



Indonesian Journal of Educational Research and Technology



Journal homepage: <http://ejournal.upi.edu/index.php/IJERT/>

Investigating the Emotional Trajectory of Ph.D. Students via Qualitative Research: Bridging the Gap between Expectations and Reality

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ABSTRACT

This study investigated the study motivation and psychological responses of pre-second-year Ph.D. students from a comprehensive university in Malaysia. To gain an understanding of the challenges faced by students, we conducted group interviews with 15 pre-second-year students: Malay, Chinese, and Malaysian Chinese. The interview transcripts were analyzed thematically using Atlas. The results revealed three significant challenges: The passion for pursuing a Ph.D. diminishes over time.; The stark contrast between self-expectations and the harshness of reality; The challenges of reality give birth to the hope for pursuing a Ph.D. The finding suggests some implications for educators and students regarding active learning.

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ARTICLE INFO

Article History:

Submitted/Received 17 May 2023

First Revised 06 Jun 2023

Accepted 06 Aug 2023

First Available online 09 Aug 2023

Publication Date 01 Sep 2024

Keyword:

Attribution theory,
Double reduction policy motivation,
Educational anxiety,
Home education.

1. INTRODUCTION

Motivation during the initial stages of their doctoral journey, students often embark with a deep desire for knowledge and a fervent passion for academia (Teeuwesen et al., 2012). They immerse themselves in research with boundless enthusiasm, seeking to delve deeper into their chosen field. Lazurko et al. (2020) highlighted that the pursuit of a doctoral degree becomes a significant milestone in their personal and academic aspirations. Actively engaging in academic conferences, workshops, and paper presentations, they continually expand the boundaries of their knowledge. This heightened motivation drives them towards autonomous learning and actively exploring new research areas and methodologies (Martzoukou, 2020).

However, as time progresses, they begin to encounter various academic and personal challenges, gradually eroding their learning motivation. Doctoral students often face complex research questions, extensive literature reviews, experimental failures, and difficulties in data analysis. These predicaments can lead to a decline in their learning motivation and spark doubts about their prospects. They may start to question their abilities, unsure if they possess the intelligence and qualifications required to pursue a doctoral degree (Kulikowski et al., 2021). This self-doubt and unease gradually erode their initial passion and determination.

Attribution theory explains why doctoral students experience a decline in their learning motivation. As Ronnie & Philip (2021) mentioned that when faced with difficulties and setbacks, they tend to attribute their failures to their perceived lack of abilities while overlooking the influence of external factors and other circumstances. They may view setbacks as personal failures rather than as a normal part of academic growth. This self-blame and self-doubt can generate negative emotions, weakening their motivation to continue striving. However, doctoral students need to understand that challenges and obstacles are a normal part of the academic development process, and should not be used as a measure of personal capabilities (Hecht et al., 2022). They need to shift their mindset, viewing setbacks as opportunities for growth and learning, and extracting valuable lessons to enhance their research skills.

Additionally, the perception of time significantly impacts the learning motivation of doctoral students. Pursuing a doctoral degree requires long-term commitment and persistent effort. However, some students may feel anxious and impatient, desiring quick results and success. They may feel pressured, believing that the passage of time equates to missed opportunities. When their research progress falls short of expectations, or when they encounter experimental failures and difficulties in data analysis, they may experience frustration and disappointment (Anderson et al., 2021 Kohli et al., 2021). This time pressure and sense of setback can have a negative influence on their learning motivation, diminishing their enthusiasm and determination.

Currently, there is a lack of research to fully understand and address the issues related to doctoral students' learning motivation and emotional changes. To fill this gap, it is necessary to explore the cognitive processes, emotional experiences, and real-world factors behind their motivation. Factors such as self-efficacy beliefs, goal orientation, and academic identity play a key role in shaping their motivation. Additionally, considering emotional factors like stress and burnout, as well as real-world influences such as advisors and the academic environment, can provide valuable insights. This research can help develop targeted interventions and support strategies to enhance doctoral students' motivation and improve their well-being.

2. METHOD

2.1. Participants

Participants were 15 prospective Ph.D. second-year students (average age: 28.07 years, SD= 2.815) majoring in a variety of fields, including engineering, corporate media, sociology of education, and computer science (see **Table 1**). Students majoring in psychology-related disciplines were not enrolled in this study to avoid potential interference. All participants had good emotional well-being and hearing during the interviews. Upon completion of the study, each participant received beryl chocolate as a token of appreciation for their participation.

