

## Student Retention in Turkish Higher Education through Lenses of Bio-Ecological Theory\*

### Biyo-Ekolojik Kuramın Gözünden Türkiye Yükseköğretiminde Öğrenciyi Okulda Tutma

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**ABSTRACT:** Higher education not only improves individuals academically, socially, and emotionally but also provides any capital for societies and states. In order to serve this purpose, retention of students in higher education is greatly significant. Higher education institutions have complex structures and processes. Thus, their ecosystems are affected by both inner dynamics and outside pressure. However, a gap exists in the literature since student retention studies in the literature focused on narrower perspectives neglecting multi-dimensional situations. Therefore, there is a need for extensive perspectives drawing big and comprehensive picture of student retention in Turkey. The current study aims to investigate student retention in higher education context of Turkey through the lenses of Bronfenbrenner's Bio-Ecological Theory and to compare and contrast with international literature. Considering layers of theory which are microsystem, mesosystem, exosystem, macrosystem, and chronosystem, retention concept was discussed in the context of core ideas of each layer. Finally, it was concluded that higher education system in Turkey should consider inclusion of multidimensional approaches to create an awareness about student retention.

**Keywords:** student retention, higher education, Bio-Ecological Theory.

**ÖZ:** Yükseköğretim sadece bireylerin akademik, sosyal ve duygusal olarak gelişmelerine değil toplum ve devlet için sermaye üretilmesine de katkı sağlamaktadır. Bu hedef için öğrencilerin yükseköğretim sistemi içinde kalıcı olmaları büyük ölçüde önemlidir. Yükseköğretim kurumları karmaşık yapı ve süreçlere sahiptir. Öyle ki, bu kurumların ekosistemleri hem iç dinamiklerden hem de dış baskılardan etkilenmektedir. Fakat alan yazındaki öğrenciyi okulda tutma çalışmalarının çok boyutlu durumları göz ardı etmesi önemli bir boşluk oluşturmaktadır. Bu yüzden, öğrencinin okulda tutulmasının büyük ve anlaşılır resmini ortaya koyabilecek kapsayıcı bakış açılarına ihtiyaç duyulmaktadır. Bu çalışma, Biyo-Ekolojik Kuramın gözünden Türkiye yükseköğretimindeki öğrenciyi okulda tutmayı incelemeyi ve uluslararası yazınla kıyaslamayı amaçlamaktadır. Kuramın katmanları olan mikrosistem, mezosistem, ekzosistem, makrosistem ve kronosistem bağlamında okulda tutma kavramı tartışılmıştır. Sonuç olarak, okulda tutma ile ilgili farkındalık oluşturmak için Türkiye'deki yükseköğretim sisteminin çok boyutlu yaklaşımları benimsemesi gerektiği önerilmiştir.

**Anahtar kelimeler:** okulda tutma, yükseköğretim, Biyo-Ekolojik Kuram.

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Education is a process affecting entire life of human beings. From pre-school to higher education, individuals spend most of time in the schools so that they develop biologically, emotionally, psychologically, and intellectually. Higher education deserves a special parenthesis among these periods because individuals in higher education period feel themselves free, competent, and capable.

