Master's Thesis

Inconsistency of Academic Major and Post-graduation Employment: The Case of the Kyrgyz Republic

by

TURATBEK KYZY Chynara

51215611

September 2017

Master's Thesis Presented to

Ritsumeikan Asia Pacific University

In Partial Fulfillment of the Requirements for the Degree of

Master of Asia Pacific Studies / International Cooperation Policy

Certification Page

I, Turatbek kyzy Chynara, (Student ID 51215611) hereby declare that the contents of this Master's Thesis are original and true, and have not been submitted at any other university or educational institution for the award of degree or diploma.

All the information derived from other published or unpublished sources has been cited and acknowledged appropriately.

TURATBEK KYZY Chynara

2017/06/15

Table of Content

List of Tables

List of Figures

Acknowledgements

I would like to express my deepest gratitude to my academic supervisors Yamagami Susumu and Kondo Yuichi for encouragement and continuous support throughout these two years. I am endlessly grateful to my parents who always believe in me and support all my endeavors.

My education in Japan would not be possible if it were not for the support of the Ministry of Education, Culture, Sports, Science and Technology of Japan (文部科学省). As the recipient of the MEXT scholarship (国費外国人留学生) I was able to focus on my studies and successfully conduct a research which, as I hope, will contribute to improving the education system in my country in the nearest future.

Summary

This is a summary of the Master's Thesis. Given the skill gap in the labor market, the purpose of the study is to understand how high school leavers in Kyrgyzstan make academic major decisions. The research fills the gap in the published literature on educational research, particularly in secondary-to-tertiary education transition in the Kyrgyz Republic and factors influencing the decision of school leavers for choosing academic major in the university. To the best of the author's knowledge, up to date, there has been only one empirical research studying the factors influencing career choice in Kyrgyzstan conducted by DeYoung (2008), University of Kentucky ("Conceptualizing Paradoxes of Post-Socialist Education in Kyrgyzstan", September 2008). Moreover, there is small research on the major choice in Central Asian education and employment different from the European, British and American systems. As a former USSR member-state that experienced transition from planned to market economy, Kyrgyzstan is still affected by prior education system.

The case chosen for the given research is the Kyrgyz Republic, namely current students and graduates of the universities of Bishkek City. It includes analysis of the secondary data followed by collecting primary data through general questionnaires and analyzing it.

Hypothesis that academic major choice is not coupled with post-graduation employment consistent with major was tested and accepted. Significant influence of parents on academic major choice does not always reflect students' primary choice or labor market demand. Although students want to find jobs after graduation, they do not consider chosen major to be right for future career. Chosen academic majors would not be priority without existing financial support of parents. There is a difference in

students' perception of own awareness about job specification and career opportunities, estimation of whether chosen major is right for career and worth paying for at the time of university enrollment and at the time of graduation.

Introduction

Research Background

Economic growth factors have been widely discussed particularly with the end of the World War II and development of the neoclassical economic theory. According to this theory, economic growth and development can be explained in terms of physical capital, financial capital, technical progress and labor (North, 1990; cited in Shukarov & Marić, 2016). However, since 1980 internally stimulated growth theory developed and started emphasizing more the roles of innovation and most importantly education as crucial elements of strengthening economic development and growth (Greenwald & Stiglitz, 2012; cited in Shukarov & Marić, 2016). As knowledge and technology have always been the central to economic development, only over the last ten years their relative importance has been fully recognized (OECD, 1996). Human capital investment is crucial for economic development. Particularly, education is important in development and dissemination of technology (Barro, 1991; Mankiw, Romer & Weil, 1992). Positive effect of education on human capital was documented in countries like Austria, Guatemala and China (Wang & Mody, 1997; Sakellariou, 2001). Economic growth is related to education in Israel as well as in Korea (Bregman & Marom, 1993; Feenstra et al., 1999). The analysis of economic growth in the USA, as studied by Denison (1962), showed economic growth depended not only on capital and labor, but also on the effective workforce in the number of well-educated workers. Today education is what grows economy (Stevens, 2015) because "advanced knowledge and technologies result from increased education" (Okachi, 1980, p.3). Particularly, higher education is the main driver of development because "tertiary education is positively

associated with economic growth and GDP" (WB, 2012, p.13). None of the developed countries achieved innovations and better income status without investments to higher education. Developing markets require skills that can be best provided by tertiary education institutions (WB, 2012). However, provision of demanded skills can be challenged by so called "disconnects in higher education" (WB, 2012, p.76). Disconnects in higher education are the inability of higher education institutions to fulfill their functions in providing employability skills and research. The disconnect between higher education and employers creates a skills gap (WB, 2012). Developing and maintaining skills' demand and supply in labor market is crucial (Katz and Autor, 1999). Because if a skilled labor demand rises higher than corresponding supply, it will result in unevenly increased wages. "If relative wages are rigid, then the relative employment rates of the less-skilled will fall and aggregate unemployment rate will likely rise…The increase in such a gap is a generalized phenomenon across industrialized countries rather than the specific experience of some countries" (Manacorda & Manning, 2007, pp. 635-636). The primary reason of skills gap is academic majors students choose at the time of university enrollment, which significantly shapes labor market. According to the data on academic major choices of students in low and middle-income countries of the Asia Pacific region, there is uneven distribution of students across disciplines. For example, in such countries as Indonesia, Laos and Cambodia, about 50 to 70 percent of university students choose Humanities related academic majors like Social Sciences, Business, Law and others. On the contrary, in high-income countries of the region such as Japan, Korea and Singapore, there is a more even distribution of students across academic majors. Such majors as Engineering and Manufacturing are as demanded as Social Sciences, Business, and Law while neither of them account for more than 40 percent of university students (WB, 2012, pp.69-70).

Examples of the OECD countries, similarly with high-income countries of the East Asia, show balance in academic majors. Thus in United States and United Kingdom, most students major in Social Science, Business and law (29%). Second popular academic majors in Britain are Humanities, Language and Arts (17%), while in the USA second popular majors are Science, Math and Computing (15%). Germany has the highest share of students (28%) choosing Engineering, Manufacturing and Construction academic majors, followed by Social Science, Business and Law (23%) (Graves & Kuehn, 2015). "This lack of diversification has implications for the responsiveness of their education system to new labor market demands. Low enrollment in science, technology, engineering, and math (STEM) fields is already a serious constraint…" for economic development of a country (WB, 2012, p.69). Besides, academic major is important at the individual level. Generally students transit to the post-secondary education level in the hope of future success in the labor market; while an important indicator of the success would be "ability to utilize the investment in schooling in future employment" (Robst, 2007, p.397). Finding a job that fits one's major is important because it is linked to increased career potential (Arcidiacono, 2004). Students graduating with majors in Social Sciences and Liberal Arts have higher prevalence of mismatch with actual work because "they provide more general skills than occupation specific skills" (Robst, 2007, p.402).

Kyrgyzstan is facing challenges in academic major shares, which is similar to low income countries of East Asia where more students prefer humanities related majors, whereas technical majors in decline (WB, 2012). The paradoxes of major choice can be better understood in the retrospective of the transition from the Soviet to market economy.

Understanding the importance of the education system, which is the newly independent government of the Kyrgyz Republic had to adjust to new political and

economic realities since the dissolution of USSR in 1991. The time when the economies of the European and Central Asian countries moved from planned to market-based economies coincided with a significant shift to a global knowledge economy (Sondergaard, Murthi, Abu-Ghaida, Bodewig & Rutkowski, 2012). Despite economic stagnation due to the loss of economic ties, central planning and financial support coming from Moscow, loss of the vast USSR market and other negatives consequences; education suddenly had to adjust to new demands of market economy and new labor market without administrative control (Anderson & Heyneman, 2005). One of the first steps was that the government educational policy provided wide access to higher education. It became a part of the new strategy on establishing democratic government and opening to a market economy (DeYoung, 2008). As the result, Kyrgyzstan faced a boom in tertiary education. Before 1990, there were just a "handful of higher education institutions in the country, and they enrolled fewer than one in ten graduates" (DeYoung, 2011, p.6) i.e. 9 public universities in the country enrolling nearly 11,000 students; since 1991 the growth rate of universities in the Kyrgyz Republic was more than 600% (currently there are 56 universities). Currently they enroll 51.1% of the age cohort that is more than 230 thousand students (Ministry of Education, 2016).

Increased higher education enrollments are internationally regarded to skills acquisition for developing economy and more complex labor division which is necessary for economic growth. Particularly narrow technological and industrial jobs are usually associated with the increase of higher education demand in many Western countries. During Soviet period factors forming motives of students on career choice can be explained in terms of higher wages, prestige of the work, and general welfare provided to technical professions which helped develop and sustain high achievements in science.

With the expansion of engineering and polytechnics fields, more opportunities like property, laboratory equipment, and salaries were offered. On the other hand, Party involvement can be detected; because sciences were out of the political involvement, whereas social science and humanities were in lower demand due to tight control (Heyneman, 1998).

However, in the current Kyrgyzstani case, technological and industrial majors are in decline (DeYoung, 2008). unemployment of 20% since 1994, high inflations and a half of the population living below the poverty line is what contradicts generally accepted background for higher education growth. In this regard, it is important to understand how students make career decisions, particularly how they make an academic major choice while applying to university because it directly affects students, communities and the country in whole. It is important to make a retrospective analysis considering the Soviet legacy of the education system and see the similarities and differences of major choices. As the education system of the USSR state-members was guided from Moscow, education system in Kyrgyz SSR served ideological and most importantly economic role in supplying the skill needs of the centrally planned economy (Mertaugh, 2004). Academic major choice was influenced by involvement or non-involvement of the Party which placed reference on engineering, mathematics, solid state physics and other science related subjects (Heyneman, 1998; DeYoung, 2011). On the other side social science and humanities were in lower demand due to tight control (Heyneman, 1998).

Statement of Problem

Almost 50% of young people in Kyrgyzstan major in humanities majors including

law, economics, management, etc. (NSC, UNICEF, 2014). “Local economy cannot absorb” (p.8) graduates of these majors; while small-scale agriculture and services are more required than specialists with 5-year university diplomas (DeYoung, 2010). There is preference among the students to pursue higher education as “voting with their feet, students left the vocational schools” (Sondergaard et al., 2012, p.6). However, “the need for blue collar professions is two to three times greater than the need for office workers and managers. The result is that young people who prefer to get university degrees instead of entering blue collar professions end up filling the country’s low-paid jobs” (UNDP, 2010, p. 29). As the result of oversupply, certain jobs will turn out to be in informal economy (GIZ, 2013).

According to ADB (2015), a significant number of students these days prefer these majors because they are more suited for government positions. Only 1% chooses agriculture related studies and 0,2% prefers the services sector. The proportion of students enrolled in technical sciences like engineering accounts for about 23% of total enrollments, compared with 9% in education. By the DeYoung’s (2008) observation, university graduates of natural and applied sciences majors made only about 5 - 7% over the past decade. University enrollment increase in Kyrgyzstan was mainly in professional spheres like law, economics or management; and humanities sectors, while other types of postsecondary opportunities have languished.

As the result of uneven distribution of majors, most of 33,000 students graduating from the higher education institutions every year (Ministry of Education, NSC & UNICEF, 2014) find it difficult to find a job as “there are too many graduates in the same specialties of lawyers, economists and linguists” (speech of Omurkulov Isa, Chairman of the Parliamentary Committee for Education, Science and Culture and

Information policy, 2008; cited in DeYoung, 2011, p.12). At least 12% of all officially unemployed people are those with higher education (NSC, 2015), while according to unofficial data, "70% of university graduates in Kyrgyzstan cannot find a job" (speech of the Vice-prime Minister Mrs. Ibraimova at the I National Youth Conference in November 2008, News portal For.kg, 2008). According to the Baltic Surveys/The Gallup Organization's findings, unemployment is the top issue that Kyrgyzstan is facing according to 55% of respondents (IRI, 2014). Out of 5,000 students receiving government scholarships for higher education, only 30% manage to get an employment while the overwhelming majority of those students fail to acquire a job in their fields of studies. Henceforth, by rough estimations, government loses about 25 million KGS[1] spent from state budget (Abdullaeva, 2008; UNDP, 2010). "The gap between demand in the labor market and the structure of programs of higher education generates an excess of graduates or specialists in one area and shortage in the others" (Education development strategy of the KR, 2012-2020). Failing to find employment, graduates face major and work mismatch challenge. The research showed that "workers who are mismatched earn less than adequately matched workers with the same amount of schooling" (Robst, 2007, p.406). It is important for students to know whether they want to continue career in the chosen major because "the cost to changing careers after getting the degree can be high" (Robst, 2007, p.407). As university's "economic utility seems to have greatly declined" (DeYoung, 2001, p.39), whereas a university diploma is a "highly sought after piece of paper" (DeYoung, 2001, p.39), it is important to understand students' motives of tertiary education enrollment and major choice.

In order to understand the nature of skills mismatch in Kyrgyzstan, it is important

[1] Approximately 370 thousand USD

to identify how students choose academic majors. Based on the findings of the previous empirical study by DeYoung (2011), Kyrgyzstani students never mentioned skills and knowledge as a primary reason for university enrollment. 166 students marked receiving good knowledge as the primary reason of going to university, because, according to the respondents, university is the place where knowledge is given to students. 118 students ranked that getting a good job as the second primary reason of attaining the higher education. The third most popular answer that students wanted to make parents proud was important for 95 students. The second related question was "What do you need higher education for?" Rhetorical answers like "good knowledge equals good life" (p.22) were quite common. Obtaining a good job was the reason for 120 students who also linked it to obtaining higher status and professional career. While for others obtaining a higher education is a way to escape unemployment unlike parents. However, no student mentioned skills that they would like to learn about and obtain. As the DeYoung summarizes, "beyond choosing a field of study, most students had little understanding about what the components of their studies were, what particular skills they should seek to acquire…That a higher education was a more of a commodity and not a set of skills to be learned…" (DeYoung, 2011, p.23). Based on this, research aims to test the following hypothesis:

Academic major choice is not coupled with post-graduation employment consistent with chosen major.

1.1.Parents significantly influence academic major choice of the students

How strong is the role of significant others on the students' decision making? (parents)

1.2.Location of the residence influences and limits the academic major choice

Are there any limitations for students coming from regional schools compared to capital

schools (background)?

Do they make informed decisions?

1.3.Major choice is not meant for employment

Is academic major choice related to future employment?

Is demand important for academic major choice?

Would academic major be chosen if there was no financial support?

As many educators are unclear about the process by which students make their initial choices of majors (Bertram, 1996; Hu, 1996; cited in Peterson, 2006), there is no research on how students make major choice decision given the absence of career counselling in the Kyrgyz Republic. The only empirical research conducted in the modern post-Soviet Kyrgyzstan is the one by DeYoung, who conducted a survey among 204 students from five universities in Bishkek city in 2008. According to his findings, for most of the students in the survey, the reason of entering the university was the trinity of the most popular answers including receiving good knowledge, helping to find a good job later and making parents proud. However, no students mentioned skills they would like to learn and obtain. As he summarizes, "beyond choosing a field of study, most students had little understanding about what the components of their studies were, what particular skills they would seek to acquire". Higher education is more a "commodity and not a set of skills to be learned" (DeYoung, 2011, p.23). Given that career choice is one of the most important steps in further career development (Betz, 1992), the purpose of the given research is to test the hypothesis and understand how students have made academic major choice.

Theoretical framework

Theories of university enrollments fall under three main categories such as econometric, sociological and combined theories. According to econometric category of career choice, factors are explained through the prism of benefits including but not limited to financial. The investment approach to higher education argues that students "invest" into higher education given that future benefits as lifetime earnings and social-intellectual amenities resulting from the education would exceed present costs associated with education (Campbell & Siegel, 1967). Along with it, the other source of student motivation is based on obtaining higher education as a consumption decision. The consumption decision perspective says that, besides expected benefits in future, enrollment brings current benefits like social and intellectual activities (Campbell & Siegel, 1967). In this theory, higher education is a consumer good while students as economic consumers who weigh all the costs and utilities associated with higher education against other opportunities. The second group of theories of student motivation sees the decision to enroll in the higher education as a sociological one. Here students are viewed as being "subject to institutional and individual expectations and pressures to enroll or not enroll in higher education" (Cooper, 1993, p. 4). The third theory represents a combination of both economic and non-economic incentives behind university enrollment. The given paper will test and seek to explain the Kyrgyz Republic's case based on existing theories.

Expected outcomes/Significance of the research

This research is based on the premise that there is a need to better understand the

subjectivities, beliefs and values of Kyrgyz senior high school students on the topic of academic major and career decision-making. This study extends the currently limited research base on the process by which students make and confirm their decisions about a major in their baccalaureate program in the Kyrgyz Republic.

1. It is assumed that the findings will contribute to supporting pre-university level students in making informed and conscious decision about their future career. This in turn will influence overall performance of entry-level graduates and help them in finding employment and implementing their knowledge and skills.
2. The study is to fill the gap in the published literature on Kyrgyzstani educational research, particularly in secondary school-to-university transition and motives behind the career choice. To the best of authors' knowledge, there has been only one empirical research concerning the factors influencing career planning in Kyrgyzstan conducted by DeYoung (2011), the University of Kentucky.
3. The study will lay a foundation for further exploration that will contribute to the process of educational policy development for high school and university level students and to help address one of the issues that surrounds effective schooling and workforce development.

Literature review

The university enrollment is a mutual process involving different stakeholders. On one side, there are government policies and secondary school systems that are in charge of providing guidance on vocational and major choice. On the other side, there are students making the choice (Kohn, Manski & Mundel, 1976). The student motivation for enrollment and particular major choice is the focus of the given research work. Since 1970s there has been an interest in how students select their majors when going to university. Existing studies emphasized a variety of factors influencing student choice in different ways. They vary from the job market for college graduates, career aspirations, gender, race, socioeconomic background to individual student characteristics like personality and interests of a student. However, "none of these factors is a good predictor, much less a sufficient explanation, of the choices students make" (Peterson, 2006, p.2). In this chapter theoretical framework and existing academic literature on university enrollment and academic major choice will be reviewed. Finally, a theoretical framework on the academic major choice will be provided. Theories of student motivation for a career choice mainly fall under three categories: i) econometric, ii) sociological and iii) combination of these two.

i. Economic theories of university enrollment and major choice

Education has not been studied from economic perspective till 20th century as its purpose was basically cultural. Only since 1950s education started being considered for creating capital (Schultz, 1959). Economic theories of university enrollment assume that the human capital theory (Becker, 1962) is a foundation for a college/university

enrollment decision; while higher education acquirement is associated with future earnings as the result of employment (Sweetland, 1996). According to Becker (1962), education is an investment in human capital and is understood to be an item "with large gains to be waived" (1997, p. 119). The reason is that gaining education is time-consuming due to certain time allocation set by educational institutes (Voiculescu, 2009). Representatives of economic theories of university enrollment explain the university choice process as a decision where both monetary and non-monetary benefits outweigh the associated costs (Schultz, 1961; Hossler, Braxton & Coopersmith, 1989; Becker, 1993; Hossler & McDonough, 1997). Students "invest" into higher education given that future benefits as lifetime earnings and social-intellectual amenities resulting from the education would exceed present costs associated with education (Campbell & Siegel, 1967; Voiculescu, 2009). As these investments come to be high and not always available to all students, some research emphasized the role of the government in arranging financial support to students (Manski & Wise, 1983). As the result of the Government support in America in the form of the Basic Educational Opportunity Grant program providing subsidized loans and employment opportunities, the enrollment rates during 1920s – 1930s increased (Seftor & Turner, 2002).

Human Capital Theory assumes that economic benefits in terms of expected returns motivate students' decision to pursue higher education. Individuals will choose to make an investment into higher education, if the final result in terms of academic degree, future employment and wage maximize associated expenditures (Paulsen & Smart, 2001). All investments made by students are expected to be returned in future as higher education provides additional income paid by employers for every additional year of training (Becker, 1964). In addition, "education brings a permanent increase

certainty on a "better" situation and increases the hope of evolution and of social development" (Voiculescu, 2009, p.753). Investment entails both direct costs such as tuition fee, different administrative taxes, and expenditures for education materials, supplies, equipment for education; and indirect costs such as accommodation, transport and food (Voiculescu, 2009). Minimum investments with high returns raise the likelihood of a student to make enrollment decision (Billiot, Glandon & McFerrin, 2004). Following the approach, there might be enrollment variations depending on factors influencing rate of return. Thus, the rise of expected money income and the decrease of uncertainty of acquiring income will raise enrollment rates. While on the other hand, the rise of education costs might lead to lower enrollment rates (Campbell & Siegel, 1967).

With the main purpose of education for future employment, factors influencing decision making are based on the assumption that, at the pre-university level, schoolchildren make their future career decisions based on rationality. Students make an emphasis on rational choice about further career growth and consider an assessment of the relative costs and benefits of different options (Erikson & Jonnson, 1996). Individuals make occupational and major choice that offers the greatest total expected utility (Freeman, 1971; cited in Montmarquette, Cannings & Mahseredjian, 2002). While university is considered important on the way to gaining money, status or success (Côté & Levine, 1997) there are different approaches in estimating future earnings while making an early career decision and entering post-secondary education institute. Evaluations show that such factors as a large wage at the beginning of career, additional income sources and better job perspectives in future are appealing to all students in accordance with previous studies from different countries (Tan & Laswad, 2009). With

the slight differences in gender and race, the robust results of the research based on the National Longitudinal Survey of Youth data also support the idea of students decisively choosing academic major based on expected earnings in that major (Montmarquette, Cannings, & Mahseredjian, 2002). Economic benefits of higher education dominate students' decision making process in the light of market forces that affect students' job selection (Bai, 1998). Besides financial security, expected rewards as the result of proper major selection and further career development significantly influence the overall satisfaction level of employees in future (Kim & Cha, 2000).

Unlike predictions based on beginning and average earnings that motivate students to make a corresponding enrollment choice (Hoffman & Low, 1983; Siow, 1984; Zarkin, 1985), Berger (1988) shows that some student can prefer one major over others based on the increase of the "predicted future earnings stream of that major" (p.427). These students are generally "not deterred by the heavy workload, as the higher workload would perhaps be compensated" (Tan & Laswad, 2009, p.250). Based on the empirical research conducted by Beal and Crockett (2010), so called "future-oriented cognitions" (p. 264) are very important for adolescents' behaviors and ultimately realization of desired outcome, i.e. their career choices. Having a clear career goal helps make a rational decision when it comes to career planning through university and major choice.

In addition to investment theory, student motivation to obtain higher education can be viewed as a consumption decision. The consumption decision perspective says that, besides expected benefits in future, enrollment brings current benefits like social and intellectual activities. Although it is difficult to properly measure these benefits' value, it is "measured by the outlays an individual would have to make to buy a substitute bundle of goods and activities" (Campbell & Siegel, 1967, p.484). "The

student will enroll in college if the utility per dollar gained from higher education is greater than the utility per dollar the student could gain if his or her money were spent instead on food, transportation, or any of the other consumer goods available in the free market" (Cooper, 1993, p.4). In this theory, higher education is consumer goods while students as economic consumers weigh all the costs and utilities associated with higher education against other opportunities. Investment theory is significantly supplemented by the consumption theory. Some part of current costs associated with higher education enrollment is an offset with current benefits obtained by students. So the enrollment demand varies positively with expected money and income from education (Campbell & Siegel, 1967).

On the other hand, these views have been criticized over time. The study showed that graduates' earnings are inversely related to the job-to-major relevance, which can later be improved after the probation period. The economic value of education can be explained by a combination of human capital theory and screening theories. In other words, higher education is believed to improve productive capacity of employees based on good knowledge and skills they obtained. On the other side, higher education credentials are seen as a signal for potential employers to select more skilled workers (Van der Merwe, 2010). Paulsen and Smart (2001) argued that in spite of human capital theory, which seeks to explain major choice by its association with expected income, the decision may differ from student to student based on different factors not related to monetary revenue such as SES (socioeconomic status) and general background or student's academic interests. Moreover, the facts of continuous enrollment increasing despite unemployment, rising underemployment among graduates and stagnated average incomes, show that decision of higher education enrollment and major choice

are not based on economic reasons only, but are rather influenced by other social and historical factors (Livingstone, 2004).

ii. Sociological theories of university enrollment and major choice

The second group of theories of student motivation considers the decision to enroll in a higher education institution to be influenced by social factors. They can vary from socioeconomic status, race and gender to personal preferences or others (Jackson, 1982; Litten, 1982; Cooper, 1993). They also focus on the influence of schools, parents, peers and teachers (McDonough, 1997). In sociological theories, students are viewed as being "subject to institutional and individual expectations and pressures to enroll or not enroll in higher education" (Cooper, 1993, p. 4). Manuel and Hughes (2006) substantiated findings of some previous researches. Namely, the pursuit of personal fulfillment, particular lifestyle, working opportunities and professional status are factors motivating for particular career choice.

