Tunisia on completion rates of enrolled doctoral students could have added insights. Future research should address this line to explore the reasons and provide solutions to fill the gap. A dialogue-based-supervision, where the student is given control of the process and is encouraged to become fully autonomous without the exclusion of the supervisor, is essential for a successful collaborative production. Finding the balance in monitoring the supervisor supervisee relationship requires a constant effort from both sides (Wichmann-Hansen et al., 2012). Debunking of the expectations that they each have for one another is a key element in setting the record straight from the beginning (Wichmann-Hansen, 2021). Collective supervision is considered a motivating experience because it creates a group and therefore helps avoid or lessen the isolating effect of the PhD journey (Agné & Mörkenstam, 2018). It is also recommended that the supervisor makes it clear from the start that the PhD journey does not merely end with the obtention of the diploma but also with the development and expansion of autonomous learning (Barnard and Shultz, 2020).

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Appendix

Appendix A: Summary of the variance predictor of Autonomous Learning Scale

Items	Variance
it is important that I make all the critical choices in my PhD project.	13%
Are you –all things considered- happy about the progress in your PhD project? (overall satisfaction)	12%
How far along are you in your PhD programme? (Stages of progress)	8%
I prefer my supervisor telling me what I need to do	5%
My supervisor is available when needed	4%
My supervisor is friendly and accommodating	3%
How often do you feel that you act alone in your project and lack the necessary feedback to make progress?	3%
Did you finish or do you realistically expect to finish within the stipulated time? (Completion time)	3%
My supervisor rarely gives specific advice about the best thing to do	2%
The relationship between my supervisor and me is characterized by mutual respect	2%
I usually have a clear goal of what I want to get out of the supervision	1%
Total	56%

Appendix B: Le parcours du doctorant

Cher(e)s doctorant(e)s,

Nous vous remercions de répondre aux questions suivantes afin de nous permettre de continuer à enrichir le parcours des futurs doctorant(e)s. Nous vous garantissons l'anonymat dans le traitement des résultats des questionnaires.

En quelle année êtes-vous inscrit(e)?

- 1^{ère}
- 2^{ème}
- 3^{ème}
- 4^{ème}
- 5^{ème}
- Aucune

Où en êtes-vous dans votre programme de doctorat ?

- Je viens de commencer
- Environ un tiers du parcours
- A peu près à mi-chemin
- Environ les deux tiers du parcours
- Achievé

Cette partie contient plusieurs propos. Veuillez les évaluer selon le degré de correspondance en utilisant l'échelle suivante :

J'aime trouver par moi-même des informations sur de nouveaux sujets.

Ne me ressemble pas du tout	1	2	3	4	5	Me ressemble beaucoup
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Je trouve souvent des excuses pour ne pas me mettre au travail.

Ne me ressemble pas du tout	1	2	3	4	5	Me ressemble beaucoup
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

J'arrive bien à respecter les délais.

Ne me ressemble pas du tout	1	2	3	4	5	Me ressemble beaucoup
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Je gère bien mon temps.

Ne me ressemble pas du tout	1	2	3	4	5	Me ressemble beaucoup
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

J'aime bien travailler seul(e).

Ne me ressemble pas du tout	1	2	3	4	5	Me ressemble beaucoup
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Même lorsque les tâches sont difficiles, j'essaie de m'y tenir.

Ne me ressemble pas du tout	1	2	3	4	5	Me ressemble beaucoup
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

J'aime être mis(e) au défi.

Ne me ressemble pas du tout	1	2	3	4	5	Me ressemble beaucoup
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Je planifie efficacement mon temps pour étudier.

Ne me ressemble pas du tout	1	2	3	4	5	Me ressemble beaucoup
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

J'ai tendance à être motivé pour travailler en fonction des délais d'évaluation.

Ne me ressemble pas du tout	1	2	3	4	5	Me ressemble beaucoup
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Je prends en charge mon apprentissage.

Ne me ressemble pas du tout	1	2	3	4	5	Me ressemble beaucoup
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

J'aime les nouvelles expériences d'apprentissage.

Ne me ressemble pas du tout	1	2	3	4	5	Me ressemble beaucoup
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Veuillez évaluer votre degré d'accord ou de désaccord avec les propos ci-dessous en utilisant l'échelle suivante :
Mon directeur/Ma directrice de thèse est disponible en cas de besoin.

Pas du tout d'accord	1	2	3	4	5	Tout à fait d'accord
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Mon directeur/Ma directrice de thèse est amical(e) et flexible.

Pas du tout d'accord	1	2	3	4	5	Tout à fait d'accord
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Mon directeur/Ma directrice de thèse me laisse le contrôle du projet.

Pas du tout d'accord	1	2	3	4	5	Tout à fait d'accord
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Mon directeur/Ma directrice de thèse m'encourage à travailler de manière indépendante.

Pas du tout d'accord	1	2	3	4	5	Tout à fait d'accord
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Mon directeur/Ma directrice de thèse établit souvent le programme de l'encadrement.

Pas du tout d'accord	1	2	3	4	5	Tout à fait d'accord
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Mon directeur/Ma directrice de thèse me donne rarement des conseils précis sur la meilleure chose à faire.

Pas du tout d'accord	1	2	3	4	5	Tout à fait d'accord
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

La relation entre mon directeur/ma directrice de thèse et moi est fondée sur le respect mutuel.

