

# Identifying and Analyzing the Competencies and Responsibilities of Doctoral Students at Shiraz University in Relation to Research Guidance by Supervisors

Nayyereh. Hosseini<sup>1\*</sup>, Ghasem. Salimi<sup>2</sup>

<sup>1</sup> Department of Educational Administration, Farhangian University, Tehran, Iran

<sup>2</sup> Faculty of Education and Psychology, Shiraz University, Shiraz, Iran

\* Corresponding author email address: hosseininayyereh@cfu.ac.ir

## Article Info

### Article type:

Original Research

### How to cite this article:

Hosseini, N., & Salimi, G. (2025). Identifying and Analyzing the Competencies and Responsibilities of Doctoral Students at Shiraz University in Relation to Research Guidance by Supervisors. *Quarterly Journal of Research and Planning in Higher Education*, 31(2), 21-44.



© 2025 the authors. Published by Institute for Research and Planning in Higher Education (IRPHE), Tehran, Iran. This is an open access article under the terms of the Creative Commons Attribution 4.0 International (CC BY 4.0) License.

## ABSTRACT

The current research is a qualitative study that was conducted with the phenomenological method, aiming to explore the perceptions of research participants about the competencies and responsibilities of a doctoral student in the role of a research mentee in interaction with their supervisor. The data were collected by conducting semi-structured interviews with 20 faculty members and 20 doctoral students who were selected using purposive sampling and with criteria-based method and maximum diversity strategy. Data analysis was conducted using thematic analysis. Based on the findings, the competencies of students in the role of research mentees include four organizing themes: scientific-research competencies, professional competencies, interpersonal competencies, and individual competencies. The responsibilities of students in the role of research mentees consist of two organizing themes: task-oriented behaviors and relationship-oriented behaviors. Recognizing and paying greater attention to these competencies and responsibilities, as well as improving the current situation, can facilitate the realization of an effective research mentoring relationship between supervisors and students, thereby maximizing its benefits.

**Keywords:** *competencies of research mentee, responsibilities of research mentee, doctoral student, supervisor, research mentoring relationship*



## Introduction

Research mentoring has been recognized as an effective mechanism for the professional development of novice researchers, including doctoral students who are in the early stages of their professional careers (Boeren et al., 2015; Ulrich & Grady, 2003; Steber, Fishler, & McBrien, 2023; Haider & Dasti, 2022). The research mentoring relationship occurs between an experienced researcher in the role of a research mentor and a novice researcher in the role of a research mentee (Keyser et al., 2008; Briggs, 2006; Vierra, Beltran, Denecker, & Robnett, 2024). Although all doctoral students have a supervisor, evidence suggests that the academic and research interactions between supervisors and doctoral students are often fraught with weaknesses and challenges, making it difficult to observe the characteristics of a genuine research mentoring relationship in these interactions (Muthuswamy & Molfino, 2017; Borders et al., 2012; Amador-Campos et al., 2023; Wekullo et al., 2024). In fact, the formation and realization of a research mentoring relationship between a supervisor and a doctoral student require the supervisor and the student to assume the roles of a research mentor and a research mentee, respectively. However, for a doctoral student to effectively fulfill the role of a research mentee, they must possess the necessary competencies and actively carry out the responsibilities associated with being a research mentee (Hosseini, 2020; Hernandez et al., 2023). The aim of the present study is to identify and elucidate the competencies and responsibilities of doctoral students in the role of research mentees by analyzing the experiences and perceptions of supervisors and doctoral students regarding their research mentoring relationships.

## Methodology

The present study is qualitative research conducted using a phenomenological approach. The participants of this study included 20 faculty members with experience in supervising doctoral dissertations and 20 doctoral students whose research proposals had been approved and who had published at least one joint article in collaboration with their supervisors. These participants were selected through purposive sampling from among the faculty members and doctoral students at Shiraz University, based on their lived experiences related to the research topic. Data were collected through individual semi-structured interviews. Since research mentoring is a bidirectional relationship, interviewing both parties (mentors and mentees) can provide a more accurate and comprehensive understanding of the competencies and responsibilities of the mentee as one side of this relationship. Accordingly, interviews were conducted with both groups of participants (supervisors and doctoral students) until theoretical saturation was achieved in each group. In total, 20 interviews were conducted with supervisors and 20 with doctoral students, from which the competencies and responsibilities of doctoral students in the role of research mentees in interaction with their supervisors were identified and extracted. Thematic analysis was used to analyze the data. To ensure the validity of the findings, qualitative validation criteria such as credibility (Adequate engagement in data collection and peer review), transferability, and dependability or consistency (audit trail) were employed (Merriam, 2009).