Higher education system in Turkey had mainly three purposes which are to improve and train students, to produce human capital for state, and to conduct scientific research. It is possible to categorize higher education levels as follows: upper secondary education, undergraduate education, and graduate education. According to dataset of Council of Higher Education (CoHE, 2018), there are over 2.7 million students in upper secondary education, over 4.2 million students in undergraduate education, and over half million students in graduate education. On the other hand, there were nearly 300.000 graduates from upper secondary education, over 400.000 graduates from undergraduate education, and nearly 55.000 graduates from graduate education at the end of 2016-2017 academic years. Administration of higher education in Turkey is organized by the law no 2547. According to this law, higher education is managed by three units which are Council of Higher Education (CoHE), Inter-university Council (IC), and Higher Education Audit Board (HEAB). CoHE is responsible for establishment and development of higher education institutions, teaching and research activities, training of academicians, and resource distribution. IC organizes research and publication, education activities, and evaluation of academician titles. Lastly, HEAB supervises higher education institutions and academicians. From past to present, laws related to higher education system, established universities, opening of private universities, inducement of military coups, and classification of universities were important cornerstones in higher education history. In addition, traces of German, French, and American educational researchers in the history of higher education in Turkey is possible (Arap, 2010; Erdem, 2005, Namal, 2012). Higher education institutions are lifelines of the development of individuals, institutions, societies, and countries. In terms of individual-benefit, higher education provides many advantages to the students. Ishitani (2006) stated that individuals take better career and occupation options so that they gain economic earnings. According to OECD (2015, 2017) reports, people with higher level of education earn better money and job prospects. In terms of society-benefit, society takes advantage of higher education like life satisfaction and participation in activities related to democracy. Gölpek (2011) stated that intangible social returns of higher education were more positive care on children, lower crime rates, and more emphasis on women education and occupation. In terms of institution-benefit, higher education institutions get more opportunity to conduct research and development activities if they implement higher education activities in an effective way. CoHE selected 10 research universities by considering some criteria like Doctoral education, research culture, and training of strong researchers (Saraç, 2017a). Research universities will be rewarded with more academic staff position (Norm Staffing Regulation, 2018) and more resource support (Saraç, 2017b). In terms of country-benefit, economic development and efficient usage of resources are gains for the country. While Sevinç (2001) related graduate education to rise of human capital, Ünal and İlter (2010) found that graduate education is a key for development of country in terms of technological progress, cultural and economic benefit national science policy,

and modern life. To sum up, each fraction of the community takes the advantages of higher education.

In order to get optimum benefit from higher education, the critical thing is use of capacity of higher education in a more healthy way. For this reason, student retention is the key factor of the higher education capacity. In the literature, student retention was defined together with some terms such as on-time graduation, program completion, maintenance of enrollment, and persistence (Wild & Ebbers, 2002). Further, there are some activities improving student retention in the higher education institutions. To name a few, mentoring programs (Bean & Eaton, 2002), financial support (Chaney & Farris, 1991), institutional action (Tinto, 2017), and socialization (Gardner, 2008) are programs for improving student retention. On the other hand, relation of retention to other variables like background characteristics (Nandeshwar, Menzies, & Nelson, 2011) and social and institutional situations (Pleitz, MacDougall, Terry, Buckley, & Campbell, 2015) is frequently investigated in the literature.

Bio-ecological system in higher education was searched by researchers in higher education field. Elliot, Baumfield, and Ried (2016) examined the academic acculturation of international Ph.D. students from the Bio-Ecological Theory. The authors recommended a third space in addition to academic and social spaces such that a space was left for learning in relax and re-creative settings to develop academic acculturation of international students. In another study, Eriksson (2005) investigated relationship between school environment and participation for disable student from the bio-ecological perspective and found that specific environmental factors were more effective on participation than general environmental factors, which was consistent with bio-ecological model of Bronfenbrenner. Further, Ph.D. dissertation conducted by Cordell-McNulty (2009) showed that social context derived from Bio-Ecological Theory predicted academic achievement, social adjustment, and intention to persist. To sum up, bio-ecological perspectives are appropriate to analyze processes in higher education like student retention.

The current study was conceptualized to investigate student retention phenomenon in terms of bio-ecological system. Bio-ecological system mainly fitted in a trivet: individual characteristics, process and structure in higher education system, and interaction between individual and higher education. In this aspect, it was aimed to examine student retention in higher education of Turkey from the lenses of Bio-Ecological Theory of Bronfenbrenner. The sections below described firstly the ideas behind each layer of the theory and the findings from international studies. Next, higher education studies conducted in Turkey were examined to underline importance of student retention in the light of theory and previous studies. Finally, conclusion part summarized student retention in higher education system of Turkey by comparing and contrasting national and international literature.

### **Bio-Ecological Theory**

According to Bio-Ecological Theory (Bronfenbrenner, 1977, 1986), the individual is influenced by its environment. There are five layers which are microsystem, mesosystem, exosystem, macrosystem, and chronosystem. All of these layers explain different types of interaction between individual and its environment.