One of the functions of the education is that it is used to lead students to "social reproduction and social stratification in a way that benefits the elite classes" (Alexander & Eckland, 1975; Hearn, 1991; Bourdieu, 1977). According to the findings, all else being equal, students coming from low SES were likely to attend lower selectivity universities unlike students coming from higher income families enrolling in more selective institutions. When compared to the effects of racial and ethnic belonging and gender differences, the effects of social class stand out as both stronger and more consistent (Alexander & Eckland, 1975; Hearn, 1991). Moreover, educational expectations "seem to be shaped in significant ways by social origins, by way of

socialization, tracking, teachers' attitudes…"(Hearn, 1991, p.168). Chauhan (1996) found out that socioeconomic inheritance transmitted from parents to youth directly affects vocational opportunities. As the young people go after parents in many ways, they do so in vocational aspirations as well. In short, parents' occupation affects their children's occupational aspirations. In the case of low income families, young people, whose parents lack higher education oriented attitude, are less likely to continue education at the higher level (Gibbons & Vignoles, 2009). The research in India supports the previous findings and demonstrates that not only vocational opportunities, but also career belief patterns are different between lower and higher SES groups (Arulmani, Van Laar, Easton, 2003). The finding of Osa-Edoh and Alutu (2011) concludes that SES exerts significant influence on students' educational and vocational aspirations in a way that students coming from higher SES background tend to aspire to higher education and well-paid jobs unlike those coming from lower SES.

Sociological theorists assume that higher education enrollment choice is significantly influenced by different actors and by relations between them (Stanton-Salazar, 1997; Esters & Bowen, 2005; Tan & Laswad, 2009). Many researchers confirm the influence of significant others on career and major choice (Dick & Rallis, 1991; Fisher & Griggs, 1995; Lent & Brown, 1996; Fouad et al., 2008; Mutekwe et al., 2011). "It is clear that subjective norms can influence a student's decision to perform college-related behaviors" (Pitre, Johnson & Pitre, 2006, p.38). As Côté and Levine (1997) argue, students do not enter universities as "tabulae rasae", but rather strong effect was exerted by previous experiences as families, previous educational institution, workplace and others. Generally, parents' involvement in 10th and 12th grade students' decision making processes can be supportive as it raises probability of college

enrollment (Ra, 2011). This finding supports the research of Perna and Titus (2005), arguing that parents' involvement into the decision making is positively associated with children's enrollment decision. However, effect of parents' involvement can vary and turn into strong influence mechanism by means of social expectations.

Significant others' (e.g., parents, teachers, peers) social expectations are built into "subjective norms" perceived by an individual when making a decision on university enrollment and major choice (Pitre, Johnson & Pitre, 2006, p.38). Fouad et al. (2008) found that if there are "parental expectations that a participant chooses a particular career, attains advanced education, or achieves prestige and status", they significantly influence academic major choices of students (p.54). As subjective norms are an individual's perception on what significant others prescribe him or her to do, the higher the expectations are, and the higher the chance is that an individual follows this expectation. Students entering universities and choosing majors are responding to the expectation put by families and friends on acquiring a major, receiving a degree and diploma. Expectations' influence on career choice was widely addressed in academic literature. Parents, school teachers and peers are believed to be the significant others who do affect education motivation and its outcomes (Côté and Levine, 1997). Mutekwe et al. (2011) aslo added the findings that vocational choices are under strong influence of parents' expectations. A study by Nwachukwu (2003; cited in Osa-Edoh & Alutu, 2011) also supports these findings of the family influence on choice of a career. Almost half of the students surveyed explicitly mentioned that their parents' had certain opinion about preferred occupational choice for children.

Osa-Edoh and Alutu (2011) describe different types of parental expectations. For example, some families' traditions make it important to have every child study law as a

career despite child's individual preferences, while other family traditions assume having representatives of important jobs like lawyer or doctor in the family. Depending on socioeconomic background, parents with better occupation will likely influence and motivate children to aim for a prestigious career of an engineer, lawyer, architect or pharmacist. These parents do not allow their children to choose jobs lower than parents' expectations (Zafar, 2012). Moreover, Fouad et al. (2008) substantiated these findings, proving that the parents surveyed not only influenced the decision making, but were role models for the children. Particularly, Agarwala (2008) observed father to be the most significant other.

Stronger form of parental expectations turns out to be official approval. Students having double majors tend to choose both majors taking into consideration parents' approval (Zafar, 2012). Given the mentality, Asian students attach great importance to parents' approval and agreement when it comes to major choice and future career (Kim & Gasman 2011; Kusumawati, 2013). In Asian countries that are generally collectivist countries, family value and its influence are strong. Particularly parents commanding respect influence their children's perception of self-efficacy and their decision making process (Oettingen & Zosuls, 2006). This is why expectation of parents and significant others is taken into consideration when studying cases in Asian countries. Students whose parents put certain expectations on them to enroll into a particular university were 22 times more likely to follow parents' expectations than students without (Wu & Bai, 2014). However, the result of the motivation of fulfilling someone's expectations usually brings disappointments and lost years because "too many of us have been taught to suppress what we want and instead concentrate on meeting other people's expectations…In doing this we end up spending most of our time marching to other

people's drums" (Weiler, 1977, p. 57).

University enrollment and major choice can also be the reasons of inability to make a decision and be done by default motivation (Côté & Levine, 1997). The default motivation makes students attend universities and choose specific majors because it is better than alternative options available. The default motivation was also reflected in Erik Erikson's (1968) conception of institutionalized moratorium operationalized by Côté and Levine (1997). University enrollment can be a "structured delay of adult responsibilities" (p.233), in which case higher education serves as a buffer or a delay that allows students explore values and different roles before entering adult world of work. The finding of the qualitative research by Kim and Gasman (2011) shows that students surveyed had no interest in particular academic majors. The assumption is that entering post-secondary education level is a natural next step both for students and their parents.

"Appropriate gender roles" social conception is still maintained in the societies by existing stereotypes (Gil-Flores, Padilla-Carmona & Suarez-Ortega, 2011, p.346). As a result, concepts about the difference in gender roles affect the major choices of many girls and boys. As technical and scientific innovation continues to drive the global economy, promotion of students' interest and achievement in the STEM fields is necessary to develop the nation's competitive position. Since 1990s the wider attention was given to the lack of women in the fields of science and engineering (EU, 2004; NSB, 2006). Generally, in some countries men are slightly more inclined to consider science related career (OECD, 2009) while women are less prone to choosing STEM related or other gender-segmented majors (Kim 2006, 2012). This as a result puts women in a more difficult place in a labor market. There are cases, when gender can be

a determining factor of a career choice because female students might have limited information about academic majors unlike male students (Han et al., 2002). In a statement on the 13th anniversary of the Title IX barring of the sex discrimination, Greenberger (2002) of the National Women's Law Center stated that male students are being steered to traditionally "male" jobs; while girls are expected to choose more female-like fields as childcare and cosmetology that are mainly performed by women. In the State of Florida, USA, for example, "99% of the students in cosmetology are female, while 100% of the students taking plumbing are male" (Greenberger, 2002, p. 2). Unlike race and ethnic variations, gender is important when it comes to major choice as it was shown in the research by Dickson (2010). The findings show that, female students with the same SAT score with male students choosing engineering majors have lower probability. Moreover, those who initially chose this major are likely to switch major (Dickson, 2010).

Gender is one of the factors to be considered when analyzing major choices of students. However, it is not the gender itself, but more fundamental reasons were studied in order to explain this phenomenon. Blakemore and Low (1984) applied a human capital theory of academic major choice. Findings show that "young female students with higher expected fertility tend to choose majors that are less subject to atrophy and obsolescence" (p.162). The decisive factor of the gender difference is the childrearing responsibility and its influence on occupational pattern (Blakemore & Low, 1984). The traditional roles of a wife and a mother also appeared to be important for female students' major choice. They tend to put less emphasis on future earnings when choosing a major due to personal life changes after graduation. Male students, on contrary, prioritize future earnings and put less emphasis on personal interests

(Montgomery, 2004; cited in Tan & Laswad, 2009). According to Correll (2001) culturally framed gender beliefs are also important to be considered for investigating major choice differences among men and women. He showed a "mechanism by which cultural beliefs about gender" (p.1724), bias, individual perceptions of self-competence affects career related decisions of men and women.

Interests in particular school subjects and good skills can also be the primary reason for students choosing one major over others (Kim et al., 2002; Strasser, Ozgur & Schroeder, 2002; Malgwi, Howe & Burnaby, 2005; Shim & Paik, 2014). Match with interests based on prior knowledge of job specifications and psychological and social benefits, is important for students in choosing a major (Beggs, Bantham & Taylor, 2008). College students tend to choose particular majors that they think are compatible with their style (Gul, 1986; Wolk & Cates, 1994) or aptitude (Gul et al., 1989; AuYeung & Sands, 1997). For example, skills and good background in a particular class, like mathematics and accounting courses, came to be decisive in choosing a major in accounting (Cohen & Hanno, 1993; Tan & Laswad, 2009). Mauldin, Crain and Mounce (2000) argue that real interest in a particular academic field or subject plays role in the decision process. Students' high school experiences can be important in academic major decision, particularly in the case of high school track choices (Han et al., 2002; Hong et al., 2006; Kim, 2006). For example, the research of the South Korean case shows that the students who had particular interest and self-efficacy in such subjects as Korean, English and other social studies were more inclined to choose social studies majors; while students who displayed keen interest and good performance in science and mathematics were more inclined to select math and science majors (Kim, 2006; Hong et al., 2006). Preference of certain academic subjects, like mathematics and related courses,

helped students choose academic majors well which resulted in good academic performance and high incomes (Rose & Betts 2004; Long et al. 2009).

iii. Combined approach to university enrollment

Based on previous research where the college choice models were considered as a continuous process (Chapman, 1981, Litten, 1982; Jackson, 1982), Hossler and Gallagher (1987) presented a three-stage model of post-secondary education institution selection consisting of three interrelated steps such as predisposition, search and choice. At the predisposition stage which is developed mainly in high school, important roles are played by SES of a student as "high SES students are four times more likely" (p.210) to go to college than those with low SES; and academic ability as well as parents and peers. Organizational impact of extracurricular activities as debating clubs, drama and other activities encourage students to go for post-secondary education as well as geographical proximity of campus does. During the next search stage, potential matriculants start gathering information on post-secondary institutions, and based on academic ability, financial opportunities and proximity, a choice set is developed. This stage is very important as many students might needlessly limit their target institutions and mistakenly eliminate a potentially good choice. The third stage is a choice stage where a choice set is evaluated and narrowed to specific institutions to enter. A decisive factor here would be impression of quality which determines the actual enrollment decision. Besides including a number of factors that influence the decision making process, this approach considers college/university choice as a longstanding process. More recently, Perna (2006) identified several factors considered to be important when

a matriculant is making a college choice, which integrates economic and sociological approaches. First factor includes individual context such as demographic characteristics, cultural and social capital. The second one includes students' school and community background on one hand, and a context of resource availability, resources types, and structural constraints and supports on the other hand. The third factor is a higher education context, namely, university marketing and recruiting practices, campus location and its general institutional characteristics. The last factor includes social, economic and political context. However, Perna (2006) did not show how exactly these factors affect students' decision making.

Methodology

The purpose of the given research is to identify the relationship of Kyrgyzstani humanities major students' chosen academic majors with their post-graduation employment. In order to meet the objective of the study and to either accept or reject the hypothesis by answering the research questions a survey was conducted.

Research design

This study utilized questionnaire-based survey to examine motivating factors for students choosing undergraduate humanities majors in the universities of Bishkek city. The list of attributes was developed through an extensive literature review. Based on the factors of freshmen students choosing humanities majors in the universities and relation of their major choice to expected employment, questionnaires were developed. The draft questionnaire with mostly open ended questions was used for the pilot version. Based on the answers, questions were revised and a final questionnaire consisting of 20 closed ended and 2 open ended questions was developed with both forced and multiple choice questions to identify career aspirations, academic major choice and anticipated employment. This questionnaire was distributed to the respondents that are currently enrolled in the universities located in Bishkek city. The second questionnaire including 24 closed ended and 3 open ended questions concerning career aspirations, academic major choice and actual employment was developed and distributed to those who already graduated universities in the Bishkek city and obtained post-graduation employment with additional questions. University graduates were asked to estimate academic major choice and its relevance to post-graduation employment.

Samples

This research included two different sample groups: Sample Group 1 included currently enrolled, mostly freshmen students, while Sample Group 2 included respondents who already graduated universities in the Bishkek city and had post-graduation employment. The information for the Sample Group 1 was gathered in a stratified two-stage design: in the first stage, a sample of universities was selected. Specifically, the sample was limited to the public universities, located in the Bishkek city, offering a wide range of academic majors; out of 19 eligible public universities 4 participated in the study (44 percent participation rate). Based on the list of universities provided on the web site of the Ministry of Education and Science of the Kyrgyz Republic[2], numbers of attributed universities were selected randomly. As the sample size was 100 people, at the second stage, equal numbers of freshmen students were selected within each university. From every chosen university 25 students belonging to humanities majors were randomly selected and asked to participate in the survey and fill out paper sheet questionnaire. In order to ensure randomization, students were asked to fill them both during break time and class hours. Universities were visited three times a day: morning, afternoon and evening in order to raise chances of everyone to participate in the survey. Later random classrooms with freshmen students' classes were selected based on the class schedules and visited. Upon receiving permission of the professors, those students who are voluntarily willing to participate in the survey were given the questionnaire sheets.

The questionnaire for the Sample Group 2 was developed on the Google Forms platform because, compared to freshmen students, it is difficult to gain information

[2]Retrieved December 1, 2016 from http://edu.gov.kg/ru/high-education/unis-system/spisok-gosudarstvennyh-i-chastnyh-vuzov/

about their physical location; whereas most of the young people have online accounts in social media services. In order to ensure that the bias is not there, an option of data entry once per every IP address was included. In order to ensure randomization, an exponential non-discriminative snowball sampling was utilized (Research Methodology, 2016). The first two subjects recruited were the researcher's acquaintances who graduated from their universities 5 years ago and are currently employed. Further, these two subjects were asked to send the link to the questionnaire through social media or e-mails to other two people whom the researcher does not know. Following the chain, other two subjects would be invited to fill out the questionnaire until primary data from sufficient amount of samples which equaled to 30 was collected. Eligibility of participants was limited to university graduates and currently employed. As respondents may be hesitant to provide names of peers and colleagues and, in order to secure their anonymity, no identification information was required. Resending the link to the online questionnaire either through e-mail or social media services made it free from any personification and identification.

Ethics

Following the Ethics Recommendations of Research by APU, only students who are willing to participate in the survey did so. No power harassment was used due to absence of any ties with neither management of the universities nor professors. In order to protect privacy of the respondents no personal questions like names, birth dates, family income, school and university names were asked in the survey. Every survey blank had a short description of the purpose of the survey. Should any participant be

willing to learn about the results of the survey, the contact data of the researcher was provided at the end of the questionnaire. The informed consent was obtained in an oral form, as asking participants to put their signatures on the consent paper made them reluctant to participate in the survey. In this regard oral consent was obtained both from professors and students (Ritsumeikan Asia Pacific University Research Ethics Guidelines, 2017). For the convenience of the respondents, the questionnaires were translated into the Russian language that is the official language of the Kyrgyz Republic and the official language of instruction in the given universities. Proper translation works were done by the researcher.

Data analysis

All of the information collected from 130 questionnaires was analyzed with IBM-SPSS software (version 18). Cross tabulations, Chi-square independence test and Fisher's exact test were utilized to see if the relationships among variables were statistically significant. A significance level of 0.05 was used. The data were also summarized in charts graphs for visualization.

Missing data is an often challenge in empirical research. This is, because in almost every statistical method, every case is assumed to have information on all variables to be included in the analysis (Allison, 2001). Given the nominal nature of data, imputation method was utilized. For the analysis purpose, some of the variables were regrouped, using a substantive approach to make it more relevant to the research problems. Cross tabulations are primarily used to determine whether variables need to be recoded or grouped into bigger variables, given relatively small sample size. As the

primary step in data analysis, descriptive statistics of the sample were calculated and presented. Cross tabulations were used in order to identify patterns among different variables, whereas Chi-square independence test was used to find whether the relation was statistically significant later.

Results

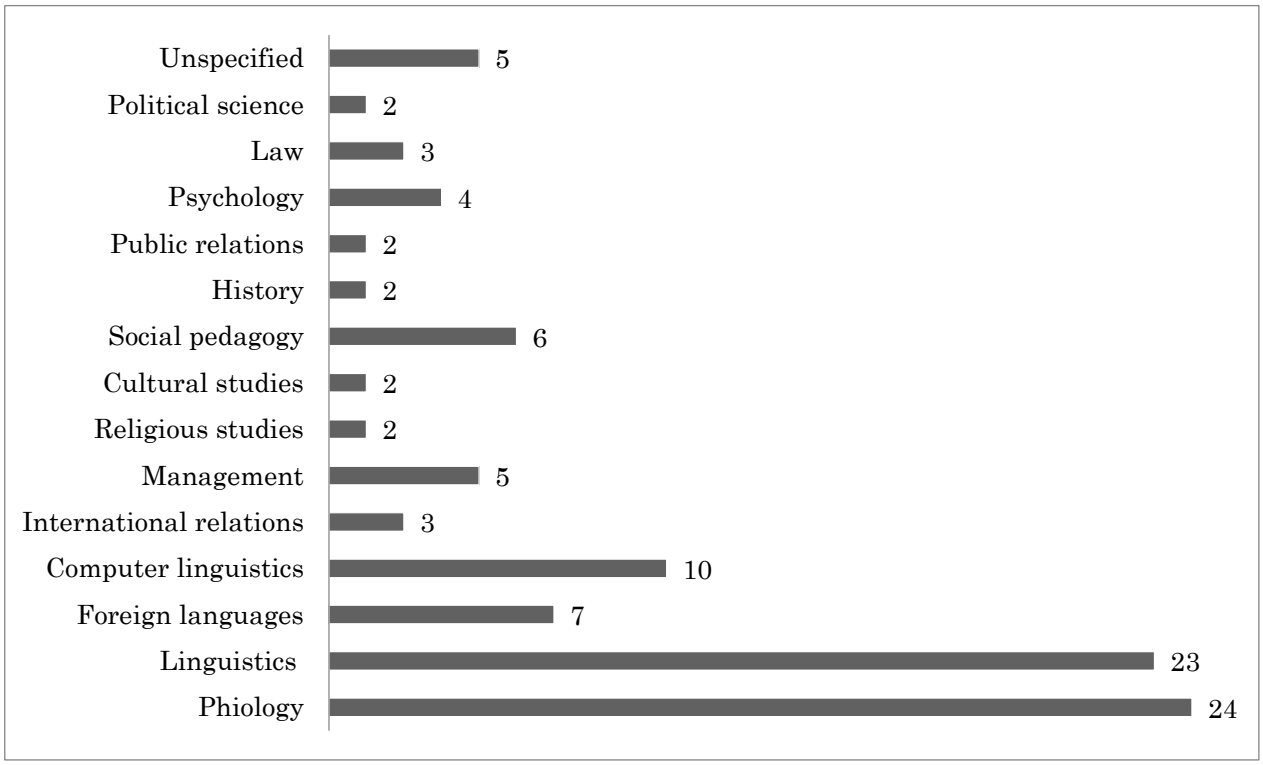
This chapter presents results utilizing the methods described in the methodology chapter. Descriptive statistics are presented to help contextualize the study followed by the results from the cross tabulations and chi-square independence tests, which are presented to identify relationship between variables. The similar analysis procedures is conducted for the first sample of 100 freshmen students currently enrolled in the universities of Bishkek city and the second sample of 30 people who already graduated and have experience of post-graduation employment. Afterwards, the descriptive statistics are presented for assessing the academic major choice outcome and post-graduation employment of the respondents of the second sample. Finally, the analysis of a general sample of 130 students is presented.

a. Freshman students

The first sample is represented by freshmen students (n = 100) currently enrolled in the universities located in the Bishkek city who chose humanitarian academic majors. Out of 100 students surveyed, 86% were female and 14% were male students. Despite disproportion of female and male respondents, there were no significant gender based differences observed (Annex, Tables 1.1., 1.2., 1.3., 1.4., 1.5., 1.6.). SPSS Mann-Whitney test showed no gender differences in the variables such as major, school background, counselling or motives behind major choice (Annex, Table 2). Table 3 presents academic majors of the respondents that include Philology (24%), Linguistics (23%), Computer Linguistics (10%) and Foreign Languages (7%). Remaining 36% of students chose other majors such as International Relations,

Management, Religious Studies, Social Studies, Social Pedagogics, History, PR, Psychology, Law and Political science.

Table 3. Enrollment rate in academic majors of the survey respondents (in numbers)



This research's first sub-hypothesis states that parents significantly influence academic major choices. Statistical findings for the following research questions are presented below.

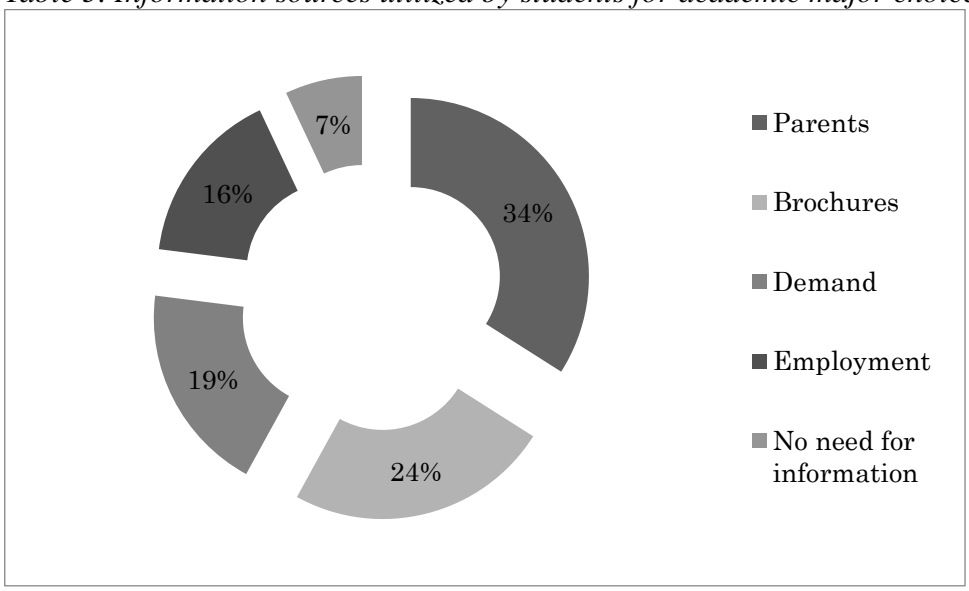
Question 1. How strong is the role of significant others on the students' decision making? As the first step, it is important to understand who makes or influences academic major choice decision. According to the responses to the question No 10 ("Has anyone helped you with the major choice?"), a little less than half of the respondents (49%) made academic major choice by themselves. There is a visible influence of so called significant others (Côté and Levine, 1997) for the remaining 51%, which includes parents (43%), friends (5%) and teachers/tutors (3%).

Table 4. A*cademic major choice decision makers/influencers*

		Frequency	Percent
Valid	Parents	43	43.0
	Friends	5	5.0
	Teachers/tutors	3	3.0
	Self	49	49.0
	Total	100	100.0

Besides directly helping students with academic major choice, the role of parents expands due to financial support they exert, particularly by paying or helping to pay students' tuition fees. Minority of respondents (21%) receives scholarship while majority (78%) is fully or partially supported by parents and close family members. None of the students in the sample pay tuition fee by themselves. Fisher's exact test showed no association between information sources and tuition fee. Above all, parental influence is significant as they are one of the primary information sources for students to consider majors according to the answers to the Question No 11 ("How did you obtain information for choosing this major?"). Parents are the primary information source for 34% of students, compared to 24% of students relying on the information brochures (top second answer). Only 19% of respondents study about the demand in the labor market; and 16% consider employment statistics of the chosen major. Remaining 7% of respondents did not consider any information sources as they already knew about the major they would choose.

Table 5. Information sources utilized by students for academic major choice



Due to violation of Chi-Square Independence test assumption (large percentage of cells with expected count less than 5); variables of information sources were recoded with focus on parental influence; thus creating two new variables such as parents and non-parents related information sources; while decision makers were also recoded by creating three new variables such as parents, friends and teachers/tutors grouped together as other people and individual as decision makers. New variables showed statistically significant association as parents influence academic major choice of students who refer to parents as main information source, while students who use other information sources tend to make academic major choice individually (X^2 (2, N=100) = 15.500, p<0.05).