Pas du tout d'accord	1	2	3	4	5	Tout à fait d'accord
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Je préfère que mon directeur/ma directrice de thèse me dise ce que je dois faire.

Pas du tout d'accord	1	2	3	4	5	Tout à fait d'accord
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

J'ai généralement un objectif clair de ce que j'attends de l'encadrement.

Pas du tout d'accord	1	2	3	4	5	Tout à fait d'accord
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Je tiens à faire moi-même les choix cruciaux dans mon projet

Avez-vous le sentiment d'agir seul(e) dans votre projet et de ne pas avoir le retour d'information nécessaire pour avancer ?

Jamais	1	2	3	4	5	Toujours
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Votre travail de doctorant vous provoque-t-il de graves symptômes de stress (par exemple, isolement, palpitations, maux d'estomac, dépression, agitation, perte de mémoire) ?

Jamais	1	2	3	4	5	Toujours
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Quels sont les facteurs qui, selon vous, ont contribué de manière significative au retard ou à l'absence de progrès (vous pouvez choisir plus d'une réponse)

- Manque de motivation et d'intérêt
- Le projet de thèse est devenu gigantesque et difficile à gérer
- La peur de ne pas être à la hauteur
- Problèmes liés au financement
- Les conditions pratiques ou expérimentales (par exemple, l'accès à l'équipement ou aux données)
- Encadrement insuffisant.
- Encadrement de faible qualité
- La situation familiale ou personnelle
- Autre(s)

Avez-vous terminé ou pensez-vous raisonnablement terminer dans le délai imparti ?

- Oui
- Non
- Je ne sais pas

Êtes-vous satisfait(e) de l'avancement de votre projet de doctorat ?

- Oui
- Non
- Je ne sais pas

Merci d'avoir pris le temps de répondre à cette enquête

Votre contribution nous est utile.

Appendix C: The PhD student Journey Questionnaire

What year are you in?

- 1st
- 2nd
- 3rd
- 4th
- 5th
- None

How far along are you in your PhD programme?

- Just started
- Approximately one third through
- Approximately halfway

- Approximately two thirds through
- Finished

Instructions: to what extent the following statements are unlike or like

I enjoy finding information about new topics on my own.

Very unlike me	1	2	3	4	5	Very like me
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

I frequently find excuses for not getting down to work.

Very unlike me	1	2	3	4	5	Very like me
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

I am good at meeting deadlines.

Very unlike me	1	2	3	4	5	Very like me
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

My time management is good.

Very unlike me	1	2	3	4	5	Very like me
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

I am happy working on my own.

Very unlike me	1	2	3	4	5	Very like me
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Even when tasks are difficult I try to stick with them.

Very unlike me	1	2	3	4	5	Very like me
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

I enjoy being set a challenge.

Very unlike me	1	2	3	4	5	Very like me
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

I plan my time for study effectively.

Very unlike me	1	2	3	4	5	Very like me
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

I tend to be motivated to work by assessment deadlines.

Very unlike me	1	2	3	4	5	Very like me
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

I take responsibility for my learning experiences.

Very unlike me	1	2	3	4	5	Very like me
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

I enjoy new learning experiences.

Very unlike me	1	2	3	4	5	Very like me
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

My supervisor is available when needed.

Strongly disagree	1	2	3	4	5	Strongly agree
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

My supervisor is friendly and accommodating.

Strongly disagree	1	2	3	4	5	Strongly agree
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

My supervisor leaves the control of the project to me.

Strongly disagree	1	2	3	4	5	Strongly agree
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

My supervisor encourages me to work independently.

Strongly disagree	1	2	3	4	5	Strongly agree
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

My supervisor often sets the agenda for the supervision.

Strongly disagree	1	2	3	4	5	Strongly agree
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

My supervisor rarely gives specific advice about the best thing to do.

Strongly disagree	1	2	3	4	5	Strongly agree
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

The relationship between my supervisor and me is characterized by mutual respect.

Strongly disagree	1	2	3	4	5	Strongly agree
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

I prefer my supervisor telling me what I need to do.

Strongly disagree	1	2	3	4	5	Strongly agree
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

I usually have a clear goal of what I want to get out of the supervision.

Strongly disagree	1	2	3	4	5	Strongly agree
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

It is important to me that I make all the critical choices in my project.

Strongly disagree	1	2	3	4	5	Strongly agree
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Do you feel that you act alone in your project and lack the necessary feedback to make progress?

Never	1	2	3	4	5	Always
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Does your work as PhD student give you severe stress symptoms (e.g. isolation, palpitations, stomach ache, depression, restlessness, memory loss)?

Never	1	2	3	4	5	Always
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Which factors do you consider to have significantly contributed to the delay or the lack of progress (you can choose more than one answer)?

- Lack of motivation and interest
- The project has become immense and difficult to manage
- Fear of not being good enough
- Problems with the financing
- Practical or experimental conditions (e.g. access to the equipment or data)
- Inadequate supervision
- Low quality supervision
- Family or personal conditions
- Others

Did you finish or do you realistically expect to finish within the stipulated time?

- Yes
- No
- I don't know

Are you –all things considered- happy about the progress in your PhD project?

- Yes
- No
- I don't know