### **Microsystem**

Microsystem focuses on the basic relations between the individual and its environment. For the context of the current study, individual refers to student in higher education while environment refers to higher education institutions. To illustrate, persistence of a student may be influenced by department. More specifically, relation with peers and faculty members may be evaluated under microsystem. Fischer (2007) used a secondary data and found that there was a strong relationship between relatedness to peers and college retention. In addition to peer relations, the relation with faculty members has a role on student retention. Vogt (2008) examined importance of faculty on retention and performance in engineering programs and concluded that student-professor relationship and becoming available to students were conditions improving student retention and performance. On the other hand, study by Drake (2011) shows the power of advisor-student relationships on persistence to graduation.

By considering higher education context in Turkey, students are also in relation with peers and faculty members. Bülbül and Acar-Güvendir (2014) conducted a study to examine integration levels of students at freshman year and found that peer relation was related to satisfaction with continuing education. However, relation with faculty member is more visible separately as relation with advisor and instructor. In this aspect, relation between students and advisors draws attention. Sayan and Aksu (2005) found that problems in relation between students and advisors were caused by academic and social issues. Academic issues included lack of guidance, difficulties in time arrangement, and lack of time allocation while social issues were based on communication problem, uncomfortable relations, and lack of help. Although literature on relation between student and advisor was more visible, relation between faculty members and students was also examined. Aypay, Çekiç, and Boyacı (2012) conducted a qualitative study to investigate student retention and found that students had complaints about relation with the faculty member. In conclusion, student retention in Turkey depends predominantly on microsystem components, including relations with peers, instructors, and advisors.

### **Mesosystem**

Mesosystem concentrates on the interaction among components of environment surrounding individual. In other words, mesosystem is representation of interaction of elements in microsystem. To name a few, interaction between schools and families, interaction among teachers, and interaction between teachers and peers are components of mesosystem. For the current study, the components of environment include departments, faculties, and other campus elements. More specifically, interaction patterns among faculty members may determine student behaviors. Biglan (1973) implied that informal social connections among faculty members have crucial importance for university outputs like academic performance and research activities including journal and technical report articles. Thus, interaction or cooperation among faculty members may influence academic achievement or retention of students. Umbach and Wawrzynski (2005) conducted a research examine the relation between faculty practices and student engagement. Their study shows that active and collaborative learning techniques empowered student engagement. In addition to curricular activities, extracurricular activities are significant for student retention in higher education. Role

of extracurricular activities on graduation probability (Mahoney, Cairns, & Farmer, 2003) and intention to persist (Fischer, 2007) were proved in the international literature.

Turkish studies in mesosystem level are generally about problems observed in institutional level in higher education. Roots of these problems are based on communication, coordination, or interaction problem between institutions like family and faculty or faculty and department (Kaya, Sungurtekin, & Deniz, 2017). Coordination and interaction problem in flow of decision-making process among institutions and inefficient resource allocation are two main reasons for mesosystem problems. The most visible coordination problem is related to balance between work requirements and school responsibilities. In other words, management of school, work, and family responsibilities at the same time makes student retention difficult. Şimşek and Adıgüzel (2012) investigated dropout tendencies of university students. The study shows that out-of-school work was one of the factors affecting dropout tendency. Lack of family support and organizational opportunities caused the students to work in a job. Further, Nayır (2011) conducted a research to analyze problems of teachers, administrators, and inspectors studying in graduate education and categorized problems as follows: program problems, school and ministry problems, and social and economic problems. In conclusion, problems observed in higher education occurred due to lack of interaction among institutions related to higher education. In other words, solution or appearance of problems in higher education does not depend on only one component such that problems are within at least one institution's area of interest. Therefore, interaction idea in mesosystem may be described by higher education problems.

### **Exosystem**

Exosystem is a layer related to societal conditions and policies. Commonwealth welfare and higher education policies are included in the context of current study. To illustrate, persistence of students in higher education may be affected by recent higher education reforms or socio economic status of families. In this respect, the process and structure in higher education gains importance. In order to improve student retention, links between some interests were set by researchers and policymakers. Relation between education and marketization is one of these interests. Ackerman and Schibrowsky (2008) made an analogy on the relationship between with customer retention and student retention. They concluded that strengthening relationship bonds between students and higher education institutions through financial, social, and structural bonding activities improved the student retention. On the other hand, parental characteristics are determinants of student attrition. Adroque and Fanelli (2018) examined predictors of persistence in Argentina. The study showed that students with higher per capita income, students from upper class, and students whose parents were higher education graduate had lower probability of dropping out. To sum up, higher education policies and parental backgrounds are related to student retention.