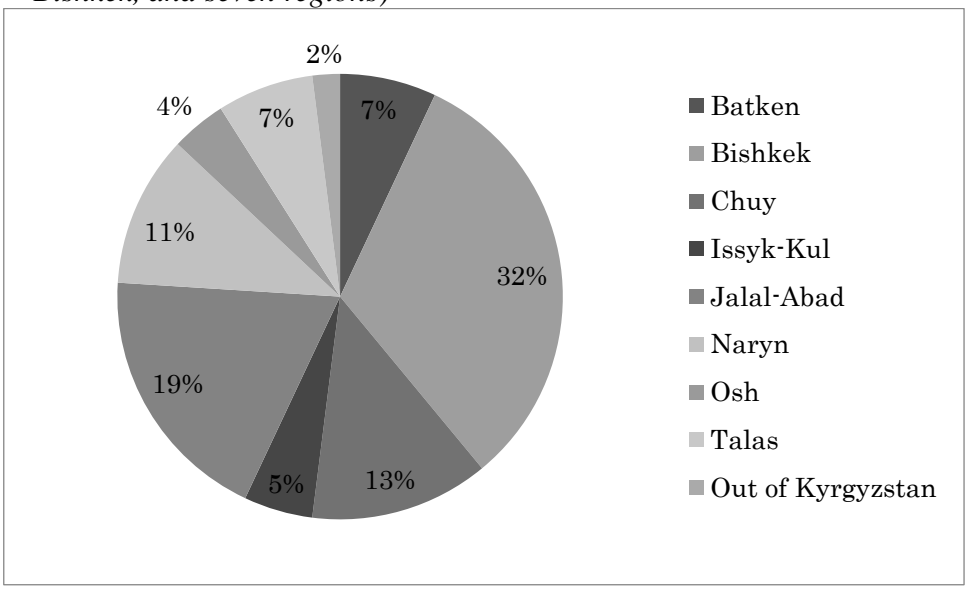
Second sub-hypothesis tests constraints influencing academic major choice such as availability of resources based on school background and informed decision making by answering the following questions.

Question 2. Are there any limitations for students coming from regional schools compared to capital schools?

Considering difference between capital and regions in terms of living standards,

conditions and resources, the variables were tested for associations based on geographical principle. The regional representation is diverse. According to capital/non-capital school graduation ratio, 32% of students graduated in Bishkek city, while 66% represent schools from 7 different regions and 2% of respondents graduated schools out of Kyrgyzstan.

Table 6. Geographical representation of schools students graduated by regions (capital city – Bishkek, and seven regions)



As it is seen from the Question 1, significant others, particularly, parents exert strong influence on academic major choice. Moreover, parents' role on students' decision differs depending on the school background, schools located either in the capital city or regions. Cross tabulations presented association between capital city school graduates and those from coming from regions. 83.7% of students heavily relying on parents are coming from regions, while only 16.3% of students from capital acknowledge parents as significant influence on major choice. Students taking individual decisions are represented by graduates of both capital and non-capital located educational institutes. In order to identify whether the relation between decision makers and school background is statistically significant, the Chi-Square Independence test was conducted.

As the result, association between the school background and significant others' on the decision making was observed, $X^2(2, N=100) = 10.089, p<.05$. Besides, there is significant association between school background and tuition fee payment method where students have either scholarship or financial support by parents, $X^2(1, N=100) = 10.662, p < .05$. Respondents had different levels of satisfaction by school education level measured by whether it was enough to pass admission tests to university. Both students coming from capital schools and regional schools gave satisfactory and unsatisfactory estimation of own readiness to enter university. 36% students from regions and 20% students from capital found own education level enough to pass exams, while 32% and 12% students did not find it enough and need to study additionally or failed to enter desired majors. No statistically significant relation was found.

Table 7. *Cross tabulation of school education satisfaction level measured by ability to pass university entrance exams and regions*

			School education was enough for university enrollment		
			No, not enough	Yes, enough	Total
Geography	Regions	Count	32	36	68
		% within Geography	47.1%	52.9%	100.0%
	Bishkek	Count	12	20	32
		% within Geography	37.5%	62.5%	100.0%
Total		Count	44	56	100
		% within Geography	44.0%	56.0%	100.0%

However, there is significant association between receiving career counselling and school background, $\chi^2(1, N=100) = 5.099, p < .05$.

Table 8. Cross tabulation of career counselling and regions

			Receiving career counselling		
			No	Yes	Total
Regions	Regions	Count	36	30	66
		% within Regions	54.5%	45.5%	100.0%
	Bishkek	Count	25	7	32

	% within Regions	78.1%	21.9%	100.0%
Total	Count	61	37	98
	% within Regions	62.2%	37.8%	100.0%

Comparison of the information sources between students coming from capital against students coming from regions showed no statistically significant difference (Annex, *Table 9. Cross tabulation by information sources and regions*). Concerning the timing for specific major choice, 78% of respondents said they had enough time for making a considerate decision while 22% did not have enough time. No statistically significant association based on school background was determined. Descriptive statistics show different limitations that respondents had to encounter on the way to the major choice; one of the biggest limitations was academic capability (34%). Entrance exam results were decisive for 18% of respondents as well as tuition fee for 14% of respondents. No statistically significant association based on school background was found for this factor.

Question 3. Do students make informed decisions?

More than half of the respondents, which is 58%, are well aware of the job specifications. Respondents seem to be aware of the opportunities after graduation as 71% of respondents said that they knew potential organizations and companies they could be able to work for; and 16% knew what specific kind of work they could do. Only 13% were unaware of the opportunities after graduation. However, neither awareness about academic major nor awareness about opportunities is statistically associated with information resources used. There is a significant association between awareness of the job specification and confidence that chosen major is right for career, $X^2(2, N=100) = 10.253, p = <.05$.Meaning that the more students are aware of job specifications for academic major they choose, the more confident students are that their

chosen major is right for future career.

Table 9.1. Cross tabulation of confidence that chosen major is right for career and awareness about job specification

			Awareness			
			Not aware	Somewhat aware	Well aware	Total
Major is right for career	Disagree	Count	4	24	23	51
		% within right major	7.8%	47.1%	45.1%	100.0%
	Agree	Count	0	14	34	48
		% within right major	0%	29.2%	70.8%	100.0%
Total		Count	4	38	57	99
		% within right major	4.0%	38.4%	57.6%	100.0%

Other important constraint is time. Conscious decision making requires time resource for a good decision. Most of the respondents started thinking about future career in middle school (42%) and high school (36%). 50% of students that started thinking about their future career early in middle school have chosen only 1 major while 45% chose up to 3 majors to apply when pursuing higher education. Concerning the timing for specific major choice, 78% of respondents said they had enough time for making a considerate decision while 22% did not have enough time. No statistically significant association between number of majors considered and whether major choice time was enough was determined.

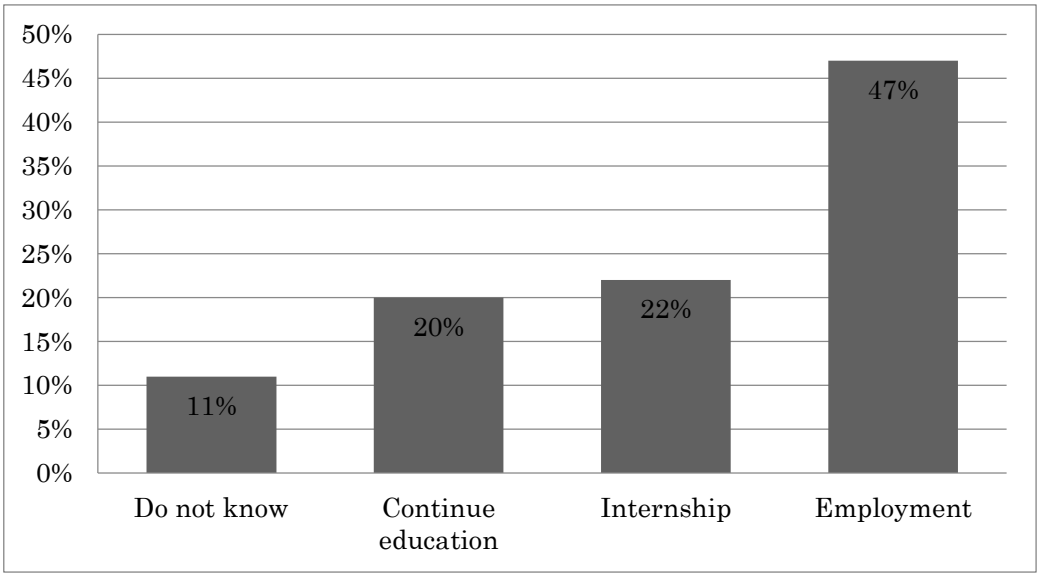
The third sub-hypothesis states that academic major choice is not meant for employment. Statistical findings for the following research questions are presented below:

4. Is academic major choice related to future employment?
5. Is demand important for academic major choice?
6. Would academic major be chosen if there was no financial support?

Question 4. Is academic major related to future employment?

According to the question No.20 ("Do you think this is the right–and only–major for your career path"), only 48% of respondents agreed or strongly agreed that the chosen major is the only right major for future career while 51% disagreed or strongly disagreed with this statement. Cross tabulation shows that for 66% of students who agree that they chose the only right major, the demand in the labor market is important; while 21% of disagreeing students mentioned their parents as a reason of the major choice. It is difficult to say how students handle information gathering as there is no association between confidence that their major is right for career and information resources. There is also no statistical association between confidence of their major choice and provision of counselling services. According to the answers to question No.13 *("*If you had a choice not to enter a university, what would you be doing?") only 20% of respondents would be ready to continue education while 11% claimed that they do not know. The majority of respondents (69%) would like to go for internship program or find employment.

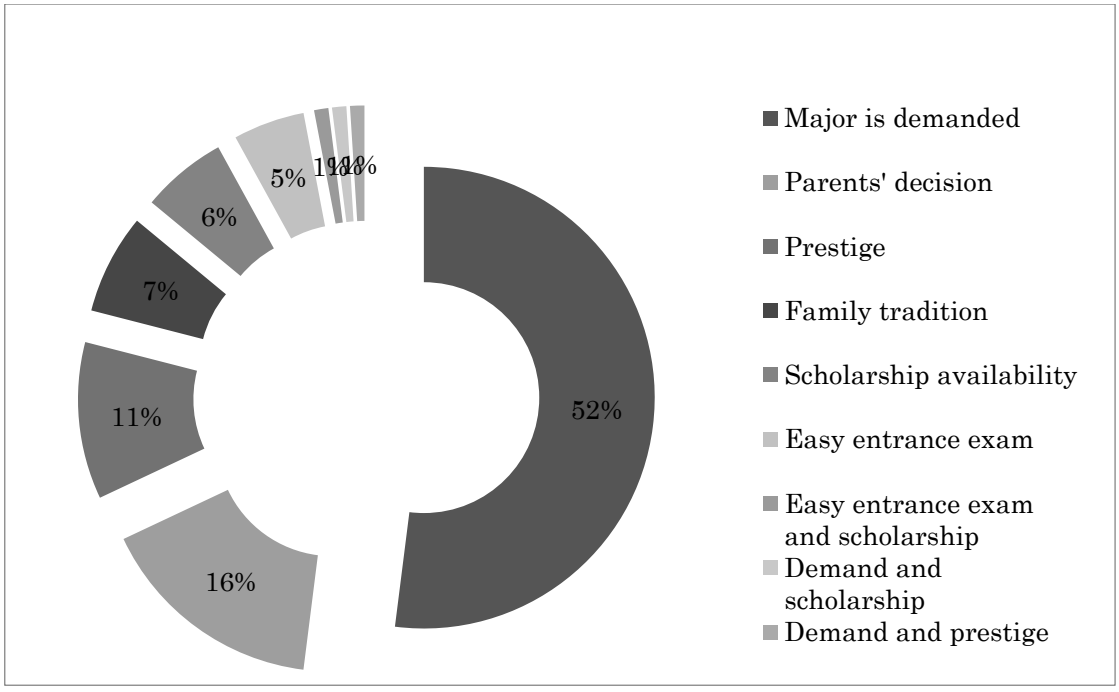
Table 9.2. Preferred alternative if going to university was optional (in percentages)



Question 5. Is demand important for academic major?

As it came to the question of the reason behind choosing specific academic major, 52% of students said that reason is that their major is in demand, so they can find a good job upon graduation. The second important reason behind the major choice is the influence of significant others, namely parents which accounts for 16% of respondents. The other reasons were the prestige of the major (11%), family tradition (7%), availability of scholarship (6%) and easiness in passing entrance exams (5%), easiness in passing entrance exams and scholarship availability (1%), demand and scholarship availability (1%), demand and prestige (1%). Only 52% of respondents refer to economic factor to be important for major choice, while remaining 48% found other non-economic reasons to be important in the given decision.

Table 10. Reason for choosing specific academic major



In order to ensure future employment, it is necessary to know what jobs are in demand. 52% of students mentioned that the reason behind their major choice is labor market

demand so that they can find a good job upon graduation. However, according to information resources for making career choice, only 17% of respondents studied labor market demand; moreover, 16% consider employment statistics of the chosen major when choosing a major. Other way of acquiring up-do date employment information and understanding career opportunities is provided by career counselling. Nonetheless, according to the responses to the questions concerning professional career counselling services, 73% of respondents find career counselling important and necessary for major choice and only 37% of them said they received career counselling services.

Three main purposes of going to university were knowledge (28%), diploma (26%) and a combination of knowledge and diploma (20%). It corresponds to the expectations that students put on university, knowledge being the most expected outcome (58%) and diploma (13%).

Question 6. Would academic major be chosen if there was no financial support?

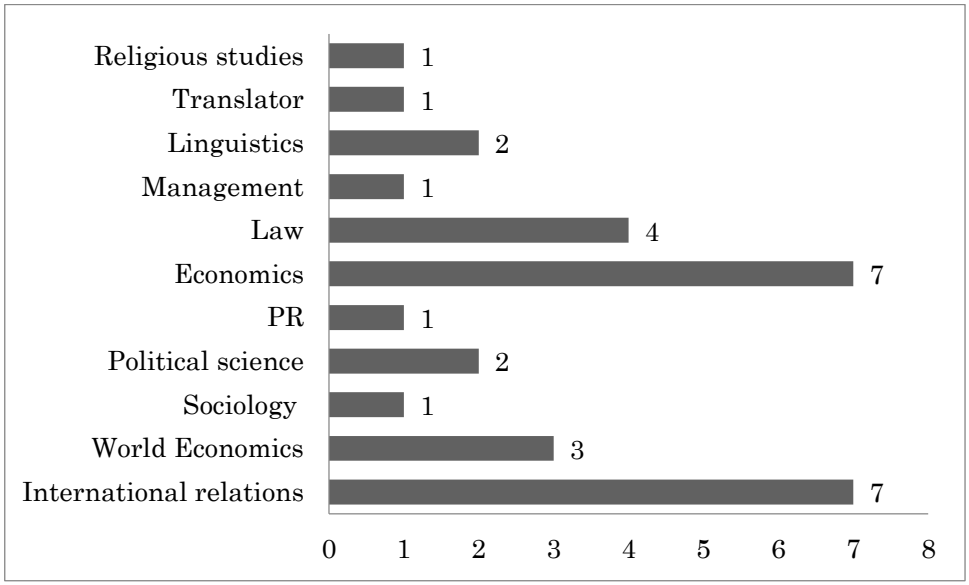
There are no students individually paying tuition fee but it is either paid by parents or covered by scholarship. According to the question No.22 ("If your parents/relatives/you had no money to pay your tuition, would you take education loan from a bank?"), less than half of the respondents (47%) would be ready to pay money for studying the chosen major if they could not receive any financial support; while 52% of respondents would not choose this major if was not any financial support.

b.Graduates

The second sample is represented by students who already graduated from universities in the Bishkek city (n=30) and secured post-graduation employment. Out of

30 students surveyed, 50% were female and 50% were male students. The top academic major concentrations were Economics (23%), International Relations (23%), Law (13%), World Economics (10%), Linguistics and Political science (6% each). The remaining 19% of students chose other areas including Management, PR, Religious Studies, Sociology and Translations majors.

Table 11. Academic majors of the survey respondents (in numbers)



The first sub-hypothesis states that parents influence academic major choice. Statistical findings for the following questions are presented below.

Question 1. How strong is the role of significant others on the students' decision making?

According to the responses to the question No.10 ("Has anyone helped you with the major choice?"), 66% of respondents were influenced by significant others, i.e. parents, and 6% were influenced by their friends in making academic major choice. Only 26% of respondents made the decision individually.

Table 12. Academic major choice people decision makers/influencers

		Frequency	Percent
Valid	Friends	2	6.7
	Self	8	26.7
	Parents	20	66.7
	Total	30	100.0

In addition, the role of parents expands due to financial support of students, particularly tuition fee. 30% of respondents receive scholarship while 70% is fully or partially supported by parents and close family members. None of the students in the sample pay the tuition fee individually. Above all, parental influence is significant as they are one of the primary information sources for students when they consider academic majors. Parents are the main information resource for a major choice with 43% of respondents compared to 30% who already knew what major they would choose. 20% of respondents rely on the information from brochures. Only remaining 7% of respondents referred either to the information on demand in the labor market or brochures and parents.

Second sub-hypothesis tests constraints influencing academic major choice such as availability of resources based on school background and informed decision making by answering the following questions.

Question 2. Are there any constraints for students coming from regional schools compared to capital schools?

Compared to capital to non-capital school graduation ratio, 43% of students graduated in Bishkek city, while 57% represent schools from different regions of Kyrgyzstan. Respondents had different levels of satisfaction by the school education measured by whether it was enough to pass admission tests to university. Both students coming from

capital schools and regional schools gave satisfactory and unsatisfactory estimation of own readiness to enter university.

Table 13. Cross tabulation of school education satisfaction level , whether it was necessary for university enrollment and regions

			School education satisfaction		
			No, I failed	Yes, it was enough	Total
Region	Bishkek	Count	8	5	13
		% within Region	61.5%	38.5%	100.0%
	Region	Count	13	4	17
		% within Region	76.5%	23.5%	100.0%
Total		Count	21	9	30
		% within Region	70.0%	30.0%	100.0%

As it was found in the Question 1, academic major decision is influenced by significant others. The test was conducted to identify whether there is a statistically significant correlation between school background and individual, parents' or others' influence on decision making process.

Table 14. Cross tabulation of information sources by regions

			Information sources					
			Brochures	Brochures &Parents	Employment	Image	Parents	Total
Region	Bishkek	Count	1	1	1	5	5	13
		% within Region	7.7%	7.7%	7.7%	38.5%	38.5%	100.0%
	Region	Count	5	0	0	4	8	17
		% within Region	29.4%	0%	0%	23.5%	47.1%	100.0%
Total		Count	6	1	1	9	13	30
		% within Region	20.0%	3.3%	3.3%	30.0%	43.3%	100.0%

The Chi-Square independence test with 3*2 contingency table could not show results as 66.7% of cells had less than 5 respondents. Variables were regrouped into two variables

by size. First variable with majority of responses that parents influenced decision making remained the same, while other variables of friends and individuals as decision makers were grouped as a new variable. The transformed table either showed no association between the school background and parents' influence on their decision making. Fisher's exact test showed no association between school background and tuition fee payment. Satisfaction by school education is not associated with school background. None of the respondents reported receiving career counselling services. Comparison of the information sources between students coming from capital versus students coming from regions showed no difference.

Question 3. Do students make informed decisions?

More than half of the respondents (70%) reported that they were not well aware of the job specification; while only 30% of them knew what kind of work graduates of the given major do. Not all the respondents were aware of the opportunities after graduation. Thus 47% of respondents said they know where they could work and 53% were unaware of the opportunities. Neither awareness nor opportunities are associated with information resources used. Other important constraint is time. Conscious decision making requires time resource for a good decision. Most of the respondents (47%) started thinking about future career in high school while 33% started thinking after graduation from high school. 17% of students started considering academic majors early in middle school while about 3% of respondents made their choice after university enrollment. Most of the respondents started thinking about their future career in high school and after graduation and they are the ones who consisted more than 3 academic majors.

Table 15. Cross tabulation of the number of majors considered and school years

			Number of majors			
			1	3	5	Total
School years	Graduation	Count	3	6	1	10
		% within school years	30.0%	60.0%	10.0%	100.0%
	High school	Count	5	9	0	14
		% within school years	35.7%	64.3%	0%	100.0%
	University	Count	0	1	0	1
		% within school years	0%	100.0%	0%	100.0%
	Middle school	Count	0	5	0	5
		% within school years	0%	100.0%	0%	100.0%
Total		Count	8	21	1	30
		% within school years	26.7%	70.0%	3.3%	100.0%

No statistically significant association between number of majors considered and whether major choice time was enough was found.

The third sub-hypothesis states that academic major choice is not meant for employment. Statistical findings for the following research questions are presented below.

4. Is academic major choice related to future employment?
5. Is demand important for academic major choice?
6. Would academic major be chosen if there was no financial support?

Question 4. Is academic major related to future employment?

According to the question No. 20, "Do you think this is the right–and only–major for your career path", none of the respondents agreed or strongly agreed with the statement that their academic major was the only right major for their future career. Neither did respondents receive career counselling. Three main purposes of going to university were

knowledge (33%), diploma (17%), knowledge and diploma (10%) and 10% were driven by default motivation and for the shame not to enter university at the same time with other classmates. Remaining 30% of respondents chose default motivation, shame, knowledge and interest in subject as the primary reasons for university enrollment.

Question 5. Is demand important for academic major?

As it came to the question of the reason behind choosing specific major, 30% of students said easy entrance exam was the decisive factor in the major choice as well as the availability of scholarship (20%). For 17% of respondents, the prestige of the major was important; while 10% considered demand of the chosen major in the labor market as an important factor. Parents affected 21% of respondents while remaining 2% were attracted by easy entrance exams and opportunity to receive a scholarship. In order to ensure future employment, it is necessary to know what jobs are in high demand. However, only 10% of respondents considered the demand for their major to be important. According to the information sources utilized for career choice, only 3% considered employment statistics to be important; while 20% took information provided by universities. As far as 30% of them already had some images of the academic majors and did not use information. Most of the respondents (47%) were affected by parents. There is no association between information sources and reasons behind academic major choice.

Table 16. Cross tabulations reasons for academic major choice by information sources

			Reasons for academic major choice					
			Demand	Parents	Easy exams	Scholarship	Prestige	Total
Information Source	Image	Count	1	1	4	2	1	9
		% within InfoSource	11.1%	11.1%	44.4%	22.2%	11.1%	100.0%
	Parents	Count	0	3	6	3	2	14
		% within InfoSource	0%	21.4%	42.9%	21.4%	14.3%	100.0%
	Brochure	Count	1	0	2	1	2	6
		% within InfoSource	16.7%	0%	33.3%	16.7%	33.3%	100.0%
	Employment	Count	1	0	0	0	0	1
		% within InfoSource	100.0%	0%	0%	0%	0%	100.0%
Total		Count	3	4	12	6	5	30
		% within InfoSource	10.0%	13.3%	40.0%	20.0%	16.7%	100.0%

Question 6. Would academic major be chosen if there was no financial support?