The research was conducted in a discussion room and took approximately 60 minutes to complete. The first stage involved administering an individual demographic questionnaire and a self-evaluation scoring form for their prior first year of doctoral studies. Afterward, the participants were randomly assigned to seats and guided through an interview procedure to express their feelings. The interview consisted of the following questions: (a) Do you consider the first year of your Ph.D. program important? (b) Did the first year of your Ph.D. program meet your expectations? (c) What are the reasons for your satisfaction or dissatisfaction? (d) What advice can you derive from your first-year experience that would be helpful for your second year of the Ph.D. program? At the end of the interview, the participants were asked to confirm the scores on the self-evaluation form, which was designed to examine whether sharing one's experiences had a role in relieving stress.

Table 1. Demographic profile of the participants (n=15).

Participant	Gender	Age	Major
Mf1	Female	24	Corporate Media
Mf2	Female	26	Computer Network
Mm3	Male	25	Corporate Media
Mm4	Male	32	Engineering
Mm5	Male	30	Environment Engineering
Cf1	Female	29	Sociology of Education
Cf2	Female	27	Sociology of Education
Cm3	Male	26	Gis
Cm4	Male	27	Water Engineering
Cm5	Male	27	Educational Technology
Mcf1	Female	27	Computer Science
Mcf2	Female	28	Food Technology
Mcf3	Female	28	Environment Engineering
Mcm4	Male	30	Computer Science
Mcm5	Male	35	Computer Science

2.2. Transcription and Transcoding

The audiotapes were transcribed verbatim. To facilitate analysis, each interviewee was assigned an identification number that indicated their race/ethnicity, gender, and unique number. For example, MF1 represented Malay Female No. 1, CM2 represented Chinese Male No. 2, and MCF3 represented Malaysian Chinese Female No. 3. The transcripts were then entered into the Atlas.ti qualitative software. Following the workload and coding principles of Atlas.ti (Mehmetoglu & Dann, 2003), the researchers initially separated the three racial groups. They labeled and coded the transcripts, and conducted queries and comparisons based on the interviewees' responses. The researchers analyzed and summarized the situation based on the predetermined interview outline.

3. RESULTS AND DISCUSSION

The results were reported using the Standards for Reporting Qualitative Research (SRQR). The interview questions focused on two distinct phases of the academic journey: the first year of Ph.D. studies (Ph.D. 1) and the Pre-Ph.D. stage (Pre-Ph.D. 2). Researchers discussed these phases separately, highlighting the unique aspects and challenges that arise during each of these periods (see **Table 2**). **Table 2** depicts participants' initial feelings of delight, excitement, and apprehension upon starting their Ph.D., with the majority of students expressing eagerness toward the doctoral journey. Such as Mf1 argued that she can hardly believe it, she finally got into the Ph.D. program! It's been my dream for so many years, and now she is overwhelmed with excitement; Mcf3 highlighted that her family is incredibly proud of her Ph.D. acceptance, and their support fills her with immense happiness and warmth.

Table 2. Interview transcripts and coding results of first-year Ph.D. students' psychological rhythms (n=15).

Participant	A Brief Version of the Answer to the Question	Coding Mode & Number	Summary
Mf1	I can hardly believe it! I finally got into the Ph.D. program! It's been my dream for so many years, and now I'm overwhelmed with excitement.	Emotions: Joy 2 Emotions: Excitement 4 Ambition: Achievement3	Overjoyed
Mf2	I feel like I'm on cloud nine! Getting accepted into the Ph.D. program has filled me with sheer delight, and I'm brimming with anticipation for my future academic research.	Emotions: Anticipation4 Emotions: Contentment1 Ambition: Pride1	Ecstatic
Mm3	Filled with Pride: I'm so proud of myself and my hard work. Getting into the Ph.D. program is a testament to my perseverance and dedication paying off.	Ambition: Perseverance1 Ambition: Dedication3 Emotions: Worries1 Emotions: Future1	Filled with Pride
Mm4	Worries about the Future: Although I'm thrilled, I can't help but feel some concerns about the challenges that lie ahead. I hope to perform well during my Ph.D. and achieve great results.	Emotions: Confusion1 Emotions: Anxiety1 Emotions: Uncertainty3	Worries about the Future
Mm5	Mixed Feelings of Confusion: Entering the Ph.D. stage, I'm feeling a bit confused and anxious. The new academic environment and research direction have left me somewhat hesitant.	Emotions: Hope1 Emotions: Optimism2 Ambition: Ambition1	Mixed Feelings of Confusion
Cf1	Positive Outlook: Despite my worries, I remain optimistic about my academic and career prospects. I hope that my Ph.D. research will contribute to society in a meaningful way.	Ambition: Enthusiasm2 Ambition: Motivation1	Positive Outlook
Cf2	Excited to Take on Challenges: I can't wait to dive into my Ph.D. research, eager and ready to embrace new academic challenges with enthusiasm.	Ambition: Dedication3 Emotions: Worries1 Emotions: Future1	Excited to Take on Challenges
Cm3	Nervous yet Eager: I'm a little nervous, but at the same time, I look forward to achieving more academic milestones during my Ph.D. I hope to constantly surpass myself.	Emotions: Confusion3 Emotions: Anxiety4 Emotions: Uncertainty2	Nervous yet Eager
Cm4	Calm and Confident: I have great confidence in my research direction and my choice of advisor, which makes me feel calm and composed as I begin my Ph.D. journey.	Emotions: Hope1 Emotions: Optimism1	Calm and Confident

Table 2 (Continue). Interview transcripts and coding results of first-year Ph.D. students' psychological rhythms (n=15).