Administration and governance of higher education in Turkey has experienced great changes in the recent years. All of these changes have occurred in order to improve higher education institutions in different areas. In terms of structural changes, many public and private universities have been opened since beginning of millennium. According to Çelik and Gür (2014), higher education system has grown dramatically in recent years so that excessive centralized structure cannot carry this growth. Although

structure of higher education was not linked directly to student retention, it is possible to imply that centralized structure may put barriers to keep students in the system. In addition to structural situations, there were procedural changes in higher education policies. To illustrate, finance of universities has an important place in administration and governance of higher education. One of the most serious problems of the universities is finance (Aypay, 2003). Universities had a common concern to teach students and to do research in scarcity of resources. According to Aslan (2007), students could not involve in social and cultural activities due to lack of money. To summarize, policies related to economic situations and resource distribution had impact student retention.

Policies related to academician assignment, training and promotion are significant such that higher education in Turkey suffers from inadequacies in terms of both quality and quantity Bozan (2012) investigated the quality of graduate education in Turkey and reached four main conclusions. Firstly, in spite of developments in the number of scientific publication after year 1980, same development could not be achieved in terms of the quality of publications and impact factors. Secondly, the number of social science publications was much lower when compared to other fields. The third conclusion was that number of researchers or academicians in research and development activities were much lower than average of OECD countries. Lastly, high quality could not be provided since graduate education was far away from the freedom of thought and democratic environment. Therefore, student retention is influenced by academic quality coming from academicians.

One of the most important policies was Faculty Development Program training research assistants through graduate education. This program provided permanent academic position and many opportunities like budget, foreign language education, and study abroad for research assistants until 2016. However, with passing of time, opportunities were minimized. Also, permanent positions of research assistants in the program converted to temporary position. Apart from this program, the law of Council of Higher Education defined two type of research assistant. Research assistants with 33/a position continue with Ph.D. affiliation after Doctoral education whereas research assistants with 50/d position are fired from job despite Dr. title. However, a recent law (law no.7033, 1.07.2017) stopped to assign the permanent position of research assistants. Instead, each research assistant position would take at the form of 50/d. However, temporary position affected performance of research assistant in the job and their career perspective negatively (Korkut, Yalçınkaya, & Muştan, 1999). Therefore, staffing positions were closely related to student retention since even if research assistant thinks to give up graduate education, a student without financial support may give up more easily.

Considering parental conditions, family characteristics such as mother education, father education, and number of siblings determined access to education and student retention in higher education as well primary and secondary education. Ekinçi (2011) investigated effects of socio economic status on higher education participation and found that educational level of parents was related to higher education participation. The study also showed that students with higher level of education and income were overrepresented in the programs which were prestigious. In conclusion, higher education policies including research assistants and academic promotions and parental

conditions may influence student retention in higher education. For this reason, exosystem focusing on higher education policies and parental backgrounds consists of critical ideas for student retention.

### **Macrosystem**

Macrosystem focuses on the cultural interchanges and values. For the context of the current study, macrosystem is investigated in terms of culture and value issues in higher education. Student retention is linked to overarching values and beliefs like culture, commitment, gender, and ethnicity. Organizational culture is related to perceptions of individual in any organization. Organizational culture in higher education institutions describes the atmosphere in which university stakeholders react. The students who could not adapt to culture of higher education institution may leave the school. The literature showed that culture of higher education institutions was related to student persistence or attrition (Ehrenberg, Jakubson, Groen, So, & Price, 2007; Kuh, 2001; Stallone, 2014). As a special part of the organizational culture, organizational climate was linked to student retention in the literature (Yi, 2008). Commitment was another topic affecting student retention.