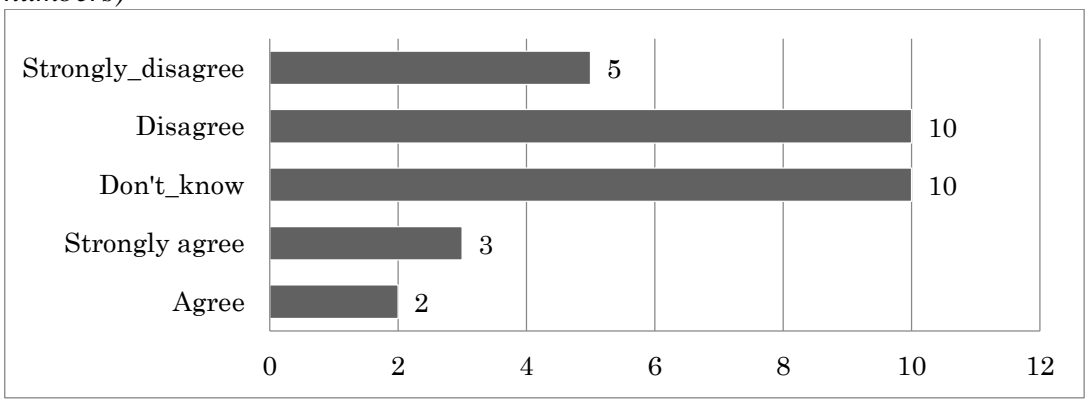
There are no students individually paying tuition fee, and it is either paid by parents or covered by scholarship. According to the questionnaire, less than half of the respondents (17%) would pay for studying in the given major if they could not receive any financial support; while 67% of respondents would not be ready to do it as they find this investment unworthy. Remaining 16% could not determine whether they would invest into studying this major or not.

c.Graduates' feedback on academic major choice

Graduates were asked additional questions related to the outcomes of their studies in the chosen majors. One of the questions was related to the expectations toward majors they

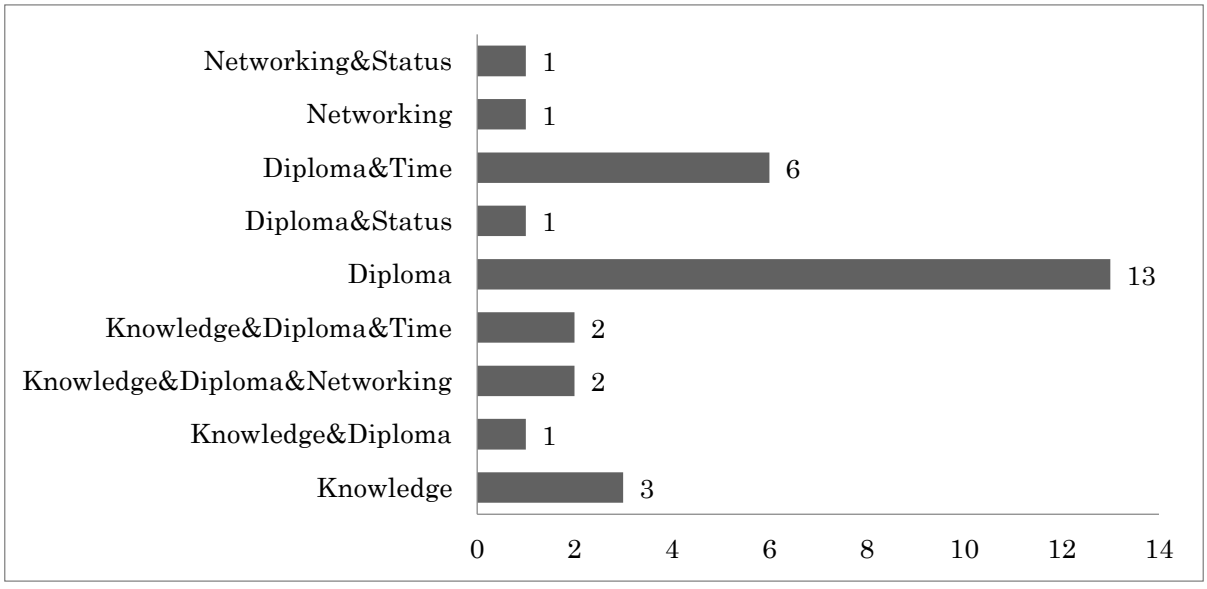
chose and outcomes. According to the respondents, expectations were not fulfilled for 50% of them who chose “disagree” or “strongly disagree” with the statement, while only 17% found their expectations were fulfilled.

Table 17. Level of academic major choice expectations’ fulfillment among graduates (in numbers)



The answer to this question lies in the next question where graduates answered the question about the benefits they gained by studying at a university.

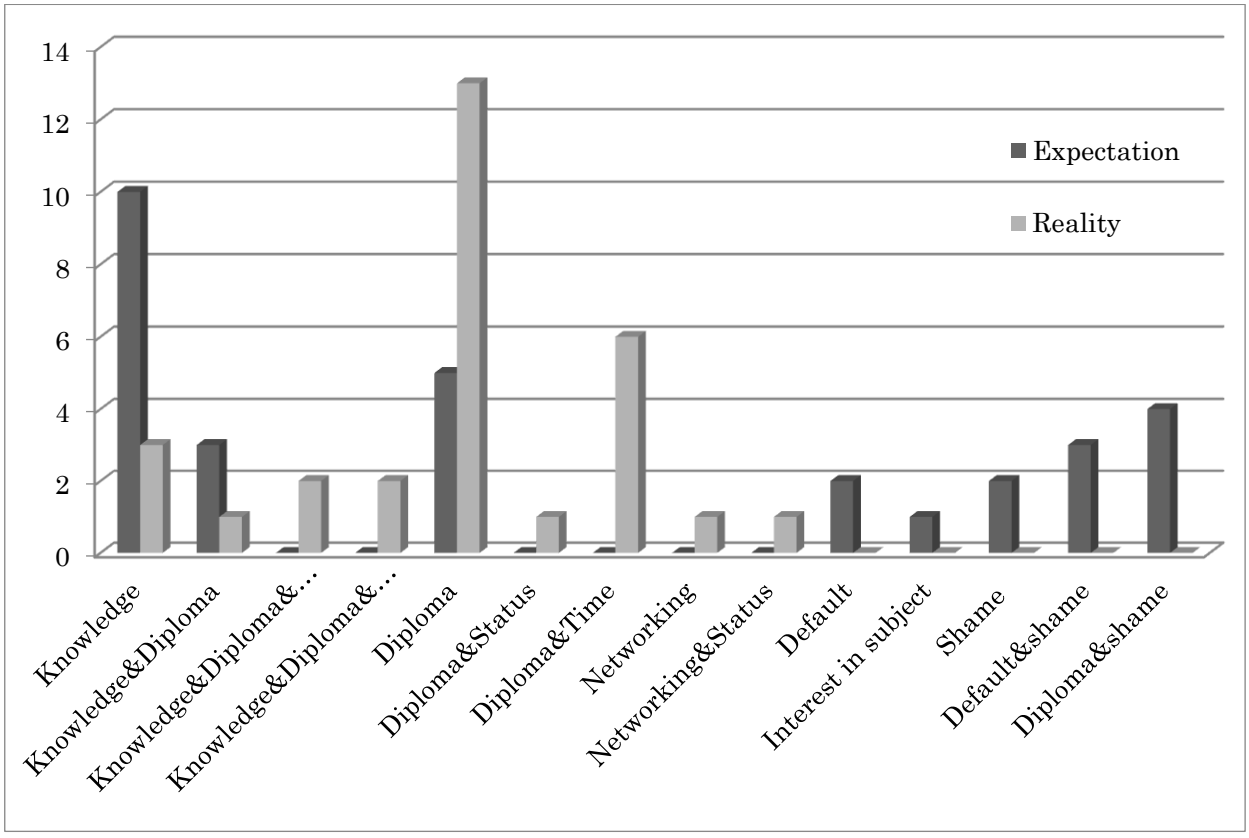
Table 18. Benefits of university enrollment for the graduates (in numbers)



Contrary to the initial expectations, where knowledge was the most important purpose of going to university, only 10% of students find knowledge the biggest benefit. Yet, the most frequent outcome in reality turned out to be diploma for 43%. Second most

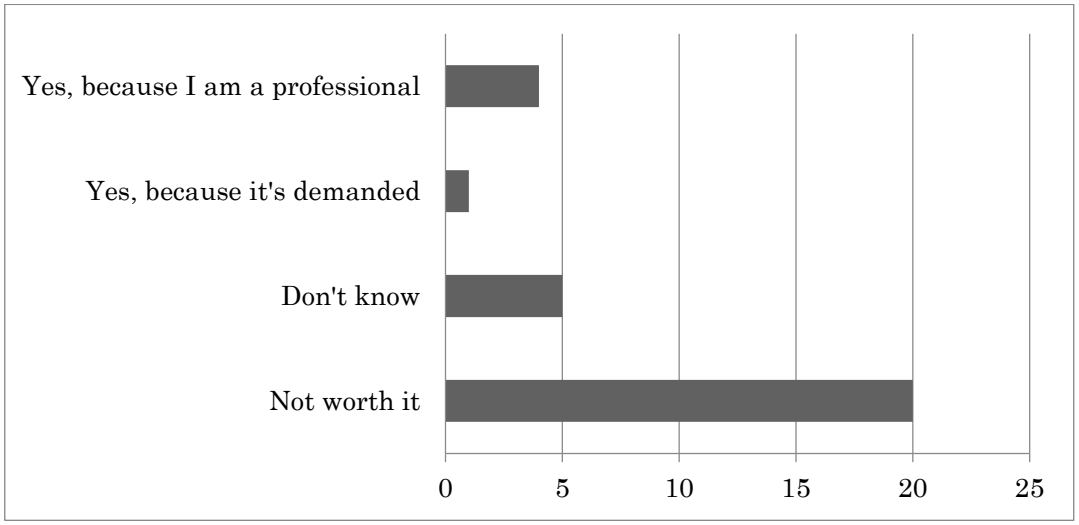
important benefit, according to the respondents, turned out to be Diploma and time for considering future plans. Comparison of expectations against outcomes of what students gained in university can be seen below. The chart shows highest difference between expectations and outcomes in knowledge and diploma. High expectations for knowledge were not met, while lower expectations for importance of diploma turned out to be an important outcome. In general, most respondents noted bigger benefit of diploma and lesser benefit of knowledge contrary to primary expectations. Diploma and time were also higher than expected, which also shows minimum real benefit of knowledge.

Table 19. Expectations compared to outcomes of university enrollment



Based on the previous question, the following chart shows whether respondents would be ready to pay tuition fees for studying the same academic major.

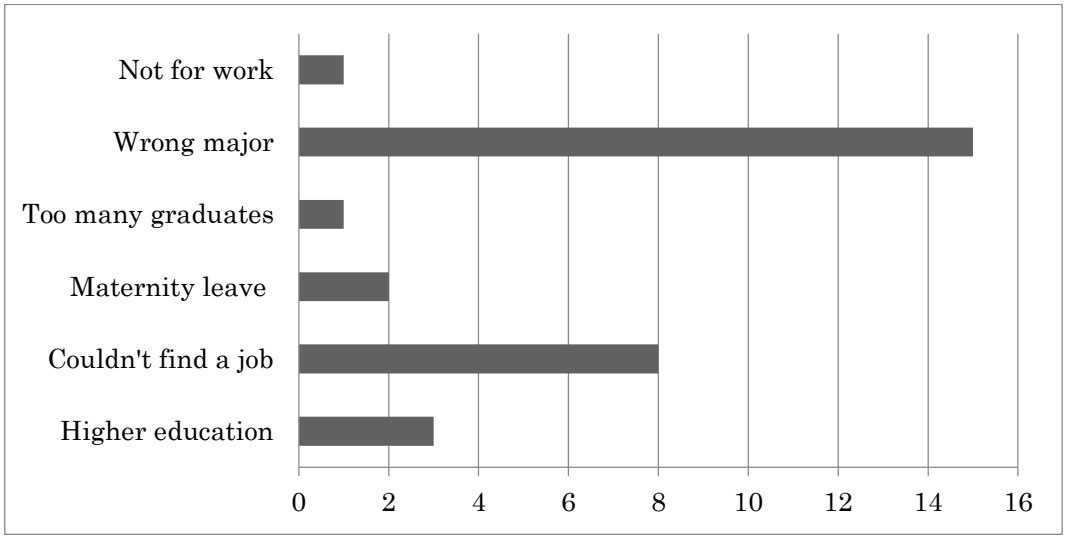
Table 20. Readiness of respondents to pay tuition fees for studying the same major



Only 3% would be ready to invest money for studying the same major if they had to pay tuition by themselves as they find the major demanded and 13% would be ready to invest as they are sure to be good professionals and find a good job. Yet, 17% do not know whether they would invest money for studying their major if there was no financial support and 67% of respondents do not find this investment worthy.

The final result is that none of the graduates surveyed work by their university major. Main reasons are inability to find a job (27%) and understanding that the initial major choice was wrong (50%). Reasons for not working by academic major is neither statistically related to information sources nor to reasons for academic major choice.

Table 20. Reasons of not working by academic major



The sample of graduates who are currently working show that major choice did not lead to employment in accordance with academic major.

d. Freshmen and graduates

Based on the similarities in two samples of respondents the data was put together and tested for sample of 130 respondents. According to the research question 1, the role of significant others, parents were particularly significant. In the sample of 130 respondents, the role of significant others in decision making was almost equal between parents (50%) self-decision (44%). As for the tuition fees, 51% of cases parents are the ones bearing financial expenses and in 26% of cases parents help pay fees. Remaining 23% of respondents received scholarships. Parents also provide information for the majority of respondents, which is 38%; 19% refer to information brochures while 17% study employment statistics of academic major graduates. Demand of the major was studied by 13% while 12% did not use any additional information sources. Due to violation of Chi-Square Independence test assumption, variables of information source and decision

makers/influencers were regrouped by parent involvement principle. There is a statistically significant association between information sources and decision makers. If parents are primary information source, they tend to be the decision makers; while students referring to alternative information sources are less influenced by parents in academic major choice, $X^2(1, N=130) = 16.839$, $p < .05$.

Based on the awareness about job specification, the Chi-Square Independence test was run in order to identify association with job specification awareness level and respondent status of being either current student or graduate. There is statistically significant association between these two variables $X^2(2, N=130) = 70.081$, $p < .05$. Significant association was identified with student statues and awareness of career opportunities, $X^2(2, N=130) = 47.533$, $p < .05$

There is also significant difference between estimating current major as the-only-right major between two groups of respondents. As none of the graduates consider their major to be relevant to post-graduation employment, on the contrary a half of the current students consider so. The test showed statistically significant association between respondent status and the only right major choice as $X^2(1, N=130) = 23.165$, $p < .05$

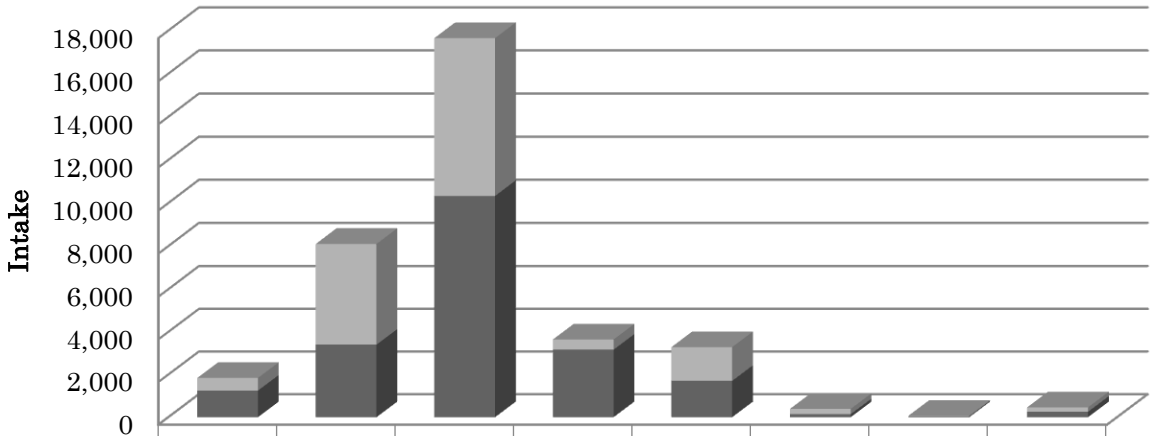
The readiness to pay university education related fees in case of absence of current financial support was tested by respondent status, $X^2(2, N=130) = 16.843$, $p < .05$. There statistically significant association between readiness to invest money into this major education and respondent status, namely, graduates are less eager to pay for the majors while freshmen students tend to be ready for financial expenditures for studying their chosen academic major.

Discussion

In the given study, we aimed to understand the contradictions in the supply and demand in the labor market where students choose majors by which they fail to find employment; while on the other side, many majors in demand are not chosen by students. For this purpose it is important to understand how students make academic major choice. It was hypothesized that students' academic major is not coupled with post-graduation employment which is consistent with academic major. In accordance with the findings, the hypothesis was accepted as the research found significant parental influence with a variation whether family comes from capital city or regions. Every other student is influenced by parents. Parents influence decision making by being the major sources of information and financial support. Although students want to find a job after graduation, they do not consider chosen major to be the right one for their future career. Neither would chosen academic majors be priority for students without existing financial support of parents. There is a difference in students' perception of own awareness about job specification and career opportunities, estimation of whether chosen major is right for career and worth paying for at the time of university enrollment and at the time of graduation. None of the graduates found a job consistent with their academic major due to a number of reasons including incorrect major choice. On the other hand, there is a significant difference between expected and actual outcome of university education, which also undermines post-graduation employment consistent with academic major.

Most of the participants of the survey were the students of humanities majors at their universities located in the Bishkek city and were female respondents. The uneven representation of sample by gender is based on the fact that students choosing humanities majors in Kyrgyzstan are mostly female students. According to the statistics (NSC, p.296-298) there is a significant difference in the intake of female and male students to technical and non-technical majors. Women outnumber men in higher education; particularly, women are overrepresented in humanities and education related majors (ADB, 2005).

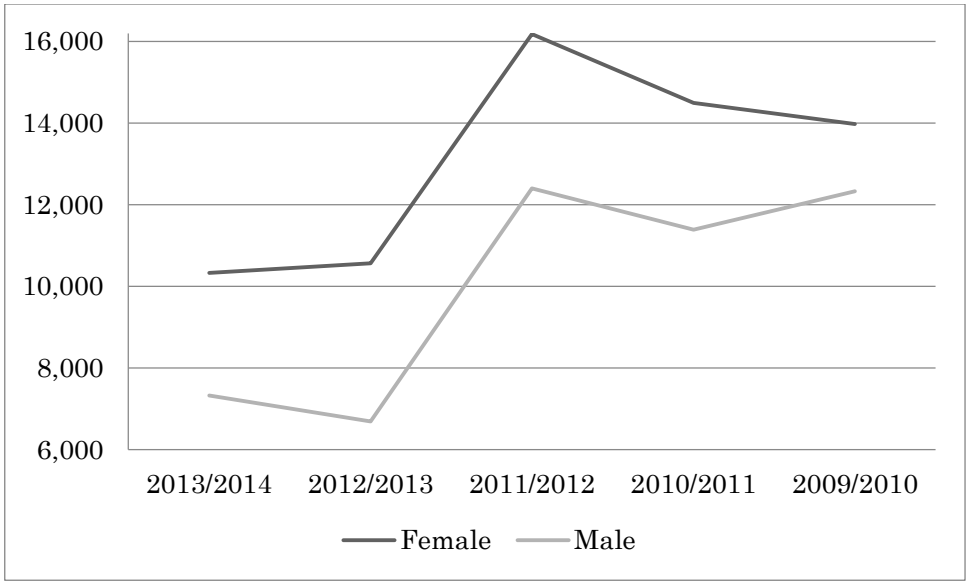
Table 22. University intakes by academic major for the academic year 2013/14 across Kyrgyzstan (in number of students) by gender



	Natural sciences	Technical sciences	Humanitarian sciences	Education	Medical science	Agriculture	Service	Inter-disciplinary sciences
Male	592	4,696	7,320	475	1,583	245	31	206
Female	1,245	3,401	10,326	3,166	1,701	139	36	252

The gender-based difference for humanities major choice has become a trend tracked for several years (NSC, p.296-298).

Table 23. University intakes within humanities majors from the academic year 2009/10 to 2013/14 to across Kyrgyzstan (in number of students) by gender

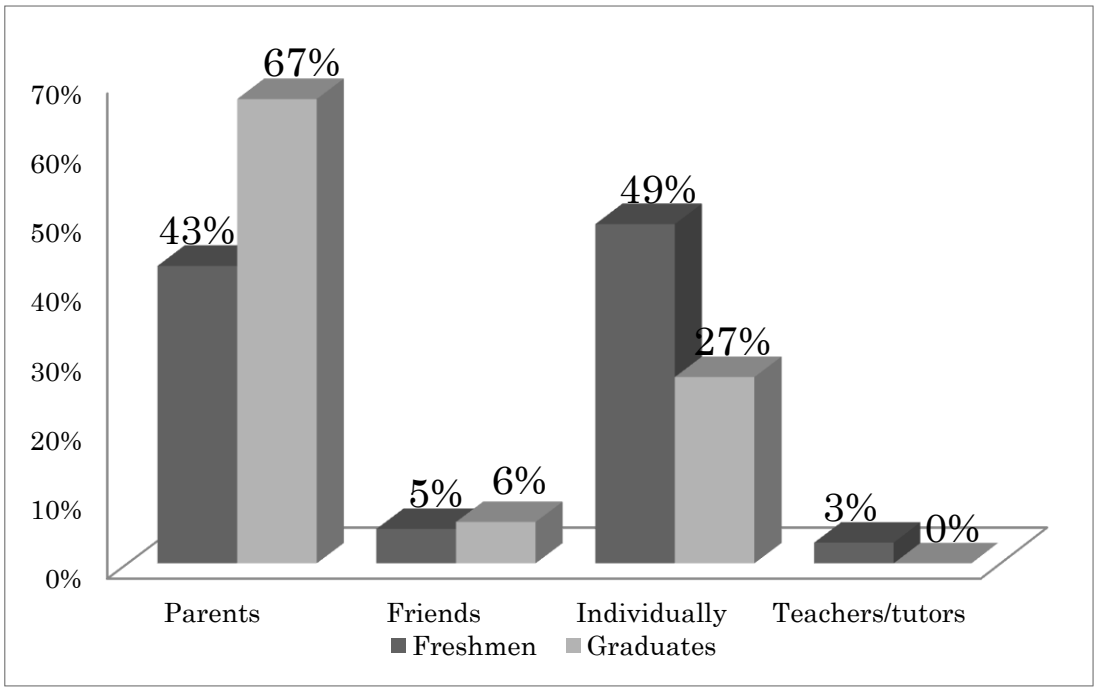


Given this gender gap among the humanities major students, the gender difference in the sample of the given research can be explained. In addition, to the random and volunteer basis of the survey, female students were more open and cooperative, compared to male students. Differences within humanities majors showed no gender based variation. Thus, gender difference did not affect the results as no statistically significant associations were identified.

The main hypothesis stated that academic major choice is not coupled with post-graduation employment. In order to test it, three sub-hypotheses were developed and tested by corresponding research questions.

a. In accordance with the existing literature, the first sub-hypothesis of significant others' such as teachers/tutors, friends and most importantly parents' influence on academic major choice of students was accepted

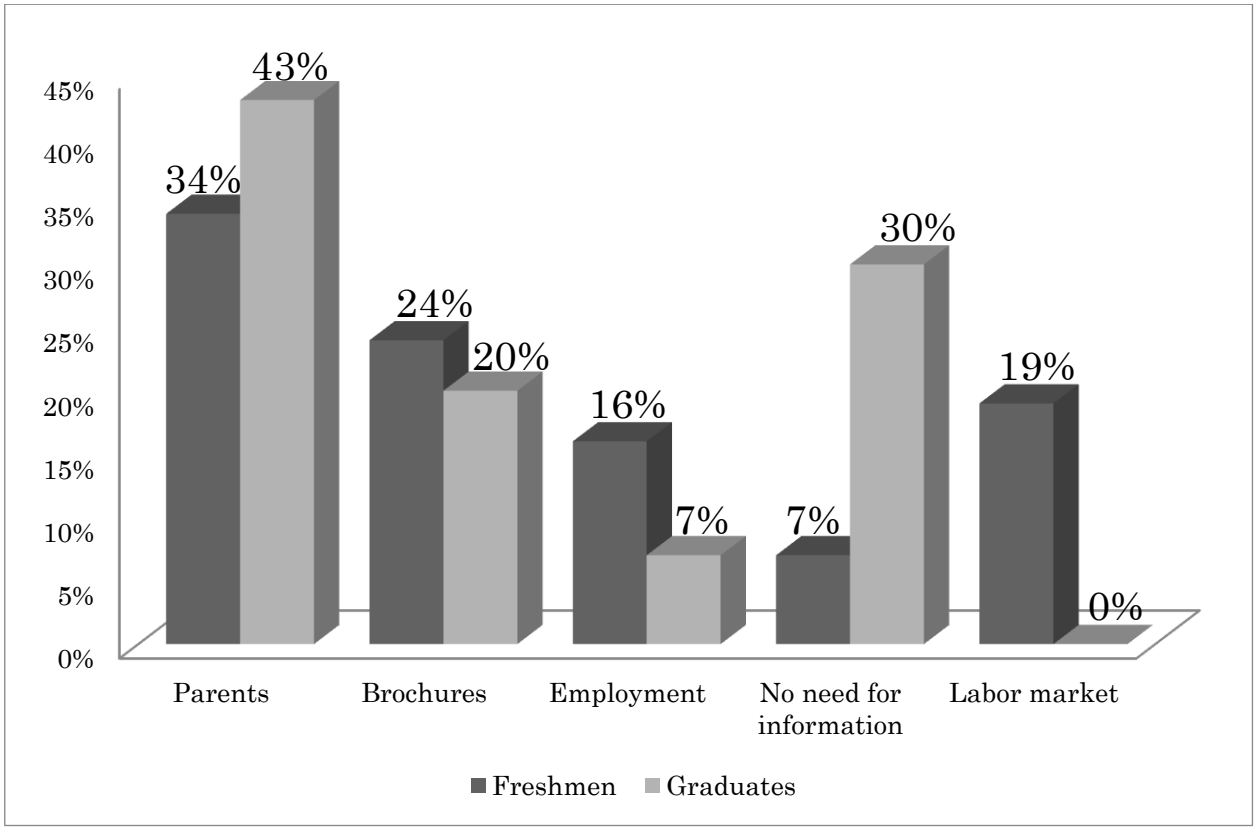
Table 24. Share of academic choice decision makers/influencers by respondents' status (freshmen students and graduates)



In both samples, significant others played an important role in the decision making process. While the group of students who already graduated university, acknowledge the strong influence of parents in decision making, most of freshmen students say they made a decision individually. Analysis of both samples of respondents showed that every other student finds parents to be the most influential people when it comes to academic major choice. In addition, parental role strengthens as parents appeared to be the most important information resource for the majority of respondents, which made up 38% of respondents. Less number of students refers to the information provided by universities while even fewer students studied the demand in labor market. Research showed statistically significant association between information resources and parents' involvement into decision making. Namely, when parents are the primary information source, they tend to influence major choice significantly, while students utilizing other non-parent related information sources, they tend to be making major

choice individually. Strong parental influence is one of the variabilities in career decision-making influenced by collectivism (Tata & Leong, 1994), which is characteristic of Kyrgyzstan. Briefly stated, persons with collectivistic views tend to consider goals and needs of their own social group above personal goals or make no distinction between personal and group goals. Persons with individualistic views, on the other hand, tend to emphasize personal needs and goals. People with collectivistic views tend to emphasize the way their behavior affects others in their social groups, to share different resources with members of their groups, and to feel connected with other members of their groups (Triandis, 1989). In this regard, family interests presented by parents overweight individual interest of a student.