## Findings

The findings derived from the analysis of the research interviews are presented in Table 1.

**Table 1. Findings from the Analysis of Research Interviews and Previous Studies**

Comprehensive Themes	Organizing Themes	Basic Themes	Evidence from Supervisor Interviews	Evidence from Doctoral Student Interviews	Evidence from Both Groups	Previous Studies	
Competencies of a Research Mentee	Scientific-Research Competencies	Strong foundational knowledge			*	*	
		Academic and research talent			*	*	
		Creativity, innovation, and research risk-taking	*			*	
		Self-motivated, self-directed, and self-learning				*	*
		Interest and perseverance in research activities				*	*
		Adherence to scientific and research ethics	*				*
		Availability of time for research				*	*
		Proficiency in English		*		*	

Responsibilities of a Research Mentee	Professional Competencies	Resilience in the face of challenges		*	*	
		Awareness in recognizing and utilizing the supervisor's potential	*			
		Time management		*	*	
		Interest in the field of study		*	*	
		Responsibility		*	*	
	Interpersonal Competencies	Motivation and goal-oriented behavior		*	*	
		Self-disclosure	*			
		Honesty and transparency in communication		*		
		Ability to establish effective communication		*	*	
		Ability to work in teams	*		*	
	Individual Competencies	Completing master's and doctoral studies at the same university		*		
		Desire for learning, growth, and success		*	*	
		Trustworthiness	*		*	
		Not being overly sensitive	*			
		Courage to express needs and expectations	*		*	
		Persistence in demanding rights	*			
		Patience and ability to maintain composure	*			
		Self-confidence	*		*	
		Ability to learn from failures		*		
		Organization and punctuality	*		*	
	Task-Oriented Behaviors	Requesting guidance when necessary	*		*	
		Prioritizing research	*			
		Participation in academic activities and associations	*		*	
		Submitting progress reports as agreed		*		
		Continuous self-improvement		*		
		Revealing scientific and research weaknesses		*	*	
		Ensuring the correctness of methods	*			
		Attending meetings prepared with summaries of activities	*		*	
		Relationship-Oriented Behaviors	Consistent attendance		*	*
			Informed selection of a supervisor		*	
Sharing personal and academic challenges with the supervisor			*			
Respect and humility toward the supervisor			*	*		
Familiarity with university regulations regarding the dissertation	*					

According to the results presented in Table 1, a total of 41 basic themes were identified and extracted from the analysis of the research data. Among these, evidence for 21 themes was found in the interviews conducted with both groups of participants (supervisors and doctoral students). However, some basic themes were exclusively derived from the quotations of one group of participants (either supervisors or doctoral students). Specifically, 13 basic themes were solely identified from the analysis of interviews with doctoral students, and 7 basic themes were exclusively obtained from the analysis of interviews with supervisors. In the last column of the table, a mark has been placed next to each basic theme for which a corresponding or similar code was identified in at least one of the previous studies. Additionally, among the codes extracted from prior studies, no code was found that lacked a corresponding or similar theme in the current research.

## Conclusion

The formation, realization, and maintenance of a research mentoring relationship between supervisors and doctoral students bring numerous benefits for both doctoral students and supervisors, as well as for the university (Amador-Campos et al., 2023; Muthuswamy & Molfino, 2017; Pfund et al., 2016; Young et al., 2015; Vela et al., 2023). However, one of the essential factors for the formation, development, and preservation of this relationship is the demonstration of research mentee competencies and the fulfillment of research mentee responsibilities by the student in interaction with their supervisor (Hosseini, 2020; Hernandez et al., 2023). The findings of the study revealed that the competencies of doctoral students in the role of a research mentee can be categorized into four groups: scientific-research competencies, professional competencies, interpersonal competencies, and individual competencies. Additionally, the responsibilities of doctoral students in the role of a research mentee can be divided into two categories of behaviors: task-oriented behaviors and relationship-oriented behaviors. Each of these competencies and responsibilities is described and explained in detail in the full version of the article. Developing a guidebook based on the findings of this study and the analyses presented in the discussion and conclusion sections, and making it available to doctoral students, can enhance their reflection, self-awareness, and attention to self-improvement. It can also encourage them to strive to demonstrate the required competencies and fulfill the necessary responsibilities to effectively perform their role as a research mentee in interaction with their supervisor.

