

# Empirical Analysis of Educational Outcomes Emphasizing the Role of Higher Education

姉川, 恭子

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氏 名 : 姉川 恭子

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(高等教育の役割に着目した教育成果の実証研究)

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### 論 文 内 容 の 要 旨

A central issue of higher education in Japan is the clarification of educational outcomes to ensure the quality of higher education and the improvement of student skills. Active discussion at a recent meeting of the Subcommittee on Universities of the Central Council for Education examined the question of whether higher education institutions should hire professionals to analyze their integrated educational data and feed back the results to administrators for reexamination of their educational policies. Researchers in Japan earlier assessed the effects of socioeconomic and cultural background on academic achievement at junior and high schools, mainly in the field of educational sociology. Nevertheless, few studies have addressed those issues in relation to higher education, such as determining the relation between student backgrounds and learning attitudes at college, between their attitudes and prospective salaries, and so on. Moreover, university data have not been publicized until recently. They are limited to analyses of how universities should establish effective educational policies based on evidence derived from empirical analyses.

Therefore, this dissertation investigates educational outcomes of higher education from the perspectives of individuals and of higher education institutions to bridge the gap separating them. Specifically, this dissertation presents the following investigations: (1) the degree to which extracurricular experiences during childhood, along with socioeconomic and cultural background, influence learning attitudes at college; (2) the degree to which these learning attitudes affect their salary prospects and subjective well-being in terms of happiness, labor, and satisfaction; and (3) whether higher education institutions can improve those educational outcomes, or not.

Chapter 1 introduces the recent background of higher education in Japan, research objectives and the potential contribution of this dissertation after reviewing earlier studies. Based on the economics of education, this chapter provides a theoretical framework for the analysis of educational outcomes at higher educational institutions.

Chapter 2, using a large database of individuals' information, examines how study experiences during college education are related to graduates' career paths, motivation for work, and life satisfaction. The 'learning habits' hypothesis stated by Yano (2009) shows that study experiences during college years improve their knowledge and capabilities, which consequently

improve their current capabilities. According to this hypothesis, this chapter demonstrates the degree to which learning during college years is associated with subjective well-being (happiness, labor satisfaction, etc.). Results show that both men and women who had gained 'learning habits' during college life tend to exhibit high levels of labor satisfaction and general happiness, even after controlling for household attributes and job attributes. Moreover, people who chose 'active choices of classes' during college life, especially men, tend to receive higher compensation in the current labor market.

Chapter 3 investigates the effects of extracurricular activities on learning attitudes of university students using the data presented in Chapter 2. Previous studies have demonstrated mainly the extent to which the cultural capital influences the academic achievement of children. This chapter offers a robust estimation of learning attitudes during college student not only using cultural capital variables but also extracurricular activities such as traditional Japanese learning, *shuji and soroban* (calligraphy and abacus), music school, sports school, and cram school. Estimation results reveal that extracurricular activities and cultural capital in early childhood exert strongly positive influences on active learning attitudes such as self-motivated choices of class, eager studying, and reading habits during college. Some extracurricular activities are especially important because they foster learning motivation irrespective of a student's early childhood family background, which suggests that a parent's academic background and income class have no strong impact on a child's educational attainment, after controlling for embodied cultural capital factors and extracurricular activities.

Chapter 4, using panel data, presents analysis of the degree to which college learning and the living environment affect the control of student withdrawal and graduation within standard academic years. This chapter addresses both public and private universities. Analysis of the panel data reveals the possibility that learning environment conditions such as the convenience of college libraries and the ratio of instructors to students affect the control of dropout rates in addition to students' academic skills before college entry. This result suggests that some differences exist in dropout rates and graduation rates between those colleges that have an environment to encourage motivation for learning and those which do not, even if their deviation scores are equal.

Chapter 5 presents an examination of the mechanism by which government subsidies for private universities affect university management in terms of improving study and research environments. This chapter specifically presents an examination of private universities because more than 70% of universities are private and because the Japanese government expends vast funds on higher education every year. Ordinary least squares estimation shows that subsidies have a significant and positive association with the number of library books per student. Furthermore, the results of mediation analysis indicate that subsidies contribute indirectly to reducing the dropout ratio through study environment improvements attributable to grants-in-aid for scientific research.

Chapter 6 presents a summary and conclusions of this dissertation. The dissertation supports the view that learning experiences obtained during higher education are beneficial for the improvement of their future quality of life. In addition, higher education institutions play an extremely important role. Policy implications are suggested based on the empirical evidence.