Table 25. Share of academic choice decision makers/influencers by respondents' current status (freshmen students and graduates)



None of the respondents pay the tuition fee individually whereas the share of students

receiving scholarships is about 21%. This is rather small compared to the overwhelming majority (78%) either fully or partially dependent on parental financial support. As DeYoung noted, sending a child to a university is a must, a responsibility born by parents and inability to do so due to financial reasons would be "considered poor indeed" (2011, p.39). "It is one of the peculiarities of the Kyrgyz mentality, [parents] will sell their last [head of] cattle and give [the money] for the study of their children. To find a job is the next important question" (DeYoung, 2011, p.86) that will also involve parents, relatives and other connections. Kyrgyz labor market relies mainly on social networks of parents and extended family members. Both first job and current jobs several years after graduation are made through personal contacts in 70-80% of cases, while recruiting agencies do not play significant role in helping graduates with finding jobs (ETF, 2013).

Table 25.1. Methods used to find a first job after graduation from university. Source: European Training Foundation survey in Kyrgyzstan in 2011/12yy.

METHODS USED TO FIND A FIRST JOB*(%)	Total	Basic general	Initial vocational	Secondary general	Post-secondary vocational	Higher
Friend, relative, contact or word of mouth	70	81	57	78	66	55
Unprompted application, personal initiative	18	9	27	12	23	30
Start-up of my own business	6	5	10	5	7	7
Advertisements (press, radio, internet)	4	2	8	4	4	2
Official organisation (employment agency etc.)	2	1	2	2	2	2
Temporary job	1	2	5	1	0	1
Competitive examination	1	1	0	0	1	1
School/apprenticeship	1	0	2	0	1	2
Contacted by a company	1	1	0	0	0	2
Job transfer	0	1	0	0	0	0

Notes: (*) Multiple answers. The table refers only to those who have found a job after leaving education for the first time (N=1361).
Source: ETF Transition Study in Kyrgyzstan 2011/12, own calculations.

Table 25.2. Methods used to find a job 6 years after graduation from university. Source: European Training Foundation survey in Kyrgyzstan in 2011/12yy.

METHODS OF JOB SEARCH* (%)	
Method	**%**
Use of personal ties (relatives/friends)	83
Applied to employer	15
Contacted an employment agency	14
Job advertisements consulted	7
Job advertisements inserted	7

Notes: (*) Multiple answers. The table refers only to those who were looking for a job at the time of the interview (N=710).
Source: ETF Transition Study in Kyrgyzstan 2011/12, own calculations.

Higher education is far pricier today than it was during Soviet period while these parents have fewer economic resources than before (DeYoung, 2011). The minimum tuition fee established by the Government of the Kyrgyz Republic is 390-580 USD depending on the majors (Radio Azattyk, 2017) while it can range to 3,450 USD per year (AUCA, 2017). Universities can increase tuition fees because of high demand for higher education (DeYoung, 2011). Given the GDP per capita of 1,263 USD (World Bank, 2017) and minimum wage of 18 USD/month (World Bank, 2017) the minimum tuition fee is mainly borne by working parents.

One of the Soviet legacies is that despite weakening secondary education, parents in Kyrgyzstani families send their children to post-secondary institutions for academic and professional training (DeYoung, 2011). There are several reasons explaining parent's motivation to promote university enrollment. First of all, as DeYoung (2011) documented, some parents enroll their children at some university against student's wishes since for some parents sending a child to university is important for parents' status attainment where the more prestigious a university is the better is status becomes.

Besides status attainment, as this research shows, higher education has been transformed into a social norm in post-Soviet societies with mass higher education systems (Smolentseva, 2007). Even members of different social groups who previously showed no interest in obtaining higher education, for example, people coming from rural areas, started considering that higher education university enrollment became a possibility for many (Dubin et al., 2004). For example, a vast majority of Russians and Ukrainians, about 80% in each country, believe that higher education is a necessity for their children and grandchildren (WCIOM 2011, Gorshenin Institute 2012). University enrollment became an "inevitable and anticipated trajectory" for students based on their cultural and educational backgrounds (Tomlinson, 2008, p.54).

Third, opposed to the American tradition of skepticism about intellectual elite, the Soviet system put an emphasis on nurturing a cultured person[3] irrespective of his/her profession or occupation. The process of becoming a cultured person was mainly taking place at the education institutions because their functions were not only in producing and delivering knowledge and skills, but in rather a strong social upbringing function through focusing on humanity values and instruction in both the curricular and non-curricular activities that were aimed at creating a Soviet identity (DeYoung, 2008). So aside from economic motivation of university enrollment, its social reasons are as important. Becoming a well-educated person with one or several higher education degrees is an "important goal in and of itself" (DeYoung, 2001, p.23). Particularly, in the case of the Kyrgyz Republic, the high value of higher education in the society was heavily influenced by the Soviet heritage. During the Soviet times job placement was the ministry officials' function, rather than personal job seeking initiative and effort.

[3] Meaning a literate person possessing good writing, numeric skills, mindful of literature, decent citizen etc.

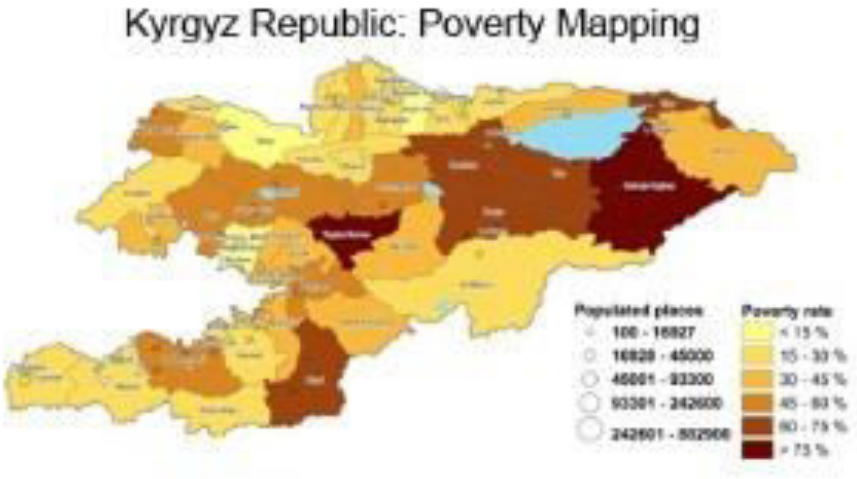
Particularly “intellectualism and respect for knowledge” were integral part of the Soviet period and largely remained well-respected in modern Kyrgyzstan (DeYoung, 2008, p. 644). Retrospective analysis would help understand how Soviet education is different from the current one. Despite quick measures taken after collapse of USSR in 1991 (New Dictionary of Cultural Literacy, 2016), in order to adapt to new realities in short time, the existing education system had to carry the Soviet legacy. The Union of Soviet Socialist Republics paid much attention to developing higher education in the country as it was considered a necessary organization for building capacity of high profile employees, managers and leaders in different spheres. What is more important, “brining education to the broad masses of the people has been a prime element of the cultural revolution accomplished in our country after the establishment of the Soviet Union” (Prokofiev, Chilikin & Tulpanov, 1961, p.6). The education sphere had close ties with national economy reacting to rapid changes when for example “the rapid industrialization of the country has required an increase in training of engineers” (p.6). Besides having close ties with the national economy, Soviet higher education institution had the same connection to the State policy. “In Socialist State a university serves society, enjoys its support and herein lies its strength…A university in a Socialist country is first of all an educational establishment training highly qualified specialists, brought up in the spirit of selfless service to the people who are building a Communist society” (p.6). From the times of the Soviet education system, Kyrgyzstan received centrally developed academic curriculum, academic staff/teacher training, textbooks, and educational materials that fit existing system (Mertgaugh, 2004). As the education policy was developed and provided from the center, Moscow, the education had both ideological and economic function in supplying skills needed for the centrally planned economy.

The skills were based on the 5 years plan and the graduates having necessary skills were absorbed by the labor market (Mertaugh, 2004). “The higher school sets itself the task of training specialists who must find a definite place in the national economy in conformity with their education and abilities… The higher school system guarantees each graduate work in his line” (Prokofiev, Chilikin & Tulpanov, 1961, p.8). One of the most important features of the Soviet system was that students were assured of jobs by completing secondary or tertiary education studies. They could expect to continue working in the places they were assigned throughout their working lifetimes (Mertaugh, 2004). “The higher school sets itself the task of training specialists who must find a definite place in the national economy in conformity with their education and abilities... More than that, the higher school system guarantees each graduate work in his line” (Prokofiev, Chilikin & Tulpanov, 1961, p.8). Finding a job was not a task for the university graduate, because it was the government who assigned students to their first jobs across USSR (DeYoung, 2011).

a. Second sub-hypothesis stating that constraints might influence academic major choice was partially accepted.

Firstly, the research analyzed possible influence of school background on academic major choice, given economic difference between developed capital and less developed regions. As reported by the World Bank, there is a difference between Bishkek (capital city) and the rest of the country where capital city has “lower poverty rates” (2013).

Figure 1. Poverty mapping



Source: *World Bank, 2013 April 18. Regional Disparities in Poverty Rates Still Key Issue in the Kyrgyz Republic – New World Bank Study*

Regional disparities in poverty in the Kyrgyz Republic still remain an important challenge due to a large gap between the capital and other areas. Welfare differences in poverty rates were declining in the Kyrgyz Republic since 2004 mainly because of the sharp poverty decline in the rural areas and the slight increase in poverty in Bishkek. Nevertheless, the striking difference exists on the rates of growth between the capital and other areas in the country. Thus, 18 percent of the population was below the poverty line in Bishkek versus 40 percent in other areas in 2011 (Atamanov, 2013, pp.5-6).

In spite of higher employment rates, the quality of jobs does not allow rural residents generate sufficient income to catch up with the capital. Thus, self-employment accounts for 68 percent of total employment in rural areas, while self-employment is closely associated with higher poverty at the country level. This finding probably reflects the fact that self-employment covers informal and low- paying jobs often in the agricultural sector. The importance of the agricultural sector also explains the high level of part-time work in rural areas. Thus, only 51 percent of rural workers had full-time

jobs more or equal to 38 hours per week, compared to 96 percent in the capital (Atamanov, 2013, p.7).

As it was elaborated in the first sub-hypothesis, school background mostly has indirect effect on the major choice through influence of parents. School background is associated with parental influences as students from capital city tend to be less influenced by parents compared to students from regions. Although by the results in the second sample, there is no association based on regions, which might be explained by the difference in the ratio of students which is 32% students from capital in the first sample and 43% of students from capital in the second sample. As well tuition fee payment depends on regions as students from regions tend to be more associated with parental support in the first sample, whereas in the second sample no association was found. When studying direct influence, there was no significant difference in the satisfaction by the secondary education level among the respondents. Both groups of students evaluated it differently. Neither is there an association with the information sources. Regarding the career counselling, there was an association related to the school background although in general schools in the Kyrgyz Republic do not provide career counselling services.

More importantly, according to the responses to the questions concerning professional career counselling services, 73% of respondents find career counselling important and necessary for major choice; yet, only 37% of them said they received career counselling services. There is also no association between confidence that chosen major is right for career and provision of career counselling services, which might be explained by absence of general career counselling system in the government education system. Absence of career counselling is the result of difficult transition process from

Soviet to modern education system. Most countries have a comprehensive career counselling systems built-in their education system beginning from the school level (Varalakshmi & Moly, 2009). Career counselling centers provide students with an opportunity and an access to career information and consultation, which leads to sound and informed career decisions (UNESCO, 2002). However, the institutionalized education system did not introduce career counselling in Kyrgyzstan; thus, school leavers have no professional support for making conscious decision on major choice. While choosing appropriate career has been identified as one of the common challenges to many students (Amani & Sima, 2015); the rapid transition to new education system without introducing the career counseling created a gap. In order to make a decision, school leavers in Kyrgyzstan make their decisions based on different factors with strong external influence. As it can be seen from the literature review, externally originating factors such as expectations and no-aspiration factor start to fill the gap. However, these changes became difficult to be implemented because Kyrgyzstan succeeded a well-built but costly system of social welfare (UNDP, 2011; Mogilevsky & Omorova, 2013). Economic stagnation, due to the loss of economic ties, central planning and financial support coming from Moscow (DeYoung, 2008), challenged implementation of reforms. The national output decreased by 50% during years 1990 and 1995 although it started to recover very slowly. By the year 2000, real GDP reached 64% of the previous level of the year 1990 (World Bank, 2002). “Public revenues declined even more sharply. The greater reliance on markets led to bankruptcy of some state enterprises and shifted others to private ownership and management” (Mertaugh, 2004, p.162). This is why the country tried to maintain former policies even despite of shortage of resources since the independence period (UNDP, 2011; Mogilevsky & Omorova, 2013).

The sub-hypothesis was partly rejected according to the analysis of two samples on whether students make informed decisions or not. There is a statistically significant association between awareness of job specification and career opportunities and respondent's current status, student or graduated. Current students tend to assume that they are aware of job specification while graduates are less aware. As in neither of samples, awareness level is associated with information sources; the reason might be perception and reality of awareness. Graduates participated in the survey gained post-graduation employment experience and it influenced their assessment of their job specification and opportunities awareness level. Whereas current students might have exaggerated their own awareness level or wanted to claim so for the sake of own social image.

Moreover, the statistically significant association between consideration of the chosen academic major to be right for career and respondent status shows that these two variables are related. Graduates who faced the challenges of post-graduation employment assess their major choices as inconsistent with employment while freshmen students think differently. Considering strong parental influence and limited utilization of various information resources, freshmen students' perception of their major and its match might change by the time of graduation. Lack of information and career counselling might be primary reasons. By the same pattern, the readiness to pay for academic major in case of absence of financial support is also strongly associated with respondent status. By the time of graduation, students understand how their chosen academic majors were unrelated to the employment. This difference can be explained by difference between students' expectations and employment reality they face on graduation. There is little research on how students form educational expectations

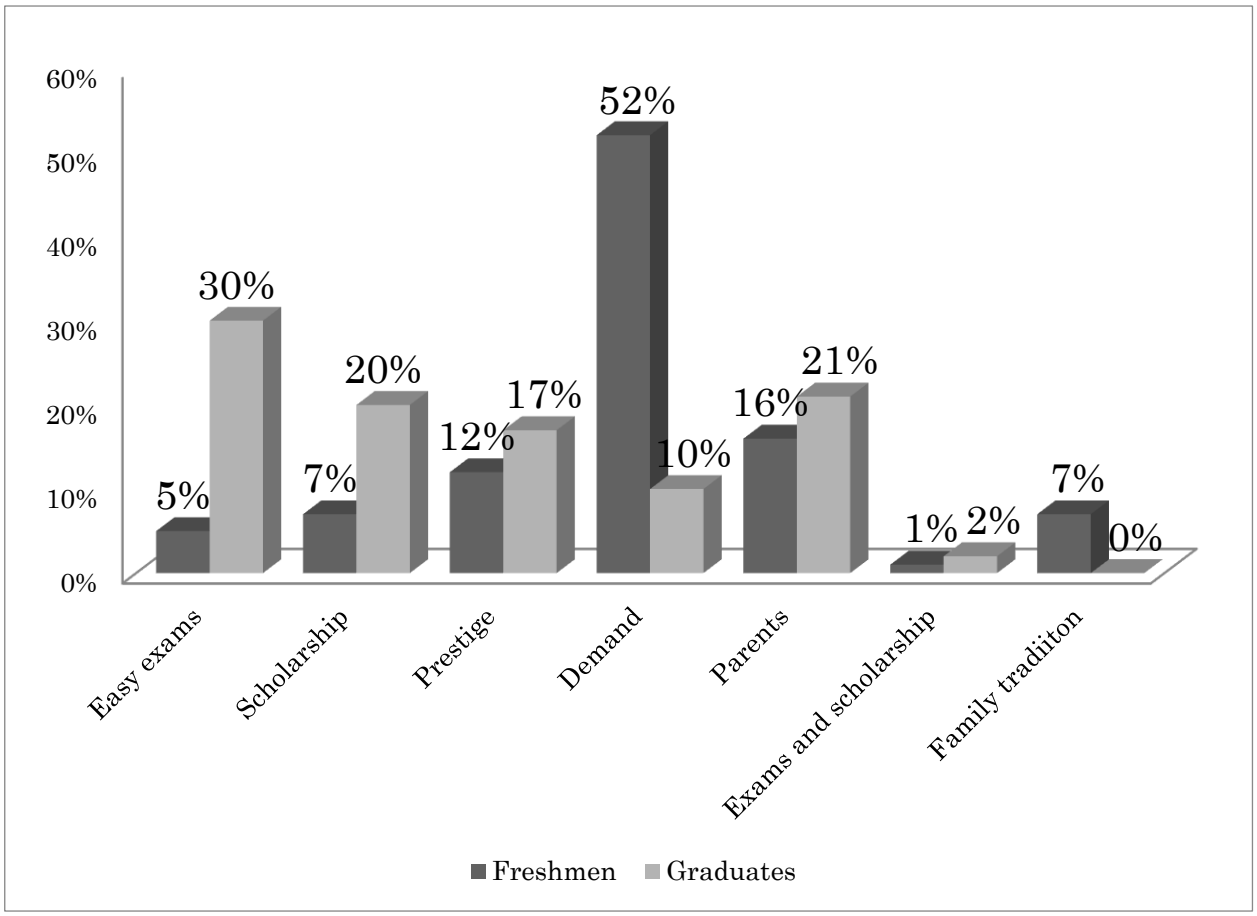
(Andrew & Hauser, 2011). "Educational expectations are the strategic center" of socio-psychological model of educational outcomes which are also well known as the Wisconsin status attainment model (Haller & Portes, 1973, p.68). Status attainment tradition assumes that students' expectations are mainly adopted from significant others and thus indicated static achievement motivation (Haller, 1982). Moreover, there are decision or cognitive biases, related to how students think. This produces errors in decision making (Gilovich & Griffin, 2002) when he or she thinks in shortcut patterns so that such shortcuts might lead to wrong decisions. Thus availability bias will influence decision makers to utilize information easily available or more recent and memorable (Tversky & Kahneman, 1974). In the given case, availability bias makes students decision more influenced by existing stereotypes and images and parental influence, giving impression of high level of awareness about job specification and career opportunities although it might be contrary to reality of labor market.

Most of the students (78%) claimed that they had enough time for a major choice decision making. Most students started thinking about future career in middle and high school, although we have seen in the resources for obtaining career information. Not much time is devoted for studying labor market. Coupled with the fact the government schools do not provide career counselling the decision making time might be not enough for a conscious decision making and be encountered by different constraints. The biggest constraint in the major choice came out to be capabilities of respondents when they could not choose the desired major. No statistically significant association based on school background was determined for constraints.

b. The third sub-hypothesis stating that major choice does not guarantee employment was accepted.

First of all, this study showed significant association between respondent status and confidence that chosen major is right for career. Graduates who faced post-graduation employment assess that their academic major is not relevant to employment; while half of the current students find their chosen majors to be the only right major for future career. There is no association with information sources or career counselling. The explanation to this might be found in the alternatives, that students would choose if they had an option of not going to university. Most of them would like to work or get internship for gaining knowledge in the field. This leads to a question of the reason students generally go to their university and their chosen major. The study showed distinguishable difference in students' perception of university education and future employment. Regarding the reason of university enrollment, we can see that the reasons students choose to go to university are pretty much similar. Gaining knowledge is the most important reason in both samples. The second important reason is obtaining diploma. The third most often chosen reason is the combination of knowledge and diploma also common for all respondents.

Table 27. Share of academic choice reasons by respondents' status (freshmen students and graduates)



Knowledge and diploma are two main reasons for about 74% of students going to universities. Worth mentioning is the share of knowledge, diploma and knowledge and diploma combination, which is 28%, 26%, and 20%. Diploma itself is almost as strong reason for going to university as knowledge. The knowledge-diploma motivation is also reflected in the expectations students put on universities they enroll as 71% of respondents are looking forward to gaining knowledge and/or diploma. These data supports findings of DeYoung (2011) that students "have great faith in the power of the university to confer general knowledge…for employment" (p.23) although the job may not necessarily be consistent with one's academic major. According to DeYoung (2011, p.22), higher education is needed as "good knowledge equals good life" which is quite

common perception, although getting higher education and knowledge was rather "rhetorical than carefully thought out" answers. Obtaining a good job was the reason for 120 students from DeYoung's survey (2008) who also linked it to obtaining higher status and professional career. While for others, obtaining a higher education is a way to escape unemployment unlike parents. However, no student mentioned the skills they would like to learn and obtain. As DeYoung summarizes, "beyond choosing a field of study, most students had little understanding about what the components of their studies were, what particular skills they should seek to acquire…higher education was a more of a commodity and not a set of skills to be learned" (2011, p.22). Student purchases grades, because he/she is not interested in getting knowledge and acquiring skills and bribery solves this problem". Receiving a formal diploma is the main purpose rather than skill acquisition, as in order to pay for the grades "many students are registered as students but they themselves are abroad (working illegally)" (Nurmanbetova, 2012, interviewing Mambetalieva, 2012). Baltic Surveys/the Gallup Organization also found corruption to be the second top issue Kyrgyzstan is facing for 73% of respondents. Universities are in the top three most corrupted institutes along with traffic police and police for 91% of respondents (IRI, 2014).

Second, despite importance of the labor market demand for future employment, only half of the respondents chose demand of the market as the main reason for choosing a particular major. Among this 52% of respondents only 17% of respondents studied the demand of the labor market. This can be partly explained by official requirement of university diploma for majority of white collar work, while "kinship networks and personal connections" became primary mechanisms of career entry (DeYoung, 2011, p.4). On the other side, it raises a question of difference between

actually demanded jobs and jobs considered to be demanded. As a developing country, Kyrgyzstan needs young specialists in different sectors, which in turn create a demand for young professionals. Specialists in such top priority sectors as light industry, construction, agriculture, energy, transport, mining, service industry and tourism are in high demand in the labor market according to the head of the group of consultants of the Second Vocational Education and Skills Development Project (VESD II) launched by the Helvetas Swiss Corporation in the Kyrgyz Republic Mr. Abdykaparov M. (Kabar.kg, 2015). According to the Ministry of Education and Science (Kyrtag.kg, 2014) the most demanded jobs in Kyrgyzstan in coming 5 years would be agricultural industry, energy, tourism and light industry. Also the Ministry has emphasized that most importantly the technical jobs like IT specialists in the service and tourism industry, medical workers, teachers and translators/interpreters will be highly needed (Annex, *Table 27. Top paid jobs by the NSC*). The role of IT technology-related occupations are emphasized as priority for accelerated economic, scientific and cultural development in future (National Sustainable Development Strategy, 2013). The rise of expected money income and the decrease of uncertainty of acquiring income will raise enrollment rates (Campbell & Siegel, 1967). Despite high salary these jobs are not among currently demanded majors among students. The most recent average salary estimates show that the most highly-paid jobs are those in financial and insurance sector (29,336 KGS/month), with the 2nd and 3rd top paid job in mining (25,325 KGS/month), information and communication sector (24,982 KGS/month) (NSC, 2016). Other highly-paid jobs are in electricity, gas, steam and air conditioning supply (24,615 KGS/month), transportation and storage (20,746 KGS/month), professional, scientific and technical activities (15,746 KGS/month).