Commitment can be defined as willing to work or study. The students having higher commitment were less likely to leave higher education (Davidson, Beck, & Milligan, 2009). Gender and ethnicity are important values for individual. Although these values are at the center of unequal and unfair approaches, it is a reality that everyone from each gender and ethnicity is unique and deserves respect. Ferreira (2003) found that dropout of female students was higher than that of male student whereas Hassell, Seston, Eden, and Willis (2007) found that probability of graduation of female students were higher than that of male students. Stratton, O'Toole, and Wetzel (2007) investigated student retention in terms of ethnicity and found that racial or ethnic characteristics were linked to student retention for part-time students such that Hispanics were more likely to make dropout decisions. Reflections of macrosystem in Turkey in terms of student retention are more limited compared to international literature. To begin with, climate in higher education institutions were investigated by researchers. Kasirga and Özbek (2008) detected differentiations among three universities in terms of quality of research, support from senior academicians, social relations, and warmth of the institution. All of these dynamics are related to student retention. Considering gender issue, Aypay, Aypay, and Demirhan (2009) investigated academic and social integration and found that academic and social integration of the students differed by gender. Moreover, study by Ertem (2018) showed that female students were more likely to persist on graduate education than male students. In conclusion, macrosystem of higher education in Turkey in terms of student attrition included cultural and gender issues more.

### **Chronosystem**

Chronosystem is related to the changes over time. This layer concentrates on differences occurred within passing time. For the context of the current study, student retention is analyzed in terms of change in years in higher education. Changes year by year may influence student retention. Especially, first year experiences are emphasized in student retention literature. ATTRACT (Enhance the Attractiveness of Studies in

Science and Technology) was a kind of student retention project considering whole Europe. Kairamo (2012) supported from the data coming from this project and concluded that most of the dropouts in Portugal, Italy, Belgium, Ireland, Finland, and Sweden were detected in the first year so that the first year experience is important for student retention. On the other hand, Fike and Fike (2008) conducted a study to analyze predictors of experience in the first semesters and found that there was a negative relationship between age of student and student retention. To sum up, first year experience and age are determinants for student retention.

Chronosystem in higher education system in terms of student retention in Turkey is mostly based changes in student attrition rates and student experiences. Ertem and Gökalp (2016) investigated student attrition rates in three public universities and found that student attrition rate in Master education was higher than that in Doctoral education. Moreover, their study showed that two of the universities had generally upward trend in terms of student attrition. Further, Ertem and Gökalp (2019) investigated student attrition from graduate education and concluded that student attrition rate in Masters was higher than that in Doctorate. On the other hand, Bülbül (2012) conducted a study in undergraduate level and pointed out that the changes in the job opportunities of the students caused them to leave university. In other words, changes in student experiences may be a reason for dropout. In conclusion, chronosystem of Turkish higher education in terms of student retention was related to changes in both rates and experiences.

### **Discussion and Conclusion**

Bio-Ecological Theory describes important ideas for higher education in Turkey. First of all, relation with peers, instructors, and advisors as reflections of microsystem had an impact on student retention. In this aspect, dynamics in higher education system in Turkey coincided with the idea behind Bio-Ecological Theory. However, relation with faculty members which is mostly visible in international literature may be separated as relation with instructor and relation with advisor for higher education in Turkey. The reason of this separation may be related to structure of higher education system. Basically, graduate students attribute different meaning to their advisors and instructors. There are students focusing on the personal characteristics of the advisor (Seçkin, Aypay, & Aypay, 2014) while instructors are generally accepted as knowledge transmitters (Ürü-Sarı, Çalışkan, Atan, & Yozgat, 2013). Relationship problems between students and advisors may be caused by ethical standards. According to Summak, Summak, and Balkar (2010), guidelines and regulations may prevent conflicts between advisors and students. Thus, they offered committees to determine and follow advisement standards. As a result, activities empowering relationships of students with their peers, faculty, and advisors are recommended. This situation will serve improvement of microsystem in higher education in terms of student retention.

Mesosystem of higher education depicted that although international literature presented a variety of curricular and extracurricular activities, national literature was only limited to course content. This situation remarks that curricular and extracurricular activities in Turkey are more superficial than those in international literature. It may be related to interaction in the faculties. Balcı-Bucak (2002) found that superior-subordinate relations in higher education institutions were in medium and sub-medium



level. On the other hand, roots of the problems in higher education were based on lack of communication, coordination, and interaction (Ölçer & Koçer, 2015). To sum up, curricular activities and attitudes of departments had an influence on attendance and so retention. Therefore, stakeholders in higher education should respect each other and re-organize situations to support students by improving communication channels and interactions ways.