## References

- Altbach, P. G. (2007). *Doctoral education: Present realities and future trends*. Springer Netherlands. [https://doi.org/10.1007/978-1-4020-4012-2\\_5](https://doi.org/10.1007/978-1-4020-4012-2_5)
- Amador-Campos, J. A., Peró-Cebollero, M., Feliu-Torruella, M., Pérez-González, A., Cañete-Massé, C., Jarne-Esparcia, A. J., & Guàrdia-Olmos, J. (2023). Mentoring and research self-efficacy of doctoral students: a psychometric approach. *Education Sciences*, 13(4), 358. <https://doi.org/10.3390/educsci13040358>
- Attride-Stirling, J. (2001). Thematic Networks: An Analytic Tool for Qualitative Research. *Qualitative Research*, 1(3), 385-405. <https://doi.org/10.1177/146879410100100307>
- Boeren, E., Lokhtina-Antoniou, I., Sakurai, Y., Herman, C., & McAlpine, L. (2015). Mentoring: A Review of early career researcher studies. *Frontline Learning Research*, 3(3), 68-80. <https://eric.ed.gov/?id=EJ1091054>
- Borders, L. D., Wester, K. L., Granello, D. H., Chang, C. Y., Hays, D. G., Pepperell, J., & Spurgeon, S. L. (2012). Association for Counselor Education and Supervision guidelines for research mentorship: Development and implementation. *Counselor Education and Supervision*, 51(3), 162-175. <https://doi.org/10.1002/j.1556-6978.2012.00012.x>
- Briggs, C. A. (2006). *Research Mentorship in Counselor Education*. Oregon State University. [https://ir.library.oregonstate.edu/concern/graduate\\_thesis\\_or\\_dissertations/4f16c636g](https://ir.library.oregonstate.edu/concern/graduate_thesis_or_dissertations/4f16c636g)
- Curtin, N., Malley, J., & Stewart, A. J. (2016). Mentoring the next generation of faculty: Supporting academic career aspirations among doctoral students. *Research in Higher Education*, 57(6), 714-738. <https://doi.org/10.1007/s11162-015-9403-x>
- Echresh, S., Beiramipoor, A., & Parsa, A. (2023). A phenomenological study of the challenges of transitioning to virtual learning in Iranian universities with regard to the Corona pandemic. *Quarterly Journal of Research and Planning in Higher Education*, 29(1), 113-138. <https://doi.org/10.61838/irphe.29.1.5>
- Faraji Dehsorkhi, H., Arasteh, H., Navehebrahim, A., & Abdollahi, B. (2016). Identifying doctoral admissions criteria: a qualitative study. *Quarterly Journal of Research and Planning in Higher Education*, 21(4), 71-97. [https://journal.irphe.ac.ir/article\\_702885\\_en.html](https://journal.irphe.ac.ir/article_702885_en.html)
- Haider, Z., & Dasti, R. (2022). Mentoring, research self-efficacy, work-life balance and psychological well-being of doctoral program students. *International Journal of Mentoring and Coaching in Education*, 11(2), 170-182. <https://doi.org/10.1108/IJMCE-07-2020-0036>
- Hernandez, P. R., Ferguson, C. F., Pedersen, R., Richards-Babb, M., Quedado, K., & Shook, N. J. (2023). Research apprenticeship training promotes faculty-student psychological similarity and high-quality mentoring: A longitudinal quasi-experiment. *Mentoring & Tutoring: Partnership in Learning*, 31(1), 163-183. <https://doi.org/10.1080/13611267.2023.2164973>
- Hosseini, N. (2020). *Model of Supervisor-PhD student research mentoring: A mixed method study*. Shiraz University. [https://journal.irphe.ac.ir/article\\_702986\\_en.html?lang=fa](https://journal.irphe.ac.ir/article_702986_en.html?lang=fa)
- Keyser, D. J., Lakoski, J. M., Lara-Cinisomo, S., Schultz, D. J., Williams, V. L., Zellers, D. F., & Pincus, H. A. (2008). Advancing institutional efforts to support research mentorship: A conceptual framework and self-assessment tool. *Academic Medicine*, 83(3), 217-225. <https://doi.org/10.1097/ACM.0b13e318163700a>
- Kostovich, C., Saban, K., & Collins, E. (2010). Becoming a nurse researcher: the importance of mentorship. *Nursing Science Quarterly*, 23(4), 281-286. <https://doi.org/10.1177/0894318410380260>
- Laverick, D. M. (2016). *The Mentoring Process*. Springer, Cham. <https://doi.org/10.1007/978-3-319-39217-2>
- Lee, H. F., Miozzo, M., & Laredo, P. (2010). Career patterns and competences of PhDs in science and engineering in the knowledge economy: The case of graduates from a UK research-based university. *Research Policy*, 39(7), 869-881. <https://doi.org/10.1016/j.respol.2010.05.001>
- Maisel, N. C., Halvorson, M. A., Finney, J. W., Bi, X., Hayashi, K. P., Blonigen, D. M., & Cronkite, R. C. (2017). Institutional Incentives for Mentoring at the US Department of Veterans Affairs and Universities: Associations With Mentors' Perceptions and Time Spent Mentoring. *Academic Medicine*, 92(4), 521-527. <https://doi.org/10.1097/ACM.0000000000001507>