Again it is proved by the fact that second important reason behind the particular major choice is the influence of significant others, namely parents for 16% of respondents. Fewer respondents chose prestige as a reason to pick a major. Other reasons for major choice are family tradition and financial issues, i.e. availability of scholarship as a decisive factor. The least chosen answer is the ease of entrance exams, which were important for 5% of respondents. Thus inability of students to enter first-choice university or academic major can make them choose other options in order not to "sit out a year" (DeYoung, 2011, p.26).

Third, we do not observe strong association between major choice and future employment; because less than half of the respondents agree that they chose the only-right major. Neither is a university education considered as a worth investing money if there were no financial support. Given the fact that none of the respondents individually pay the tuition fee they were asked whether they would pay for studying the chosen major if they had no financial support. There is statistically significant association between readiness to pay for chosen academic major and respondent status. Half of the current students are ready to pay tuition fee in order to study in their chosen academic major, while graduates would not invest money for studying the same major. The reasons can be understood better by examining additional questions graduates were asked in order to assess the outcome of their major choice.

Surprisingly, 50% of the respondents' did not find their university education expectations met, while 33% did not know how to answer the question. Only 17%, which is 5 respondents out of 30, said that their expectations were fulfilled. The reason lies in the benefits respondents received from 4-5 years of studying in the universities of Kyrgyzstan. Contrary to the initial expectations, where knowledge was the most

important purpose of going to university, only 10% of students found knowledge to be the biggest benefit. Yet, the most frequent outcome in reality turned out to be the diploma for 43%. Second most important benefit according to the respondents turned out to be diploma and time for considering future plans.

Comparing the expectations versus reality demonstrates the huge difference in knowledge and diploma section. Expectations for the knowledge for students entering university were not met at the time of graduation, as most respondents after graduation mentioned benefit of diploma rather than knowledge. For graduates diploma and time were higher than real benefit in terms of knowledge.

Strikingly, none of the respondents work according to his/her major. One of the main reasons is that for half of the respondents the choice of major was wrong. 27% of them were unable to find jobs by major. After graduation they had to switch their specialization and start developing expertise from scratch. Other 27% could not find a job. These kinds of graduates switch specialization and start working in a completely different sphere despite 4-5 years of investments that they have made.

Conclusion

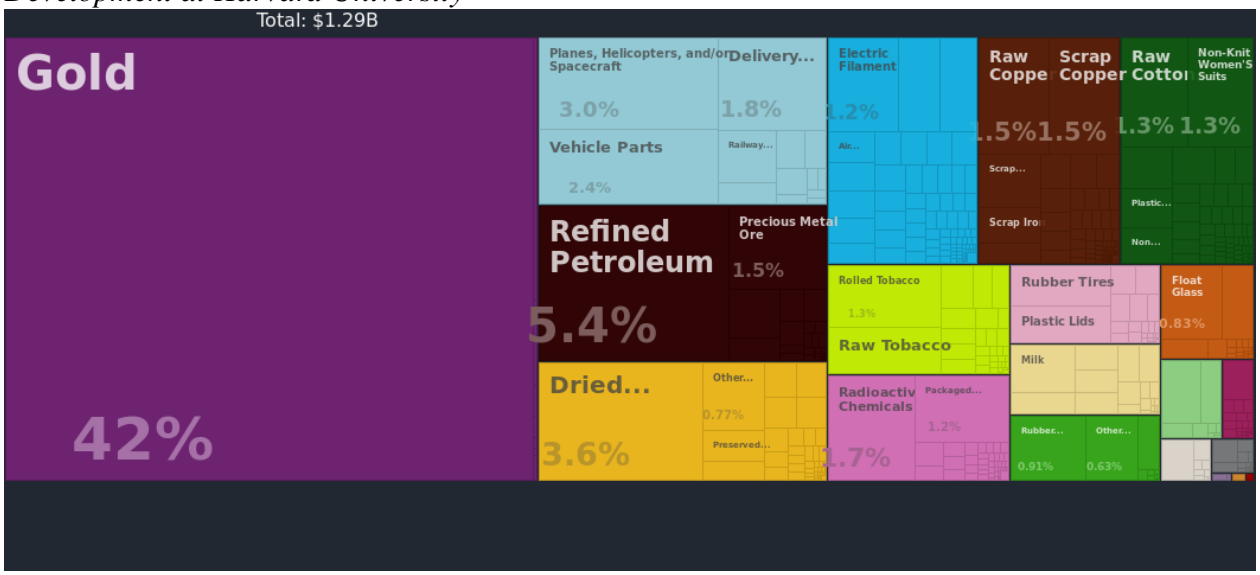
With the dissolution of the USSR, the situation in education system of the Kyrgyz Republic has significantly changed. Market economy replaced central planning system; thus, previous guaranteed employment after university graduation was replaced by chaos and competition for few job opportunities. Education suddenly had to meet new demands of competitive market economy and labor market which was now out of administrative involvement (Anderson & Heyneman, 2005). Both contents and teaching methods had to change to make new education system more susceptible to the globally changing demands and new labor market. Moreover, the old planned economic order fell apart; it became difficult to predict which academic majors would be in demand depending on the conditions of market economy (Mertaugh, 2004). With new policies granting wider access to higher education, high demand caused enormous growth of tertiary education institutions in Kyrgyzstan. Due to a number of reasons, university enrollment and major choice were significantly influenced by social factors rather than economic factor.

As it is seen from the results of the given research work, students' academic major choice is not directly related to post-graduation employment. By the time of entering university, students have vague idea about their chosen major, areas of studies, future job, opportunities or labor market and their role in it. Generally university enrollment is considered to be a necessary step while major choice is secondary as a job consistent with major is not a must. They heavily rely or even depend on parents' decisions and financial support both during and after graduation when it comes to employment. If it was not for parents' financial support, chosen academic majors would not be priority. There is a difference in students' perception of own awareness about job

specification and career opportunities, estimation of whether chosen major is right for career and worth paying between the time of university enrollment and the time of post-graduation. None of the graduates work by major due a number of reasons; however, the main reason is incorrect choice of major and inability to a find a job. Failure to find a job by major makes graduates switch career, which requires additional time and money investment. If the current situation continues without thorough intervention, a skill gap in the labor market will negatively influence economic development of the country in general. Given the current lack of diversification in academic majors chosen by students, one can see low responsiveness of Kyrgyzstani higher education system to labor market demands. Low enrollment in science, technology, engineering, and math related majors can lead to serious constraint as STEM skills are necessary in the economy pursuing innovations (WB, 2012).

The Kyrgyzstani economy is very vulnerable owing its heavy reliance on the Kumtor gold mine, which accounts for 10% of GDP, and international remittances received from immigrants, equivalent to 30% of GDP in 2011–15 (World Bank, 2017). In the light of limited export capacity demonstrated in the Figure 2, for Kyrgyzstan to "realize its growth potential - including to export hydroelectricity as a nexus for regional trade and transport and to promote tourism - economic activities need to be diversified through increased private sector development and improved occupational skills and productivity among the youth" (World Bank, 2017).

Figure 2. Visualization of Kyrgyzstan's export branches for 2015 developed by Economic Complexity Observatory, MIT Media Lab and the Center for International Development at Harvard University[4]



As it was presented in the Introduction of the given research work, tertiary education is positively associated with economic growth of a number of countries. Despite absence of natural resources to exploit, the city-state of Singapore sustains its competitiveness by developing human resources through well-functioning education system (Goh & Gopinathan, 2008). Improved occupational skills and productivity among youth can be developed through improving tertiary education outcome, which requires thorough academic major choice. It is important to address academic major choice problems highlighted by the given research work. Based on the findings of this research, there are several implications for practice that would contribute to improving matching higher education and labor market through an assistance to thorough academic major choice.

Implications for Practice

Based on the findings of the research, there is a number of practical recommendations that could be implemented in order to assist students in making considerate academic major choice consistent with expected employment.

[4] Retrieved May 20, 2017 from http://atlas.media.mit.edu/

First, the career counselling should be initiated in the schools covering 10-11th grade students in order to help them understand their interests on one side and help them understand the labor market needs and requirements on the other side. High school guidance counselors play a major role in helping high school students prepare for next step in education by providing counseling programs and help students solve their problems for developing a clearer focus (American School Counselor Association, 2006). Given the importance of career choice "it is imperative that competent counselors be placed in schools" (Sonaike, 2007, p.3). There are positive effects of comprehensive counseling programs with improving students' performances in different spheres including academic achievement, career development and generally better life quality (Lapan, Gysbers, & Petroski, 2001; Gysbers, Lapan, & Blair, 1999; Whiston & Sexton, 1998). In some cases, going to professional colleges instead of universities might bring better outcome for students who are interested in technical jobs that are in high demand nowadays. As the role of parents is significant in the matters of major choice, it is important to involve parents into career counselling and help them understand about the labor market. Within general career counselling programs, different career fair activities should be implemented. Currently, there have been some initiatives taken by different non-governmental organizations like Global Shapers Bishkek Hub and private education companies. Given the limited scope of the events that are conducted only once a year, further development and wide outreach should be considered. In addition, the corresponding infrastructure should be built. As currently there are no academic majors training students for the job, additional academic courses should be developed to train future counsellors within higher education institution framework. Career counselling programs should be developed and incorporated into

general curriculum of 9-10th grade students in high school.

In addition, creation of reliable tracking of the employment outcomes of recent university graduates would fill the information gap. Creation of a communication platform for graduates of high schools and current students would help create a link between them. Graduates would be able to share their professional experiences, while current students would receive better understanding of what working life requires. The platform could be used for organizing mentoring programs or events where the speakers can share their career success stories.

Second, the link between labor market and secondary educational institutions should be strengthened. The benefits for companies and organizations would be that they can secure future employees through helping students understand the advantages of working in the sector. On the other side, students can understand their interests and perspectives in the sphere and be more prepared to work after graduation. One of the effective ways is internship programs where students would actually be able to see the working environment, understand the job specifics and make some contribution to the companies and organizations. According to the research of Blau et al. (2016), securing full-time job consistent with one's major correlates with an internship experience in the sphere and can be attained more effectively. Moreover, there is a positive correlation with engagement with professionals to provide networking opportunities in one's major. This result is consistent with Sagen et al. (2000) who found out that besides basic characteristics like academic performance and specialized preparation, internships and career-related experiences of work positively correlate with post-graduation employment. Gault, Redington and Schlager (2000) found that recent business major graduates with internship experience obtained initial employment more quickly than

those who have never been interns. In addition interns reported higher salaries and higher job satisfaction compared to other alumni without an internship experience. In addition internship programs have a potential for improving school – labor market cooperation.

The third, the high school – university cooperation should be improved. At the current stage, high school students have limited opportunities to visit universities, get acquainted with teaching staff and current students of 3rd or 4th years of education. "Open doors" days in universities of Kyrgyzstan could be conducted twice a year. All interested students could visit universities and talk to professors and students and participate at the open lectures to learn about the major from inside. High school – university cooperation can further be developed through various youth organizations such as Global Shapers Bishkek Hub, ENACTUS, Pro KG etc. With the support of donor organizations, the youth groups can be mobilized for launching career counselling workshops both in urban and rural areas with limited information access. Sharing knowledge drawn from personal experience would be helpful for potential students to understand university requirements, academic courses and other important factors.

The last but not the least is the creation of an interactive web-site about academic major choice and career opportunities. Up to date, every university maintains its own web-site providing official information. The new web-site should contain data-base of all post-secondary education institutions and current analysis of labor market. Simple delivery of information in form of infographics, slides, and tables, which are easy to understand, would help schoolchildren individually navigate inside the web-site and find all the necessary information. Career opportunities and benefits of choosing STEM majors along with humanities would be presented to help high school

students make an informed decision.

The contribution of the given research into the existing literature is testing the hypothesis on the case of the Kyrgyz Republic, given the limited research in the area. The research is important by the fact of the transition from planned to market economy which affected generations differently. Parents, who strongly affect the decision making process, studied during Soviet times; while the current freshmen students live in the realities of the market economy. More detailed research among parents would fill the gap and help better understand the current situation. Moreover, the research shows that being motivated by economic reasons and thinking that one is pursuing economic reasons for entering tertiary education system are different things. Based on the empirical data obtained and analyzed we can see the weakness in economic motives for going into the tertiary education among the students of the Kyrgyz Republic. In a fast developing world, Kyrgyzstani economy needs competent and professional workers that would contribute to its development. For this purpose, it is important to help students choose right majors, which on one side match their interests, while on the other side meet the needs of the labor market.

Limitations/Implications for further research

Due to the aforementioned limitations, the research could not fully answer all the questions in the area of major choice among the students of the universities in Kyrgyzstan. Stronger research design would be able to gather independent variables at the period of time during university education and match these responses to post-graduation job outcome of the same respondents such as age equivalency, major, year of graduation or school background, as it would be more specific in identifying whether there is a gap in students perception of major choice/employment and reality

when it comes to finding a job after graduation.

The quantitative research however does not allow gaining more specific details that might help better explain the motivations of student major choices. Given the strong role played by parents, it might be useful to carry out a similar research on the major choice of the students among their parents. Deeper interviews with students, their peers and parents might help reveal more information.

References

Agarwala, T. (2008). Factors influencing career choice of management students in India. *Career Development International, 13(*4*),* 362-376.

Alexander, K. L., & Eckland, B. (1975). *Basic attainment processes: A replication and extension.* Retrieved from http://search.proquest.com/docview/64019237?accountid=130127

Allison, P. D. (2001). *Missing data*. CA: Sage Publications.

Amani, J. & Sima, R. (2015). The Status of Career Counselling Services in Higher Learning Institutions in Tanzania. *International Journal of Education and Social Science*, *2*(8). Retrieved from http://www.ijessnet.com/wp-content/uploads/2015/09/3.pdf

American School Counselor Association (June 2004). *The role of the Professional School Counselor*. Retrieved January 9, 2006, from http ://www. schoolcounselorg/ content, asp.

Andrew, M., & Hauser, R. M. (2011). *Adoption? adaptation? evaluating the formation of educational expectations. Social Forces, 90*(2), 497-520. Retrieved from https://search.proquest.com/docview/940916024?accountid=130127

Anderson, J. (2010). *An examination of college selection factors used by business students who chose to attend a small midwestern private college* (Order No. 3438665). Available from ProQuest Dissertations & Theses A&I. (848634791). Retrieved from http://search.proquest.com/docview/848634791?accountid=130127

Anderson, K. H., & Heyneman, S. P. (2005). Education and Social Policy in Central Asia: The Next Stage of the Transition. *Social Policy & Administration, 39*(4), 361-380. doi:10.1111/j.1467-9515.2005.00445.x

Arcidiacono, P. (2004). Ability Sorting and the Returns to College Major. *Journal of Econometrics, 121* (12), 343-375. doi:http://dx.doi.org/10.1016/j.jeconom.2003.10.010

Arulmani, G., Van Laar, D. & Easton, S. (2003). The Influence of Career Beliefs and Socio-Economic Status on the Career Decision-Making of High School Students in India. *International Journal for Educational and Vocational Guidance, 3,* 193–204.

Asian Development Bank (2005). *Country strategy and program update (Kyrgyzstan*). Asian Development Bank, Manilla.

Asian Development Bank (2005). *Country strategy and program update (Kyrgyzstan).* Retrieved January 20, 2017 from https://www.adb.org/sites/default/files/institutional-document/32321/files/csp-kgz-2005.pdf

Asian Development Bank (2015). *Assessment of higher education Kyrgyz Republic*. Retrieved January 15, 2017 from https://www.adb.org/sites/default/files/institutional-document/175940/higher-education-kgz.pdf

Atamanov, A. (2013 April). *Regional welfare disparities in the Kyrgyz Republic*. Document of the World Bank, 76573. Retrieved May 15, 2017 from http://documents.worldbank.org/curated/en/965621468091787832/pdf/765730WP0P1220020130ENG0Box374384B.pdf

Auyeung, P. & Sands, J. (1997) Factors influencing accounting students' career choice: a cross-cultural validation study. *Accounting Education: an international journal, 6*(1), 13–23.

Bai, L. (1998). Monetary rewards versus the national ideological agenda: Career choice

among Chinese university students. *Journal of Moral Education, 27*(4), 525-541.

Barro, R. J. (1991). Economic Growth in a Cross Section of Countries. *The Quarterly Journal of Economics, 106*(2), 407. doi:10.2307/2937943

Beal, S. J., & Crockett, L. J. (2010). *Adolescents' Occupational and Educational Aspirations and Expectations: Links to High School Activities and Adult Educational Attainment*. Faculty Publications, Department of Psychology. Paper 491. Retrieved from http://digitalcommons.unl.edu/psychfacpub/491

Becker, G. S. (1962). Investment in human capital: a theoretical analysis. *Journal of Political* Economy, *70*(5), 9-49.

Becker, G. S. (1993). *Human capital: A theoretical and empirical analysis, with special reference to education*. Third edition.

Beggs, J.M, Bantham, J.H. & Taylor, S. (2008). Distinguishing the factors influencing college

students' choice of major. *College Student Jour. 42*(2), 381-394.

Berger, M. C. (1988). Predicted future earnings and choice of college major. *Industrial & Labor Relations Review, 41*(3), 418-429. Retrieved from http://search.proquest.com/docview/236341923?accountid=130127

Betz, N. E. (1992). Counseling uses of career self-efficacy theory. *Career Development Quarterly, 41*(1), 22.

Bourdieu, P., & Passeron, J. (1977). *Reproduction in Education, Society and Culture*. SAGE Studies in Social and Educational Change, Volume 5.

Billiot, M. J., Glandon, S., & Mcferrin, R. (2004). Factors Affecting the Supply of Accounting Graduates. *Issues in Accounting Education,19*(4), 443-467. doi:10.2308/iace.2004.19.4.443

Blakemore, A. E. & Low, S. A. (1984). Sex Differences in Occupational Selection: The Case of College Majors. *Review of Economics And Statistics, 66*(1), 157-163.

Blau, G., Hill, T. L., Halbert, T. A., Snell, C., Atwater, G. A., Kershner, R., & Zuckerman, M. M. (2016). Correlates of graduating with a full-time job versus a full-time job consistent with major. *College Student Journal, 50*(3), 355-360. Retrieved from https://search.proquest.com/docview/1871574788?accountid=130127

Boz, Y. & Boz, N. (2008). Prospective Chemistry, Mathematics teachers' reason for choosing teaching as a profession, *Education Journal 16*(1), 137-144.

Bregman, A. & Marom, A. (1993). *Growth Factors in Israel's Business Sector, 1958–1988.* Discussion Paper 93.02. Bank of Israel Research Department, Jerusalem.

Buser, T., Niederle, M., & Oosterbeek, H. (2014). Gender, Competitiveness, and Career Choices.
Quarterly Journal of Economics, 129(3), 1409-1447.

Campbell, R., & Siegel, B. N. (1967). The demand for higher education in the united states, 1919-1964. *American Economic Review, 57(*3*),* 482.

Chapman, D. (1981). A model of student college choice. *The Journal of Higher Education, 52*(5). 490-505.

Chauhan, S.S. (1996). *Advanced psychology*. New Delhi: Vani Educational Books.

Cohen, J., & Hanno, D. (1993). An analysis of underlying constructs affecting the choice of accounting as a major. *Issues in Accounting Education, 8*(2), 219-238.

Correll, S. J. (2001). Gender and the career choice process: The role of biased self-assessments. *The American Journal of Sociology, 106*(6), 1691-1730. Retrieved from http://search.proquest.com/docview/195951452?accountid=130127

Cooper, E. C. (1993). *Economic determinants of enrollment in community colleges: An empirical test of higher education demand theory* (Order No. 9416861). Available from ProQuest Dissertations & Theses A&I. (304031239). Retrieved from http://search.proquest.com/docview/304031239?accountid=130127

Côté, J. E., & Levine, C. (1997). Student Motivations, Learning Environments, and Human Capital Acquisition: Toward an Integrated Paradigm of Student Development. *Journal of College Student Development, 38*(3), 229-243. Retrieved from http://search.proquest.com/docview/195171019?accountid=130127

Denison, E. (1962). *The source of economic growth in the United States and the Alternative before us*. Washington: Committee for economic development.

The Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) (2013). *Study "Labor market and employment policy in the Kyrgyz Republic".* Identifying constraints and options for employment development. Retrieved February 10, 2017 from http://zentralasien.ahk.de/uploads/media/20130301_KIRG_Study_on_Labour_Market_policy_EN.pdf

DeYoung, A. J. (2011). *Lost in transition: Redefining students and universities in the contemporary Kyrgyz Republic*. International perspectives on educational policy, research and practice IAP - Information Age Publishing, P.O. Box 79049, Charlotte, NC 28271-7047. Retrieved from http://search.proquest.com/docview/870287208?accountid=130127

Dick, P. T., & Rallis, F. S. (1991). Factors and influences on high school students' career choices. *Journal for Research in Mathematics Education, 22*(04), 281-292.

Dickson, L. (2010). Race and gender differences in college major choice. *Annals of the*

American Academy of Political and Social Science, 627, 108-124. Retrieved from http://search.proquest.com/docview/219563940?accountid=130127

Dubin, B., Gudkov L., Levinson, A., Leonova, A. & Stuchevskaya, O. (2004).Dostupnost' vysshego obrazovania: sotsial'nye i institutsional'nye aspekty [Accessibility of higher education: social and institutional aspects]. In. S.V. Shishkin (Ed.). *Dostupnost' vysshego obrazovania v Rossii* [Accessibility of Higher Education in Russia]. Moscow: Independent Institute for Social Policy.

European Training Foundation (2013). *Transition from school to work in Kyrgyzstan*. Retrieved February 20, 2017 from http://www.etf.europa.eu/webatt.nsf/0/F468B191CAD95B8BC1257BBE005530DF/$file/School-to-work%20transition_Kyrgyzstan.pdf

Feenstra, R. C., Madani, D., Yang, T., & Liang, C. (1999). Testing endogenous growth in South Korea and Taiwan. *Journal of Development Economics, 60*(2), 317-341. doi:10.1016/s0304-3878(99)00054-1

Fisher, T. A., & Griggs, M. B. (1995). Factors that influence the career development of African-American and Latino youth. *The Journal of Vocational Research, 20*(2), 57-74.

Education Development Strategy of the Kyrgyz Republic, 2012-2020. Retrieved January 13, 2017 from http://edu.gov.kg/ru/docs/statistics/standards/strategiya-razvitiya-obrazovaniya-v-kyrgyzskoj-respublike-na-2012-2020-gody/

Eiland, L. S., Flowers, S. K., Andurkar, S. V., O' Brocta, R., Prabhu, S., & Medon, P. J. (2010). A comparative study of student and faculty perspectives regarding career opportunities in pharmacy academia. *Currents in Pharmacy Teaching & Learning,*

2(1), 39-51.

Erikson, E. H. (1968). *Identity: youth and crisis*. New York: Norton.

Erikson, R.E., & Jonnson, J.O. (1996). *Can Education Be Equalized? The Swedish Case in Comparative Perspective.* Boulder, CO: Westview.

Esters, T. L., & Bowen, E. B. (2005). Factors influencing career choices of urban agricultural education students. *Journal of Agricultural Education, 46*(02), 24-35.

European Training Foundation (2013). *Transition from school to work in Kyrgyzstan*. Results of the 2011/12 transition survey. Retrieved November 16, 2016, from http://www.etf.europa.eu/web.nsf/pages/School_to_work_transition_Kyrgyzstan

Fouad, N. A., Kantamneni, N., Smothers, M. K., Chen, Y. L., Fitzpatrick, M., & Terry, S. (2008). Asian Amercian career development: *A qualitative analysis. Journal of Voctaional Behavior, 72*(1), 43-59.

Gati, I., Kraus, M., & Osipow, S. (1996). A taxonomy of difficulties in career decision making. *Journal of Counseling Psychology, 43*, 510-526.