The system in which student retention implementations are visible in the most intensive way was the exosystem. Societal conditions and higher education policies in Turkey influenced student retention since administration and governance of higher education was closely related to process and structure in higher education. Structurally, governance and administration of higher education is based on centralized structure so that decisions are made in a top-down way. This situation may affect student retention since students do not feel themselves valuable. Procedurally, financial constraints drew attention in higher education context. The reason why finance is so important for persistence of the students is related to educational expenses. Winston (1999) stressed that higher education is a place producing and selling educational services to the customers through business. According to Bair and Haworth (2004), problems related to economic and logistic opportunities are barriers to the progress of the students. The studies in Turkish literature also confirm the importance of economy (Bülbül, 2012; Özmen & Aydın-Güç, 2013; Sevinç, 2001). On the other hand, temporary position of research assistants had a negative impact on student retention. Because of lack of assurance, brilliant brains do not prefer academia so that retention is influenced negatively. In terms of societal conditions, socio economic status of parents is an important factor for student retention. Kiraz, Engin-Demir, Aksu, Daloğlu, and Yıldırım (2010) examined educational views of prospective teachers and pointed out that educational level of parents had a significant effect on educational views of participants. Therefore, the researcher of the current study recommends more decentralized structure, bottom-up decision making process, more resources for higher education, assurance for academic positions, and parent-university associations to improve exosystem of higher education in Turkey.

Macrosystem of higher education had a limited context in Turkey such that organizational climate and gender issues were examined in terms of student retention in higher education. The studies in both national and international literature pointed out that positive climate led to student retention while negative climate led to student attrition. In terms of gender, the reason of inconsistencies may be contextual factors. Johnes and McNabb (2004) concluded that male students were more likely for voluntary dropouts from larger universities while the female students were less probability for dropout from universities including academically more qualified students. On the other hand, Laws in Turkey gave a right to male graduates to delay their military duties providing that graduate education registration. The study by Çoruk, Çağatay, and Öztürk (2016) showed the effect of military issue on education. Additionally, tendencies of female towards academic career may be a determinant for female students' retention. Average number of women academician in Turkey was higher than that in Europe (Yirmibeşoğlu, 2016). In terms of ethnicity issue, researchers and policymakers do not prefer to touch on racial issues. It is clear there are visible ethnic differences in United States but people in Turkey cannot be differentiated in terms of color and any physical

appearance. Further, constitutional law in Turkey claims to guarantee rights of all citizens and provide equality for all classes of society. Moreover, social structure in the community encourages integration by disregarding all differences. In conclusion, military duty and tendencies of female may be situational factors affecting student retention. Therefore, improving organizational climate and considering expectations of both females and males are recommended for student retention in Turkey.

Chronosystem was reflected as changes in student attrition rates and student experiences in Turkey. Contextual factors are closely related to this situation. To name a few, unemployment, nature of M.S. and Ph.D. education, and organizational behaviors influenced student retention. According to Stratton, O'Toole, and Wetzel (2007), decrease in the employment opportunities may be resulted in dropouts. Moreover, high student attrition in the first years may be explained with low academic and social integration (Lassibille & Gómez, 2008). On the other hand, admission processes might be reasons for differentiation between Master and Doctoral education in terms of retention. To illustrate, application requirements for M.S. are easier and more flexible than those for Ph.D. in Turkey. By considering these situations, structure of graduate education should be reorganized as well as employment conditions. Moreover, higher education institutions should emphasize orientation more.

The current study has limitations and recommendations. Limitations are related to methodological issues such that the study was formed around theoretical or conceptual discussion. This study cannot be generalized to higher education context or any other context due to lack of empirical and randomly data collection procedure. Therefore, more empirical studies related to student retention were recommended. Further, student retention should be examined from theories of other fields like sociology or political economy. Finally, researcher of the current study recommend policy-makers to implement action plan based on results, implications, and recommendations of academic publications.

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