Participant	A Brief Version of the Answer to the Question	Coding Mode & Number	Summary
Cm5	Dealing with Pressure: The Ph.D. stage comes with more academic responsibilities and pressure, and I'm working hard to adapt to the new academic environment.	Ambition: Ambition1 Ambition: Enthusiasm1	Dealing with Pressure
Mcf1	The application process was a long and arduous journey, and waiting for the acceptance letter felt like an eternity. Finally, I received the good news, and I couldn't be happier!	Ambition: Motivation1 Emotions: Confidence2	Long-awaited Moment
Mcf2	After getting into the Ph.D. program, I've become more aware of the complexity of academic research, making me humbler and more cautious. I know there's still much to learn and grow.	Emotions: Calmness1 Emotions: Adaptation1	Humble and Cautious
Mcf3	My family is incredibly proud of my Ph.D. acceptance, and their support fills me with immense happiness and warmth.	Emotions: Pressure1 Emotions: Relief2	Proud Family
Mcm4	For days after getting accepted into the Ph.D. program, I'm unable to contain my excitement and happiness.	Emotions: Happiness2 Development: Self-awareness4	Overflowing with Joy
Mcm5	As I look back on my academic journey, I'm filled with emotions of struggle and growth. I'm eager for the future, hoping to make more academic progress during my Ph.D. studies.	Development: Growth mindset3 Emotions: Support2 Emotions: Reflection1 Development: Growth1	Reflective and Hopeful

Table 3 presents the interview transcripts and coding results of 15 first-year Ph.D. students' psychological rhythms, who are about to enter their second year of the Ph.D. program. In **Table 3**, such as Mcf3, she emphasizes the importance of the team; Mcm5 focuses on the future, that is, she hopes to expand her academic vision during the Ph.D. stage. In addition, expanding contacts, gaining an academic reputation, making oneself knowledgeable, and striving for honor for the family are also among the motivations of the participants.

The emotions of first-year doctoral students have changed from their enrollment to the end of the first year. We noticed that the students' emotions shifted from expressions like "joy," "happiness," and "anticipation" to words such as "anxiety," "adaptation," and "introspection." Moreover, through the coding results, researchers found that the participants' emotional vocabulary also transitioned from terms like "confidence," "future," and "hope" to words more focused on "self-consistency," "academic challenges," and "academics". The variety and representativeness of emotional images also increased.

Furthermore, participants became more pragmatic in their actions. During the pre-first-year stage, they tended to seek external validation and express their emotions, for example, by saying, "I got into the doctoral program, which made my family proud," or "I feel happy to have been accepted into the Ph.D. program." However, after one year, their feedback shifted towards concrete plans, such as "I want to expand my network through academic conferences," "I want to plan for future work," or "I want to achieve certain goals." These expressions demonstrated a shift from abstract to specific intentions. Future planning also plays an encouraging and facilitating role in learning. Participants also hope to acquire more skills and techniques within a limited time, and recognize potentially beneficial networks and

like-minded friends; all of these are crucial considerations for the students. This is also one of the manifestations of students' active learning.

Table 3. Interview transcripts and their coding results on the psychological rhythms of first-year Ph.D. students after completing their first year (n=15).

