

Career Choices and Perceptions of Doctoral Education: A Survey of Students and Graduates in Japan

Research Overview

This study examined perceptions of doctoral education and career-related factors among university students, graduate students, and graduates in Japan. The results show that, despite recognition of the value of doctoral degrees, financial pressures and uncertainty about career pathways remain barriers to doctoral enrollment.

Abstract

Purpose of Study

This study aims to provide empirical evidence for policy discussions on doctoral human resource development in Japan. In the *Doctoral Human Resources Development Plan* (2024) issued by the Ministry of Education, Culture, Sports, Science and Technology (MEXT), doctoral degree holders are positioned as key contributors capable of creating new knowledge and driving innovation in society. In particular, cultivating and securing highly skilled research personnel in fields such as AI, mathematics, and information engineering is considered essential for the future advancement of scientific research. However, the number of doctoral degree recipients in Japan remains low by international standards. According to *Science and Technology Indicators 2021* published by the National Institute of Science and Technology Policy (NISTEP), Japan produced 120 doctoral degree holders per million population in FY2018, less than half the figure for the United Kingdom (375). Under these circumstances, this study identifies factors that hinder progression to doctoral study by analyzing influences on decisions regarding further study and employment.

Research Methods

A web-based survey was conducted through an online research company targeting university students, graduate students, and graduates aged 18 to 35 residing in Japan. The survey examined respondents' educational background, career orientations, interest in research-related occupations, perceptions of graduate and doctoral education, and factors influencing decisions about employment or further study. A total of 1,000 responses were analyzed.

Results and Discussion

Among the 1,000 respondents, 739 were employed, 117 were unemployed, and 144 were enrolled in university or graduate school. Regarding career awareness, 76.1% of respondents reported having some idea about their post-graduation plans at the time of entering university, whereas 23.9% reported that they had been undecided. The most common aspiration at university entry was employment after completing a bachelor's degree, reported by 57.0% of respondents.

Additionally, 49.9% of respondents indicated that their career direction had changed after entering university. Among those respondents, 52.3% cited a stronger orientation toward employment as the primary reason for this change.

Economic circumstances were the most frequently cited factor influencing career choice, identified by 38.3% of respondents, followed by family influence (34.8%) and influence from friends or senior peers (29.4%). In terms of priorities in career selection, work-life balance was selected by 66.7% of respondents, employment stability by 62.4%, and high income by 50.4%. In contrast, opportunities to deepen expertise were selected by 41.5% of respondents, indicating relatively lower importance.

Regarding perceptions of doctoral education, 50.2% of respondents viewed a doctoral degree as proof of expertise, 41.7% believed it to be advantageous for employment in industry, and 39.8% associated it with long-term career stability. Conversely, 63.4% of respondents expressed concern about the financial burden associated with doctoral study, 33.8% worried about delaying the start of their professional career, and 30.8% were uncertain about employment prospects after obtaining the degree.

Furthermore, among the 739 currently employed respondents, 241 respondents (32.6%) reported that they had come to recognize the need for graduate education or a doctoral degree through their work experience.

Discussion and Conclusion

The findings indicate that while doctoral degrees are recognized for their value in demonstrating expertise, providing advantages in industry employment, and contributing to long-term career stability, substantial concerns remain regarding the financial burden of doctoral study and employment prospects after degree completion.

Career choices appear to be shaped not only by academic interests but also by practical considerations such as income, job security, life planning, and access to employment opportunities. In particular, many respondents who changed their career direction after entering university attributed this shift to a stronger preference for employment, suggesting that emphasizing the intellectual and professional value of doctoral degrees alone is insufficient to encourage doctoral enrollment.

Accordingly, it is necessary to provide clearer information on financial support during doctoral study, expected living conditions while enrolled, and career pathways after degree completion. Moreover, given that many respondents had already formed some career aspirations at the time of university entry, efforts to foster understanding of doctoral education and interest in research careers should begin earlier, including at the secondary education level.

Increasing doctoral enrollment will require not only stronger financial support but also clearer information about career pathways, including those in industry. This would help students form more realistic images of life during doctoral study and of the diverse career paths available after completion.