Gault, J., Redington, J. & Schlager, T. (2000). Undergraduate business internships and career success: Are they related? *Journal of Marketing Education,22* (1), 45-53.

Gibbons, S., & Vignoles, A. (2009). *Access, Choice and Participation in Higher Education*. CEE Discussion Papers, CEEDP0101. London School of Economics and Political Science, London, UK. Retrieved July 14, 2016, from http://eprints.lse.ac.uk/23656/1/ceedp101.pdf

Gil-Flores, J., Padilla-Carmona, M. T., & Suarez-Ortega, M. (2011). Influence of Gender, Educational Attainment and Family Environment on the Educational Aspirations of Secondary School Students. *Educational Review, 63*(3), 345-363.

Gilovich, T., & Griffin, D.W. (2002). Heuristics and biases: Then and now. In D.G.T.

Gilovich and D. Kahneman, Eds., Heuristics and Biases: The Psychology of Intuitive Judgment (pp. 1–18). Cambridge, UK: Cambridge University Press.

Goh, C. B., & Gopinathan, S. (2008). Education in Singapore: Development since 1965. In B. Fredriksen & J. P. Tan (Eds.), An African Exploration of the East Asian Education (pp. 80-108). Washington, DC: The World Bank.

Gorshenin Institute (2012). *Vneshnee nezavisimoe testorivanie v Ukraine* (results of the phone poll of population, May 2012). Retreieved from.March 10, 2017 from http://institute.gorshenin.ua/researches/110_vneshnee_nezavisimoe_testirovanie_v.html.

Graves, J. & Kuehn, Z. (2015). *How Students Incorporate Sector-Specific Economic Conditions into Educational Choices*. Retrieved May 22, 2017 from http://www.ieb.ub.edu/files/PapersWSEE2015/WSE15Kuehn.pdf

Greenberger, M. (2002). *Nation's high schools still operate "separate and unequal" vocational education for male and female students*. Retrieved July 12, 2016, from http://www.nwlc.org/details.cfm?id=1135&section=education

Gul, F. (1986). Adaption-innovation as a factor in Australian accounting undergraduates' subject interests and career preferences. *Journal of Accounting Education, 4* (1), 203-209.

Gul, F. A. et al. (1989) Factors influencing choice of discipline of study—accountancy, engineering, law and medicine. *Accounting and Finance, 29*(2), 93–100.

Gybers, N. C., Lapan, R. T., & Blair, M., (1999). Closing in on the statewide implementation of a comprehensive guidance model. *Professional School Counseling, 2*(5), 357-366.

Haller, A. O. (1982). Reflections on the Social Psychology of Status Attainment. *Social*

Structure and Behavior, 3*,* 28. doi:10.1016/b978-0-12-333060-4.50008-5

Haller, A., O. & Portes, A. 1973. Status Attainment Processes. *Sociology of IBM-SPSS Missing Values 22*. Retrieved May 05, 2017 from http://www.sussex.ac.uk/its/pdfs/SPSS_Missing_Values_22.pdf

Han, S.-G., Jin, M.-S., Lee, Y.-D., Lee, E., & Lee, Y. G. (2002). *The study on the career plan of high school students.* Seoul: Korea Research Institute for Vocational Education & Training

Hearn, J. C. (1991). Academic and nonacademic influences on the college destinations of 1980 high school graduates. *Sociology of Education, 64*(3), 158-171.

Heyneman, S. P. (1998). The transition from party/state to open democracy: The role of education. *International Journal of Educational Development, 18* (1), 21-40. doi:10.1016/s0738-0593(97)00039-4

Hodkinson P., & Sparkes A.C. (1997). Careership: A Sociological Theory of Career Decision Making. *British Journal of Sociology of Education, 18* (1), 29-44.

Hoffman, D. L., & Low, S. A. (1983). Rationality and the decision to invest in economics. *Journal of Human Resources, 18*(4), 480-496.

Hong, H., Kim, S., Min, B., & Ko, Y., (2006). *An analysis of students' choices of college majors and satisfaction based on students' subject interest and subject efficacy among the general high school students*. Paper presented at the 2nd Annual Conference of Korean Education and Employment Panel (KEEP), Seoul, Korea.

Hossler, D., Braxton, J., & Coopersmith, G. (1989). Understanding student college choice. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (pp. 231-288). New York: Agathon Press.

Hossler, D., & Gallagher, K. S. (1987). Studying student college choice: A three-phase

model and the implications for policymakers. *College and University, 62*(3), 207-221.

Ibraimova: *70 percent of university graduates can not find jobs* (2008, November 10). Retrieved from http://www.for.kg/news-76467-ru.html

International Republican Institute (2014). *Baltic Surveys/the Gallup Organization*, February 4-21, 2014. Retrieved December 1, 2016, from http://www.iri.org/sites/default/files/2014%20May%2014%20Public%20Opinion%20Survey%20Residents%20of%20Kyrgyzstan,%20February%204-21,%202014.pdf

Jackson, G. A. (1982). Public Efficiency and Private Choice in Higher Education. *Educational Evaluation and Policy Analysis, 4*(2), 237-47.

Katz, L. F., & Autor, D. H. (1999). Changes in the Wage Structure and Earnings Inequality. In O. Ashenfelter, D. Card (Eds.) , *Handbook of labor economics*. *Volume 3A* (pp. 1463-1555). Handbooks in Economics, vol. 5.

Kim, D., Markham, S.F., Cangelosi, J.D (2002). Why students pursue the business degree: A comparison of business majors across universities. *Journal of Education for Business 78* (1), 28-32.

Kim, J., & Gasman, M., (2011). In Search of a "Good College": Decisions and Determinations Behind Asian American Students' College Choice. *Journal of College Student Development, 52*(6), 706-728.

Kim, K.-N. (2012). Trajectories of female students' career decision between high school and college: Organizationally separate but developmentally linked. *Asia-Pacific Education Review, 13*(3), 549–562.

Kim, M. (2006). A gender difference in students' choice of the mathematics and science

field: Preference, achievement, and family background. Paper presented in the Fifth Annual Conference of Korean Education and Employment Panel, Seoul, Korea.

Kim, Y., & Cha, J. (2000). Career orientations of R&D professionals in Korea. *R&D Management, 30*(2), 121-138.

Kohn, M.G., Manski, C.F. & Mundel, D.S. (1976) *An empirical investigation of factors influencing college going behavior* (R-1470-NSF) Prepared for National Science Foundation. Ann. econ. sot. Measure. 5, 391-419. Retrieved from http://www.rand.org/content/dam/rand/pubs/reports/2006/R1470.pdf

Lapan, R. T., Gysbers, N. C., & Petroski, G. (2001). Helping 7th graders be safe and academically successful. A statewide study of the impart of comprehensive guidance programs. *Journal of Counseling and Development, 79*, 320-330.

Lent, R. W., & Brown, S. D. (1996). Social cognitive approach to career development: An overview. *Career Development Quarterly, 44*(4), 310-321.

Lent, R.W., Brown, S.D., & Hackett, G. (2000). Contextual supports and barriers to career choice. *Journal of Counseling Psychology, 47*(1), 36-49.

Litten, L. H. (1982). Different Strokes in the Applicant Pool: Some Refinements in a Model of Student College Choice. *Journal of Higher Education, 53*(4), 383.

Long, M. C., Iatarola, P., & Conger, D. (2009). Effects of high school course-taking on secondary and postsecondary success. *American Educational Research Journal, 49* (2), 285–322.

Malgwi, C. A., Howe, M. A., & Burnaby, P. A. (2005). Influences on students' choice of college major. *Journal of Education for Business, 80* (5), 275-282. Retrieved from https://search.proquest.com/docview/202821294?accountid=130127

Manacorda, M. & Manning, A (2007). Shifts in the Demand and Supply of Skills in the OECD: A Single-Index with a Continuous Distribution of Skills. *Oxford Bulletin of Economics and Statistics, 69*(5), 635-666.

Manski, C. F., & Wise, D. A. (1983). *College choice in America*. Cambridge, MA: Harvard University Press.

Manuel, J. & Hughes, J. (2006). It has always been my dream': exploring pre-service teachers' motivations for choosing to teach. *Teacher Development, 10*(1), 5-24.

Mankiw, G., Romer, D., & Weil, D. (May 1992). A Contribution to the Empirics of Economic Growth. *The Quarterly Journal of Economics, 107*, 407-37.

Mauldin, S., Crain, J. L., & Mounce, P. H. (2000). The accounting principles instructor's influence on students' decision to major in accounting. *Journal of Education for Business, 75* (3), 142-148.

Ministry of Education and Science of the Kyrgyz Republic, official website http://edu.gov.kg/

Mertaugh, M. (2004). Education in Central Asia, With Particular Reference to the Kyrgyz Republic. *The Challenge of Education in Central Asia*, edited by Stephen P. Heyneman and Alan J. DeYoung, Information Age Publishing, Greenwich Connecticut, 2004. Retrieved January 10, 2017 from http://siteresources.worldbank.org/INTECONEVAL/Resources/EducInCentralAsia_Kyrguz_Rep.pdf

Mogilevsky, R., & Omorova, A. (2013). *Financing Human Development in Africa, Asia and the Middle East United Nations Series on Development,* 61-90. doi:10.18356/ae213ad6-en Retrieved January 10, 2017 from http://www.un-ilibrary.org/economic-and-social-development/financing-human-de

velopment-in-africa-asia-and-the-middle-east_324d850a-en;jsessionid=2u5kjhd57pfi3.x-oecd-live-02

Montmarquette, C., Cannings, K., & Mahseredjian, S. (2002). How do young people choose college majors?. *Economics Of Education Review, 21*(6), 543.

Morgan, Stephen L. (2005). On the Edge of Commitment: Educational Attainment and Race cited in Okachi, K. (1980). *An analysis of economic returns of educational investment: its role in determining the significance of educational planning in Japan* (Order No. 8018843). Available from ProQuest Dissertations & Theses A&I. (288153060). Retrieved from http://search.proquest.com/docview/288153060?accountid=130127

Mutekwe, E., Modiba, M., & Maphosa, C. (2011). Factors affecting female students' career choices and aspirations: A Zimbabwean example. *Journal of Social Sciences, 29* (2), 133-141.

National Sustainable Development Strategy (2013). Retrieved March 13, 2017 from http://www.donors.kg/en/strategy/172-national-sustainable-development-strategy-2013-2017#.WT2tMeuGPIU

National Statistics Committee of the Kyrgyz Republic, official website http://stat.kg/en/

National Statistics Committee of the Kyrgyz Republic & UNICEF (2014). *Education and Science in the Kyrgyz Republic. Statistical publication*. Retrieved December 20, 2016 from http://nsc.stat.kg

Nwanchukwu, F. J. (2003). Organisation and Administration of Guidance Services, Owerri: Reliable Publishers. Cited in Osa-Edoh, G.I., Alutu, A. N. G. (2011). Parents' socio-economic status and its effect in students' educational values and

vocational choices. *European Journal of Educational Studies, 3* (1), 11-21.

Prokofiev, M.A.,Chilikin, M.G. & Tulpanov. S.I. (1961). *Higher Education in the U.S.S.R.* Educational Studies and Documents No 39. Paris.

Oettingen, G., & Zosuls, K.M. (2006). Culture and self-efficacy in adolescents. In F. Pajares & T. Urdan. (Eds.), *Self-efficacy beliefs of adolescents. Adolescence and education* (Vol. V, pp. 245-265). Greenwich, CT: Information Age Publishing.

Organization for Economic Cooperation and Development (1996). *The knowledge-based economy. General distribution OCDE/GD(96)102*. Retrieved January 15, 2017 from https://www.oecd.org/sti/sci-tech/1913021.pdf

Organization for Economic Cooperation and Development. (2009). *Programme for International Student Assessment: Equally prepared for life? How 15-year-old boys and girls perform in school.* OECD. Available online at: http://www.oecd.org/dataoecd/59/50/42843625.pdf (20th September 2011).

Osa-Edoh, G.I., & Alutu, A. N. G. (2011). Parents' socio-economic status and its effect in students' educational values and vocational choices. *European Journal of Educational Studies, 3* (1), 11-21.

Paulsen, M., & Smart, J. (Eds.). (2001). *The financing of higher education: Theory, research, policy and practice*. New York: Agathon Press.

Perna, L. W. (2006). Studying college access and choice: A proposed conceptual model. In J. C. Smart (Ed.), *Higher Education: Handbook of Theory and Research* (pp. 99–157). Netherlands: Springer.

Perna, L. W., & Titus, M. A. (2005). The Relationship between Parental Involvement as Social Capital and College Enrollment: An Examination of Racial/Ethnic Group Differences. *Journal Of Higher Education*, *76* (5), 485-518.

Peterson, K. F. (2006). *Changing their majors: How do students choose their majors and why do so many change?* (Order No. 3207663). Available from ProQuest Dissertations & Theses A&I. (305306433). Retrieved February 10, 2017 from http://search.proquest.com/docview/305306433?accountid=130127

Pitre, P. E., Johnson, T. E., & Pitre, C. C. (2006). Understanding Predisposition in College Choice: Toward an Integrated Model of College Choice and Theory of Reasoned Action. *College And University, 81* (2), 35-42.

Ra, E. (2011). *Understanding the role of economic, cultural, and social capital and habitus in student college choice: An investigation of student, family, and school contexts* (Order No. 3476784). Available from ProQuest Dissertations & Theses A&I. (896356246). Retrieved from http://search.proquest.com/docview/896356246?accountid=130127

Radio Azattyk (July 07, 2016). *Government raised the university tuition fee*. Retrieved April 19, 2017 from http://rus.azattyk.org/a/27842988.html

Research methodology (2016). *Snowball sampling*. Retrieved December 12, 2016 from http://research-methodology.net/sampling-in-primary-data-collection/snowball-sampling/

Ritsumeikan Asia Pacific University Research Ethics Guidelines (2017). Retrieved May 02, 2017 from http://www.apu.ac.jp/gradinfo/uploads/fckeditor/Handbook/ResearchEthics.pdf

Robst, J. (2007). Education and Job Match: The Relatedness of College Major and Work. *Economics of Education Review, 26* (4), 397-407. doi:http://dx.doi.org/10.1016/j.econedurev.2006.08.003

Rojewski, J.W. (2005). Occupational aspirations: Constructs, meanings, and application.

In S.D. Brown and R.W. Lent (Eds.), *Career development and counseling: Putting theory and research to work* (pp. 131-154). Hoboken, NJ: John Wiley.

Rose, H., & Betts, J. R. (2004). The effects of high school courses on earnings. *The Review of Economics and Statistics, 86* (2), 497– 513.

Sagen, H. B., Dallam, J. W., & Laverty, J. R. (2000). Effects of career preparation experiences on the initial employment success of college graduates. *Research in Higher Education, 41*(6), 753-767. doi:org/10.1023/A:1007072705601

Saka, N., & Gati, I. (2007). Emotional and Personality-Related Aspects of Persistent Career Decision-Making Difficulties. *Journal of Vocational Behavior, 71* (3), 340-358.

Sakellariou, C. (2001). Identifying the External Effects of Human Capital: A Two-Stage Approach. *Applied Economics Letters, 8* (3), 191–194

Sang, H.B. & H.S., Ji, 2006. Youth Unemployment and The Role of Career and Technical Education: A Study of The Korean Market. *Career and Technical Education Research, 31* (1), 3-21.

Schultz, T. W. (1959). Investment in Man: An Economists View. *Social Service Review, 33* (2), 109-117. doi:10.1086/640656

Seftor, N. S., & Turner, S. E. (2002). Back to School: Federal Student Aid Policy and Adult College Enrollment. *Journal of Human Resources, 37* (2), 336-52.

Shim, W., & Paik, S. (2014). The effects of high school track choice on students' postsecondary enrollment and majors in South Korea. *Asia Pacific Education Review, 15* (4), 573-583. doi:http://dx.doi.org/10.1007/s12564-014-9344-7

Shukarov, M., & Marić, K. (2016). Institutions, education and innovation and their impact on economic growth. *Interdisciplinary Description of Complex*

*Systems, 14(*2), 157-164. doi:10.7906/indecs.14.2.5

Siow, A. (1984). Occupational choice under uncertainty. *Econometrica, 52*(3), 631-645.

Smolentseva, A. (2007). Educational Inequality in Russia. In: Teese, R., Lamb, S., & Duru-Bellat, M. (2007). *International studies in educational inequality, theory and policy*. Dordrecht: Springer, 143-156.

Sonaike, O. A. (2007). *Influence of high school counselors on the choices of universities and academic majors selected by students* (Order No. 3317515). Available from ProQuest Central; ProQuest Dissertations & Theses A&I. (304759128). Retrieved from https://search.proquest.com/docview/304759128?accountid=130127

Søndergaard, L., Murthi, M., Abu-Ghaida, D., Bodewig, C., & Rutkowski, J. (2012). *Skills, not just diplomas: managing education for results in Eastern Europe and Central Asia*. Washington, D.C.: World Bank.

Stanton-Salazar, R. (1997). A social capital framework for understanding the socialization of racial minority children and youths. *Harvard Educational Review, 67* (1), 1-40. Retrieved from http://search.proquest.com/docview/212284572?accountid=130127

Stevens, S. (2015). Education is a key to growth strategy. *Journal of Business*.

Strasser, S., Ozgur, C., & Schroeder, D. (2002). Selecting a business college major: An analysis of criteria and choice using the analytical hierarchy process. *Mid-American Journal of Business, 17* (2), 47-56.

Swanson, J.L., & Gore, P.A. (2000). Advances in vocational psychology theory and research. In S.D. Brown and R.W. Lent (Eds.), *Handbook of counseling psychology* (pp. 233-269). New York: Wiley.

Swanson, J.L., & Woitke, M.B. (1997). Theory into practice in career assessment for

women: Assessment and interventions regarding perceived career barriers. *Journal of Career Assessment, 5* (4)*,* 443-462.

Sweetland, S. R. (1996). Human capital theory: Foundations of a field of inquiry. *Review of Educational Research, 66* (3), 341. Retrieved from http://search.proquest.com/docview/214113373?accountid=130127

Tan, L. M., & Laswad, F. (2006). Students' beliefs, attitudes and intentions to major in accounting. *Accounting Education, 15* (2), 167-187.

Tan, L. M., & Laswad, F. (2009). Understanding Students' Choice of Academic Majors: A Longitudinal Analysis. *Accounting Education, 18* (3), 233-253. doi:10.1080/09639280802009108

Talib, M.A., & Aun, T.K. (2009). Predictors of career indecision among Malaysian Undergraduate students. *European Journal of Science, 8* (2), 215-224.

Tata, S. P., & Leong, F. T. L. (1994). Individualism-collectivism, social-network orientation, and acculturation as predictors of attitudes toward seeking professional psychological help among Chinese Americans. *Journal of Counseling Psychology, 41* (3), 280-287.

Tomlinson, M. (2008). The degree is not enough: students' perceptions of the role of higher education credentials for graduate work and employability. *British Journal of Sociology of Education, 29*(1), 49-61. doi:10.1080/01425690701737457

Triandis, H. C. (1989). The Self and social behavior in differing cultural contexts. *Psychological Review, 96*, 506-520.

Tversky, A., & Kahneman, D. (2013). Judgment under Uncertainty: Heuristics and Biases. In L. C. MacLean, W. T. Ziemba (Eds.), *Handbook of the Fundamentals of Financial Decision Making*. Part I (pp. 261-268). World Scientific Handbook in

Financial Economics Series, vol. 4. Hackensack, N.J. and Singapore: World Scientific.

United Nations Development Program (2010). *Kyrgyzstan: Successful youth – successful country;* UNDP 2010 http://hdr.undp.org/en/reports/national/europethecis/kyrgyzstan/Kyrgyzstan-NHDR-2010-EN.pdf (15.4.2012)

United Nations Educational, Scientific and Cultural Organization (2002). *Handbook of career counselling: A practical manual for developing, implementing and assessing career counselling services in higher education settings*. Follow up to the World conference on higher education (Paris 5-9, 1998). Retrieved December 10, 2013 from http://unesdoc.unesco.org/images/0012/001257/125740e.pdf.

Varalakshmi. R.S.R., & Moly. T.M. (2009). *Career guidance services in college libraries*: *A proposed model.* Retrieved from http://crl.du.ac.in/ical09/papers/index_files/ical-87_170_366_1_RV.pdf

Van, d. M. (2010). Does human capital theory explain the value of higher education? A south african case study. *American Journal of Business Education, 3* (1), 107-118. Retrieved from https://search.proquest.com/docview/195911389?accountid=130127

Voiculescu, F. (2009). Opportunity cost of educational human capital investment. Application for the position of beneficiary-investor. *Annales Universitatis Apulensis Series Oeconomica, 11*(2), 744-754.

WCIOM (2011). *Vysshee obrazovanie v Rossii: kachestvo, tsennost', vostrebovannost'*. Presentation. Retrieved March 10, 2017, from http://wciom.ru/index.php?id=270&uid=112202

Mody, A., & Wang, F. (1997). Explaining Industrial Growth in Coastal China: Economic Reforms ... and What Else? *The World Bank Economic Review, 11* (2), 293-325. doi:10.1093/wber/11.2.293

Weiler, N. (1977). *Reality and career planning.* Reading, MA: Addison-Wesley Publishing Company, Inc.

Whitson, S. C., & Sexton, T. L. (1998). A review of school counseling outcome research World Bank, 2013. *Regional Disparities in Poverty Rates Still Key Issue in the Kyrgyz Republic* – New World Bank Study. Retrieved April 19, 2017 from http://www.worldbank.org/en/news/press-release/2013/04/18/regional-disparities-in-poverty-rates-still-key-issue-in-kyrgyz-republic

Wolk, C. M., & Cates, T. A. (1994). Problem-solving styles of accounting students: Are expectations of innovation reasonable? *Journal of Accounting Education, 12* (4), 269-281.

World Bank (2017). *GDP per capita*. Retrieved April 19, 2017 from http://data.worldbank.org/country/kyrgyz-republic

World Bank (April 2017). *Country Snapshot. An overview of the World Bank's work in the Kyrgyz Republic.* Retrieved May 22, 2017 from http://pubdocs.worldbank.org/en/835161493272763879/Kyrgyz-Republic-Snapshot-April-2017.pdf

World Bank (2017). *Doing business*. Retrieved April 19, 2017 from http://www.doingbusiness.org/data/exploreeconomies/kyrgyz-republic/labor-market-regulation

World Bank (2012). *Putting Higher Education to Work: Skills and Research for Growth in East Asia.* World Bank East Asia and Pacific Regional Report series.

Wu, C-L. & Bai, H. (2014). From early aspirations to actual attainment: the effects of economic status and educational expectations on university pursuit. *Higher Education, 69*, 331–344. DOI 10.1007/s10734-014-9778-1

Zafar, B. (2012). Double Majors: One for Me, One for the Parents? *Economic Inquiry, 50* (2), 287-308.

Zarkin, G. A. (1985). Occupational choice: an application to the market for public school teachers. *Quarterly Journal of Economics, 100*(2), 409-446.