Participant	A Brief Version of the Answer to the Question	Coding Mode & Number	Summary
Mf1	In the blink of an eye, I have been in my Ph.D. program for one year. The excitement and anticipation from a year ago are still vivid, and I can't help but exclaim how time flies.	Nostalgia1 Positive emotion1	Exclaiming how time flies
Mf2	My passion for academic research is still burning brightly. Throughout this year, I've been exploring and learning constantly, and this passion has deepened my love for this field.	Passion2 Academic research2	Passion still burning strong
Mm3	The Ph.D. life is filled with various challenges, and this year is no exception. I've felt the pressure, but I recognize that these challenges are opportunities for personal growth.	Growth mindset1 Resilience1	Facing challenges
Mm4	After one year in the Ph.D. program, I have gained a deeper understanding of the relationship with my advisor. Experiences of collaborating and communicating with my advisor have taught me a lot.	Learning2 Relationships1 Communication1	Understanding the relationship with my advisor
Mm5	Mixed Feelings of Confusion: Entering the Ph.D. stage, I'm feeling a bit confused and anxious. During my Ph.D. journey, I have gained a clearer understanding of my research direction, and I might make some adjustments to it.	Self-reflection1 Adaptability1	Adjusting research direction
Cf1	One year into my Ph.D., I have experienced research achievements as well as research setbacks. Each progress and every encountered obstacle have been valuable learning experiences.	Achievements1 Setbacks1 Learning experiences1	Achievements and setbacks
Cf2	Excited to Take on The life of a Ph.D. student is filled with the challenge of balancing academic tasks and personal life. I am actively seeking a reasonable balance to face these challenges more effectively.	Self-improvement1 Work-life balance1	Seeking balance
Cm3	I have come to realize the significance of exchanging ideas with fellow scholars, as it broadens my perspectives and enhances my research level.	Academic exchange1 Academic enhancement: Perspective broadening1 Academic enhancement: Research enhancement1	Recognizing the importance of academic exchange
Cm4	After one year in the Ph.D. program, I have learned to utilize resources more efficiently, including libraries, academic databases, and experiences shared by collaborating advisors and fellow students.	Learning2 Efficiency1 Resource utilization1	Utilizing resources effectively
Cm5	During my Ph.D. journey, I have started to ponder more deeply about my future career planning, considering my interests and strengths.	Future planning1 Career exploration1	Reflecting on future career planning

Table 3. Interview transcripts and their coding results on the psychological rhythms of first-year Ph.D. students after completing their first year (n=15).

Participant	A Brief Version of the Answer to the Question	Coding Mode & Number	Summary
Mcf1	In this year of my Ph.D., I have expanded my academic circles through academic conferences and seminars, getting to know scholars from different fields.	Networking1 Professional development1 Academic community1	Expanding academic circles
Mcf2	One year into my Ph.D., I feel a deeper sense of responsibility in my academic research. I understand that my research outcomes could have an impact in certain fields.	Sense of responsibility1 Academic research2 Impact1	Sense of responsibility in academic research
Mcf3	While pursuing my Ph.D., I have participated in collaborative projects, which has given me a better understanding of the importance and challenges of teamwork.	Teamwork1 Collaboration1	Understanding the significance of teamwork
Mcm4	Despite occasional difficulties, one year into my Ph.D., I continue to maintain my passion and dedication for academic life.	Passion2 Dedication1	Passion for academic life
Mcm5	My first year of Ph.D. has allowed me to experience the joys and challenges of academic research. I cherish these precious experiences and look forward to further academic growth in the future.	Growth1 Academic enhancement: Academic experiences1	Cherishing precious experiences

4. CONCLUSION

[Doucette et al. \(2021\)](#) argued that the transition from the first year to the second year of doctoral studies encompasses a complex and diverse process of mindset changes, as each individual's experiences and perceptions may vary. Nevertheless, some common patterns of mindset transformation can be observed. In the initial phase of the first year, many students embark on their research projects with passion and excitement, driven by the desire to make unique contributions within their respective fields. They are motivated and eager to acquire the necessary theoretical knowledge and research methodologies. However, upon entering the second year, some students may undergo a shift in their mindset. Over time, they gain a deeper understanding of their research topics, becoming more aware of the associated challenges and complexities. This may instigate questioning and doubt, prompting reflections on the novelty and significance of their research. Occasionally, students may encounter research obstacles, such as unexpected experimental outcomes, the need to reconsider theoretical frameworks or difficulties in data analysis. In the second year, students may also experience increased pressure and responsibilities. They may assume roles as teaching or research assistants, necessitating a balance between research pursuits and teaching obligations. Moreover, they may have to manage journal submissions and academic conference requirements to propel the progress of their research outcomes. Despite the new challenges and responsibilities that the second year brings, it is also a period of growth and development for many students. Through confronting difficulties and setbacks, they gradually cultivate a more resilient and confident attitude. They become more acquainted with their research domains, begin establishing reputations and networks within the academic community, deepen their understanding of their research topics, and gain clearer visions of their future academic goals and career trajectories. In summary, the mindset changes from the first year to the second year represent a process of self-exploration and growth. While

students may encounter challenges and moments of doubt within their research domains, through adaptation and perseverance, they gradually develop a more steadfast and confident mindset, establishing a solid foundation for future academic development and professional endeavors.

5. ACKNOWLEDGMENT

Thanks to all anonymous reviewers, and all subjects. Special thanks to the editors of this journal for their work.

6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. The authors confirmed that the paper was free of plagiarism.

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