- Merriam, S. B. (2009). *Qualitative Research: A Guide to Design and Implementation*. Jossey-Bass. [https://books.google.com/books/about/Qualitative\\_Research.html?id=tvFICrgcuSIC](https://books.google.com/books/about/Qualitative_Research.html?id=tvFICrgcuSIC)
- Muthuswamy, S., & Molfino, R. (2017). Student-Supervisor Relationship in the Process of Managing a Ph. D.: Engineering Perspective. *Journal of Professional Issues in Engineering Education and Practice*, 143(4), 02517001. [https://doi.org/10.1061/\(ASCE\)EI.1943-5541.0000327](https://doi.org/10.1061/(ASCE)EI.1943-5541.0000327)
- Nerad, M. (2004). The PhD in the US: Criticisms, facts, and remedies. *Higher Education Policy*, 17(2), 183-199. <https://doi.org/10.1057/palgrave.hep.8300050>
- Pfund, C., Byars-Winston, A., Branchaw, J., Hurtado, S., & Eagan, K. (2016). Defining attributes and metrics of effective research mentoring relationships. *AIDS and Behavior*, 20(2), 238-248. <https://doi.org/10.1007/s10461-016-1384-z>
- Sanfey, H., Hollands, C., & Gantt, N. L. (2013). Strategies for building an effective mentoring relationship. *The American Journal of Surgery*, 206(5), 714-718. <https://doi.org/10.1016/j.amjsurg.2013.08.001>
- Steber, H. S., Fishler, K. P., & McBrien, S. B. (2023). Characterizing the research mentorship experience of genetic counseling students. *Journal of Genetic Counseling*, 32(6), 1301-1313. <https://doi.org/10.1002/jgc4.1811>
- Ulrich, C. M., & Grady, C. (2003). Research mentors: an understated value? *Nursing Research*, 52(3), 139. <https://doi.org/10.1097/00006199-200305000-00001>
- Vierra, K. D., Beltran, D. R., Denecker, L., & Robnett, R. D. (2024). "Research Mentors Should Support Students of Color by Taking an Extra Step." Undergraduates' Reasoning about Race and STEM Research Mentorship. *Education Sciences*, 14(2), 162. <https://doi.org/10.3390/educsci14020162>
- Wekullo, C. S., Ouda, J. B., Keseko, E., Shiundu, J. O., & Poipoi Moses, W. (2024). Mentorship for capacity building among young scholars in knowledge translation, research, and practice in universities in Kenya. *Mentoring & Tutoring: Partnership in Learning*, 32(2), 165-183. <https://doi.org/10.1080/13611267.2024.2323475>
- Young, B. R., Williamson, H. J., Burton, D. L., Massey, O. T., Levin, B. L., & Baldwin, J. A. (2015). Challenges and benefits in designing and implementing a team-based research mentorship experience in translational research. *Pedagogy in Health Promotion*, 1(4), 233-246. <https://doi.org/10.1177/2373379915600174>