Appendix

Table 1.1. Cross tabulation of the number of academic majors chosen and gender

			Quantity of majors considered				
			1	3	5	6	Total
Gender	Male	Count	0	7	5	2	14
		% within Gender	0%	50.0%	35.7%	14.3%	100.0%
	Female	Count	26	41	12	6	85
		% within Gender	30.6%	48.2%	14.1%	7.1%	100.0%
Total		Count	26	48	17	8	99
		% within Gender	26.3%	48.5%	17.2%	8.1%	100.0%

Table 1.2. Cross tabulation of job specification awareness and gender

			Job specification awareness			
			Not aware	Somewhat aware	Well aware	Total
Gender	Male	Count	0	6	8	14
		% within Gender	0%	42.9%	57.1%	100.0%
	Female	Count	4	32	50	86
		% within Gender	4.7%	37.2%	58.1%	100.0%
Total		Count	4	38	58	100
		% within Gender	4.0%	38.0%	58.0%	100.0%

Table 1.3. Cross tabulation of reasons for going to university and gender

Gender			Frequency	Percent	Valid Percent	Cumulative Percent
Male	Valid	Knowledge	5	35.7	35.7	35.7
		Diploma	2	14.3	14.3	50.0
		Default	2	14.3	14.3	64.3
		Shame	3	21.4	21.4	85.7
		Diploma&knowledge	1	7.1	7.1	92.9
		Knowledge&diploma &interest	1	7.1	7.1	100.0
		Total	14	100.0	100.0	
Female	Valid	Knowledge	23	26.7	27.1	27.1
		Diploma	24	27.9	28.2	55.3
		Default	2	2.3	2.4	57.6
		Shame	4	4.7	4.7	62.4
		Interest in subjects	5	5.8	5.9	68.2
		Diploma&knowledge	19	22.1	22.4	90.6
		Knowledge&interest	6	7.0	7.1	97.6
		Knowledge&diploma &interest	2	2.3	2.4	100.0
		Total	85	98.8	100.0	
	Missing	99	1	1.2		
	Total		86	100.0		

Table 1.4. *Cross tabulation of the reason for major choice and gender*

			Reason for academic major choice									
			Major is demanded	Easy to pass exams	Scholar ship	Parents	Tradi tion	Presti gious	Easy exams& Scholarship	Demand & scholarship	Demand & prestige	Total
Gende r	Male	Count	5	4	2	0	2	1	0	0	0	14
		% within Gender	35.7%	28.6%	14.3%	.0%	14.3%	7.1%	.0%	.0%	.0%	100.0%
	Femal e	Count	46	1	4	16	5	10	1	1	1	85
		% within Gender	54.1%	1.2%	4.7%	18.8%	5.9%	11.8%	1.2%	1.2%	1.2%	100.0%
Total		Count	51	5	6	16	7	11	1	1	1	99
		% within Gender	51.5%	5.1%	6.1%	16.2%	7.1%	11.1%	1.0%	1.0%	1.0%	100.0%

Table 1.5. *Cross tabulation of what university can provide and gender*

			What university can provide									
			Knowledge	Diploma	Networking	Status	Time	Knowledge&diploma	Diploma& networking	Diploma& status	All listed	Total
Gender	Male	Count	5	3	2	1	1	0	2	0	0	14
		% within Gender	35.7%	21.4%	14.3%	7.1%	7.1%	.0%	14.3%	.0%	.0%	100.0%
	Female	Count	53	10	0	4	7	8	1	2	1	86
		% within Gender	61.6%	11.6%	.0%	4.7%	8.1%	9.3%	1.2%	2.3%	1.2%	100.0%
Total		Count	58	13	2	5	8	8	3	2	1	100
		% within Gender	58.0%	13.0%	2.0%	5.0%	8.0%	8.0%	3.0%	2.0%	1.0%	100.0%

Table 1.6. Cross tabulation of career counselling services and gender

Gender			Frequency	Percent	Valid Percent	Cumulative Percent
Male	Valid	No,not necessary	1	7.1	7.1	7.1
		No,never received	6	42.9	42.9	50.0
		No,studied individually	4	28.6	28.6	78.6
		Yes, received	3	21.4	21.4	100.0
		Total	14	100.0	100.0	
Female	Valid	No,not necessary	13	15.1	15.5	15.5
		No,never received	21	24.4	25.0	40.5
		No,studied individually	16	18.6	19.0	59.5
		Yes, received	34	39.5	40.5	100.0
		Total	84	97.7	100.0	
	Missing	99	2	2.3		
	Total		86	100.0		

Table 2. *Mann-Whitney U test by gender difference*

	Gender	N	Mean Rank	Sum of Ranks
Major	Male	14	66.75	934.50
	Female	86	47.85	4115.50
	Total	100		
Regions	Male	14	48.79	683.00
	Female	86	50.78	4367.00
	Total	100		
Career counselling	Male	14	44.39	621.50
	Female	84	50.35	4229.50
	Total	98		
Reason for choosing a major	Male	14	51.43	720.00
	Female	85	49.76	4230.00
	Total	99		

Test Statistics[a]

	Major	Regions	Career counselling	Reasons for choosing major
Mann-Whitney U	374.500	578.000	516.500	575.000
Wilcoxon W	4115.500	683.000	621.500	4230.000
Z	-2.292	-.295	-.759	-.217
Asymp. Sig. (2-tailed)	.022	.768	.448	.828

a. Grouping Variable: Gender

Table 9. Cross tabulation of information source and regions

			Geographical location		
			Regions	Bishkek	Total
Information source	Parents	Count	26	9	35
		% within Regions	38.2%	29.0%	35.4%
	Employment statistics	Count	10	6	16
		% within Regions	14.7%	19.4%	16.2%
	Brochures	Count	17	7	24
		% within Regions	25.0%	22.6%	24.2%
	Demand	Count	12	5	17
		% within Regions	17.6%	16.1%	17.2%
	No need for information	Count	3	4	7
		% within Regions	4.4%	12.9%	7.1%
Total		Count	68	31	99
		% within Regions	100.0%	100.0%	100.0%

Survey on the academic major choice among the students in the Kyrgyz Republic

The given survey is aimed at identifying factors that influenced the university academic major choice among the students of the universities. The findings will be utilized for the academic research (thesis) on academic major choice. Your sincere answers to the following questions would greatly contribute to understanding the factors influencing an important decision on future major. Anonymity and confidentiality are guaranteed.

The questionnaire will take 10 minutes at maximum.

Your gender *

- Male
- Female

Year of birth *

Your academic major *

Where did you graduate the school? *

- Bishkek city
- Chuy oblast
- Issyk-Kul oblast
- Naryn oblast
- Talas oblast
- Osh oblast
- Batken oblast
- Jalalabad oblast
- Not in Kyrgyzstan

1. Do you remember if you had any work or career dreams growing up? Can you describe it? *

2. If u responded positively to the previous question, Did you manage to make your career dream come true?
   - Yes, I have chosen my university major I have dreamed of since childhood
   - No, my career dream has changed and I chose a new major
   - No, I made a choice based on the labor market demand
   - No, my career dream appeared to be unreachable
   - Your answer

3. When did you start thinking about your future career? *
   - Middle school
   - High school
   - After graduation (school)
   - Just recently
   - I have no career plans at present

4. Did you have enough time for making a major choice? *
    - Yes, I had enough time to make a considerate decision
    - No, I was limited in time and had to make a quick decision

5. Did you find your school education sufficient for choosing the desired major?
    - Yes, I have successfully passed the entrance exams without additional preparations
    - No, I needed some individual preparations
    - No, I attended additional courses
    - No, I couldn't apply to the desired major because I couldn't pass the exams

6. Why did you enter university after finishing school? [*You can choose multiple answers*]*
    - For knowledge and skills required for employment
    - Because having a university diploma is a must for employment
    - I did not know what exactly I wanted to do
    - Not to be ashamed
    - In order to continue studying my favorite subjects
    - Your answer

7. Have you ever received professional support on choosing an academic major? *
    - Yes, I received career counselling services
    - No, I have taken some tests on major/career choice on my own
    - No, I have never taken any test/received any counselling, although I would like to
    - I don't think any professional support on choosing a major is necessary

8. Do you think the school leavers need the professional support on major choice while applying to universities? *
    - Yes
    - No
    - I don't know

9. If you answered "Yes" to the previous question,
   What kind of professional support in career/major choice would you school leavers like to receive?

10. Has anyone helped you with an academic major? *
    - My parents significantly influenced on my major choice
    - My friends significantly influenced my major choice
    - Teachers/Tutors significantly influenced my major choice
    - No, I made a decision independently

11. How did you obtain information for choosing this major? *
    - I thoroughly studied the labor market needs
    - I studied the success stories/employment rates of the given major graduates
    - I studied the information brochures provided by universities

- My parents/friends advised me to choose this major
- Your answer

12. How many different majors did you consider before your final decision?
    - I considered only one major and chose it
    - I considered up to 3 majors and chose one of them
    - I considered up to 5 majors and chose one of them
    - I considered more than 5 majors and chose one of them

13. If you had a choice not to enter a university, what would you be doing? *
    - Working in local company/organization
    - Having an internship in local company/organization
    - Running my own business
    - Self-study
    - I don't know

14. Why did you choose this major among all others? *
    - This major is highly needed among the employers so I can find a good job after graduation
    - The entrance examinations were easy to pass
    - I got a scholarship for studying this major
    - My parents chose this major
    - I am following the family tradition (my parents have studied the same major)
    - This major is very famous among new students

15. Do you know a job description for the work under your major?
    - Yes, I know exactly what kind of work I should do under this major
    - No, I don't exactly know what kind of work I should do under this major

16. Did you have any constraints while choosing a major?
    - The tuition fee has been an issue in choosing a major
    - I am/was limited to my career choice by my entrance exam grades
    - My parents' decision was an issue in choosing a major
    - I made a choice based on my aptitude (subjects I am good at) and/or interest
    - I had no constraints

17. What do you think university education can provide you? Please choose the most important ones?
    - Knowledge and skills in my major
    - Higher education diploma
    - Networking (meeting new people/friends)
    - Higher status compared to those without higher education
    - Time to think about my future career

18. Do you know enough about chosen major?
    - Yes, I know well about knowledge and skills I will have mastered by the time graduation
    - Yes, I know a little about knowledge and skills I will have mastered by the time graduation
    - No, I know nothing about knowledge and skills I will have mastered by the time graduation
    - I am not interested

19. Do you about career opportunities for this major?
    - Yes, I know where I want to work after graduation
    - Yes, I know what kind of work I want to do after graduation
    - No, I am still thinking it over
    - No, I don't know where I want to work yet
    - No, I don't know what kind of work I want to do after graduation yet

20. Do you think this is the right–and only–major for your career path?
    - Yes, I strongly agree
    - Yes, I agree
    - I don't know
    - No, I disagree
    - No, I strongly disagree

21. How is paying the tuition fee?
    - Myself
    - My parents/relatives help me pay the tuition fee
    - My parents/relatives pay the tuition fee
    - I receive a scholarship
    - I have a bank loan

22. If your parents/relatives/you had no money to pay your tuition, would take education loan from a bank?
    - Yes, because I am sure my major will be demanded in the labor market and I will repay the loan
    - Yes, because I am sure I will be competitive enough to find a good job to repay the loan
    - No, because I am not sure whether I can find a good job after graduation
    - No, because I don't think it is worth
    - I don't know

Thank you for your time.
If you want to learn more about the findings of the survey, please send your request to the e-mail kyzytu15@apu.ac.jp

Анкета о выборе специальности среди студентов университетов г.Бишкек

Эта анкета направлена на выявление факторов, повлиявших на выбор специальности при поступлении в ВУЗ. Результаты будут использованы для исследования в рамках магистерской диссертации о выборе академической специальности. Ваши искренние ответы помогут понять, как абитуриенты принимают важное решение о выборе будущей профессии. Анонимность и конфиденциальность гарантируются.

Заполнение анкеты займет не более 10 минут.

Ваш пол *****

- Мужской
- Женский

Год рождения *****

Ваша специальность *****

Где Вы закончили школу? *****

- г.Бишкек
- Чуйская область
- Иссык-Кульская область
- Нарынская область
- Таласская область
- Ошская область
- Баткенская область
- Джалал-Абадская область
- Не в Кыргызстане

1. Была ли у Вас детская мечта о будущей профессии/карьере? Опишите ее *

2. Если Вы утвердительно ответили на предыдущий вопрос, Смогли ли Вы осуществить свою мечту?
   - Да, я выбрал(-а) специальность, о которой мечтал(-а) с детства
   - Нет, моя мечта изменилась, и я выбрал(-а) другую специальность
   - Нет, моя мечта оказалась недостижимой
   - Нет, я сделал(-а) выбор исходя из востребованности специальности
   - Ваш ответ

3. Когда Вы впервые задумались о будущей профессии/карьере? *
   - В средней школе
   - В старшей школе
   - После окончания школы
   - Только недавно
   - Я еще не думал(-а) о будущей профессии

4. Было ли у Вас достаточно времени чтобы все обдумать, взвесить все за и против до поступления в университет?*
   - Да, у меня было достаточно времени, чтобы принять взвешенное решение
   - Нет, у меня было недостаточно времени, чтобы принять взвешенное решение

5. Считаете ли Вы, что Ваше школьное образование было достаточным для поступления на желаемую специальность?
    - Да, я успешно сдал(-а) экзамены без дополнительной подготовки
    - Нет, мне понадобилась самостоятельная дополнительная подготовка
    - Нет, я посещал(-а) дополнительные курсы
    - Нет, я не смог(-ла) поступить на желаемую специальность из-за плохой подготовки

6. Почему Вы поступили в университет после окончания школы? *
   [*Можете выбрать несколько вариантов ответов*]
    - Для получения знаний и навыков, необходимых для трудоустройства
    - Для получения диплома о высшем образовании, необходимого для трудоустройства
    - Не знал(-а) чем, именно хочу заняться
    - Не поступить в университет – стыдно
    - Хотел(-а) продолжить изучение любимых предметов
    - Ваш ответ

7. Получали ли Вы услуги профориентации и профессионального консультирования по выбору специальности? *
    - Да, я получал(-а) профессиональную помощь по выбору специальности
    - Нет, я проходил(-а) тесты по профессиональной ориентации самостоятельно
    - Нет, я никогда не получала профессиональную помощь по выбору специальности, хотя очень хотел(-а) бы
    - Я не думаю, что профессиональная помощь по выбору специальности необходима

8. Считаете ли Вы, что школьникам нужны услуги профориентации и профессионального консультирования по выбору специальности при поступлении в университет? *
    - Да
    - Нет
    - Не знаю

9. Если Вы ответили «да», то какую именно помощь, вы считаете необходимой для школьников?

10. Кто-нибудь помогал Вам с выбором специальности? *
    - Мои родители в значительной степени оказали влияние на мой выбор
    - Мои друзья в значительной степени оказали влияние на мой выбор
    - Учителя/ наставники в значительной степени оказали влияние на мой выбор
    - Нет, я принимал(-а) решение самостоятельно

11. Как Вы искали/получали информацию для выбора специальности? *
    - Я внимательно изучил(-а) востребованные специальности на рынке труда
    - Я изучал(-а) истории успеха/ статистику трудоустройства выпускников этой специальности
    - Я изучал(-а) информационные брошюры университетов
    - Я советовался(-лась) с моими родителями
    - Ваш ответ

12. Сколько разных специальностей Вы рассматривали до того, как приняли окончательное решение? *
    - Я рассматривал(-а) только 1 специальность
    - Я рассматривал(-а) до 3-х разных специальностей
    - Я рассматривал(-а) до 5-ти разных специальностей
    - Я рассматривал(-а) больше 5-ти разных специальностей

13. Если бы у Вас была возможность не поступать в университет, что бы вы делали? *
    - Устроился(-ась) на работу
    - Устроился(-ась) на стажировку в компанию, где хочу работать
    - Открыл(-а) бы свой бизнес
    - Продолжал(-а) самостоятельное обучение
    - Не знаю

14. Почему Вы выбрали именно эту специальности среди всех? *
    - Эта специальность востребована среди работодателей, поэтому я смогу найти хорошую работу после завершения учебы
    - Вступительные экзамены были легкими
    - Для этой специальности предоставлялись бюджетные места/стипендия
    - Мои родители посоветовали эту специальность
    - Я следую семейной традиции (например: я из семьи юристов, врачей, учителей т.д.)
    - Эта специальность считается престижной

15. Вы знаете, чем именно занимаются выпускники вашей специальности?
    - Да, я точно знаю, какой работой занимаются выпускники моей специальности
    - Нет, я не знаю, какой работой занимаются выпускники моей специальности

16. Вы были ограничены чем-то при выборе специальности?
    - Стоимость контракта за обучения повлияла на выбор специальности
    - Балл по ОРТ повлиял на выбор специальности
    - Мои родители повлияли на выбор специальности
    - Я делал(-а) выбор исходя из моих способностей/интереса в предметах
    - Я не был(-а) ограничен(-а) при выборе специальности

17. Что университет может Вам предоставить? Выберите, самое важное.
    - Знания и навыки в моей специальности
    - Диплом о высшем образовании
    - Нетворкинг (знакомство с новыми людьми/друзья)
    - Более высокий статус по отношению к тем, у кого нет высшего образования
    - Время подумать о будущей карьере

18. Достаточно ли Вы знаете о выбранной специальности?
    - Да, я хорошо знаю, какими знаниями и навыками я буду обладать по окончании университета по данной специальности
    - Да, я знаю немного о том, какими знаниями и навыками, я буду обладать по окончании университета по данной специальности
    - Нет, я не знаю какими знаниями и навыками, я буду обладать по окончании университета по данной специальности
    - Нет, я не заинтересован(-а) знаниями и навыками, которыми я буду обладать по окончании университета по данной специальности

19. Вы знаете о карьерных возможностях для выпускников вашей специальности?

- Да, я знаю, в какой сфере я могу работать после окончания учебы
- Да, я знаю, какую именно работу могу делать после окончания учебы
- Нет, я не знаю
- Нет, я не знаю, в какой сфере я буду работать после окончания учебы
- Нет, я не знаю, какую именно работу буду делать после окончания учебы

20. Считаете ли Вы, что это единственно-верная специальность для вашего профессионального развития?
    - Полностью согласен(-на)
    - Согласен(-на)
    - Не знаю
    - Не согласен(-на)
    - Полностью не согласен(-на)

21. Кто оплачивает контракт за обучение?
    - Я сам(-а)
    - Мои родители/родственники помогают с оплатой контракта за учебу
    - Мои родители/родственники оплачивают контракт за учебу
    - Я получил(-а) бюджетное место/стипендию
    - Я получил(-а) кредит на обучение в банке

22. Если бы у вас не было возможности оплатить контракт самостоятельно, взяли бы кредит не обучение по выбранной специальности?
    - Да, потому что я уверен(-а), что моя специальность будет востребована, и я смогу найти работу и погасить кредит
    - Да, потому что я буду хорошим специалистом, чтобы найти хорошую работу и погасить кредит
    - Нет, потому что я не уверен(-а), что смогу найти хорошую работу после окончания университета
    - Нет, потому что оно этого не стоит
    - Я не знаю

Спасибо за уделенное время!
Если Вы захотите ознакомиться с результатами данного исследования, пожалуйста, обращайтесь по электронной почте kyzytu15@apu.ac.jp

Survey on the undergraduate academic major choice among the students in the Kyrgyz Republic

The given survey is aimed at identifying factors that influenced the university major choice among the graduates of the universities. The findings will be utilized for the academic research (thesis) on academic major choice. Your sincere answers to the following questions would greatly contribute to understanding the factors influencing an important decision on future major. Anonymity and confidentiality are guaranteed.

The questionnaire will take 10 minutes at maximum.

1. Your gender *
   - o Male
   - o Female

2. Year of birth *

3. Where did you graduate the school? *
   - o Bishkek city
   - o Chuy oblast
   - o Issyk-Kul oblast
   - o Naryn oblast
   - o Talas oblast
   - o Osh oblast
   - o Batken oblast
   - o Jalalabad oblast
   - o Not in Kyrgyzstan

4. When did you graduate from university?

5. Your academic major

6. Do you remember if you had any work or career dreams growing up? Can you describe it? *

7. If u responded positively to the previous question,
Did you manage to make your career dream come true?
   - o Yes, I have chosen my university major I have dreamed of since childhood
   - o No, my career dream has changed and I chose a new major
   - o No, I made a choice based on the labor market demand
   - o No, my career dream appeared to be unreachable
   - o Your answer

8. When did you start thinking about your future career? *
   - o In school
   - o While studying in university
   - o After graduating university
   - o I am still looking for it

Academic Major choice

1. Did you enter university right after graduating from high school?
    - Yes
    - No

2. If you replied “Yes”, Why did you go to university after finishing school? *
    - I wanted to gain knowledge/skills, necessary for making my career dream come true
    - Because having a university diploma was a must for employment
    - I did not know what exactly I wanted to do
    - It a shame not to enter university
    - I wanted to continue studying favorite subjects
    - Your answer

3. Did you have enough time for making a major choice? *
    - Yes, I had enough time to make a considerate decision
    - No, I was limited in time and had to make a quick decision

4. Did you find your school education sufficient for entering university (desired major)?
    - Yes, I have successfully passed the entrance exams without additional preparations
    - No, I needed some individual preparations
    - No, I attended additional courses
    - No, I couldn't apply to the desired major because I couldn't pass the exams

5. Have you received professional support on choosing a major? *
    - Yes, I received career counselling services
    - No, I have taken some tests on major/career choice on my own
    - No, I have never taken any test/received any counselling, although I would like to
    - I don’t think any professional support on choosing a major is necessary

6. Has anyone helped you with major choice? (*You can choose multiple answers*) *
    - My parents significantly influenced on my major choice
    - My friends significantly influenced my major choice
    - Teachers/Tutors significantly influenced my major choice
    - No, I made a decision independently
    - Your answer

7. Did you have any constraints while choosing a major?
    - The tuition fee has been an issue in choosing a major
    - I am/was limited to my career choice by my entrance exam grades
    - My parents' deicion was an issue in choosing a major
    - I made a choice based on my aptitude (subjects I am good at) and/or interest
    - I had no constraints

8. How did you obtain information for choosing this major/specialty? *
    - I thoroughly studied the labor market needs
    - I studied the success stories/employment rates of the given major graduates
    - I studied the information brochures provided by universities
    - My parents/friends advised me to choose this major
    - Your answer

9. Do you think that information about academic major corresponds to reality? Were your expectations met?
    - Yes, I strongly agree
    - Yes, I agree
    - I don't know
    - No, I disagree
    - No, I strongly disagree

10. How many different majors did you consider before your final decision?
    - I considered only one major and chose it
    - I considered up to 3 majors and chose one of them
    - I considered up to 5 majors and chose one of them
    - I considered more than 5 majors and chose one of them

11. Why did you choose this major among all others? (*You can schoose multiple asnwers*) *
    - This major was highly needed among the employers so I can find a good job after graduation
    - The entrance examinations were easy to pass
    - I got a scholarship for studying this major
    - My parents chose this major
    - I was following the family tradition (my parents have studied the same major)

12. Do you know a job description for the work under your major?
    - Yes, I know exactly what kind of work I should do under this major
    - No, I don't exactly know what kind of work I should do under this major
13. Do you about career opportunities for this major?
    - Yes, I knew where I want to work after graduation
    - Yes, I knew what kind of work I want to do after graduation
    - No, I did not know

14. Do you think this was the right–and only–major for your career path?
    - Yes, I strongly agree
    - Yes, I agree
    - I don't know
    - No, I disagree
    - No, I strongly disagree

15. What did you think university education provide you? Please choose the most important ones
    - Knowledge and skills for employment
    - Higher education diploma
    - Networking (meeting new people/friends)
    - Higher status compared to those without higher education
    - Time to think about future career

16. Who paid the tuition fee?
    - Myself
    - My parents/relatives helped me pay the tuition fee
    - My parents/relatives paid the tuition fee
    - I received a scholarship
    - I had a bank loan

17. If your parents/relatives/you had no money to pay your tuition, would you take education loan from a bank?
    - Yes, because I was sure my major was demanded in the labor market and I would repay the loan
    - Yes, because I was sure I would be competitive enough to find a good job to repay the loan
    - No, because I was not sure whether I can find a good job after graduation
    - No, because I don't think its worth
    - I don't know

Employment

18. Are you currently working according to your major?
    - Yes
    - No

19. Can you explain why?

20. If you could go back in time, what would you change?
    - I would start working/making an internship in different spheres to understand the job well before going to university
    - I would choose another major based on the demand of jobs in the labor market
    - I would take more time for making a considerate decision
    - I would individually shape my education by choosing narrowly specialized courses to develop skill I need
    - No, I would change nothing

21. Do you think the school leavers need the professional support on major choice while applying to universities? *
    - Yes
    - No
    - I don't know

22. What recommendation would you give to the school leavers making a major choice today? (*You can choose multiple answers*)
    - Analyze the labor market and choose demanded majors
    - Go for internship in the preferred area first to understand whether you really want to work in this area
    - Go for career counselling because professional support is very useful for a right decision
    - Plan your career for 5/10/15 years and then choose a major you need
    - Don't be lazy and choose difficult technical majors
    - Follow your desire rather than what is modern, stylish, famous
    - Your answer

Thank you for your time.
If you want to learn more about the findings of the survey, please send your request to the e-mail kyzytu15@apu.ac.jp

Анкета о выборе специальности среди выпускников ВУЗов г.Бишкек

Эта анкета направлена на выявление факторов, повлиявших на выбор специальности при поступлении в ВУЗ (первое высшее образование). Результаты будут использованы для исследования в рамках магистерской диссертации о выборе академической специальности. Ваши искренние ответы помогут понять, как абитуриенты принимают важное решение о выборе будущей профессии. Анонимность и конфиденциальность гарантируются.

Заполнение анкеты займет не более 10 минут.

* Обязательно

1. **Ваш пол** *
   Отметьте только один овал.
   - ◯ Женский
   - ◯ Мужской

2. **Год рождения** *

3. **Где Вы закончили школу?** *
   Отметьте только один овал.
   - ◯ г.Бишкек
   - ◯ Чуйская область
   - ◯ Таласская область
   - ◯ Нарынская область
   - ◯ Иссык-Кульская область
   - ◯ Ошская область
   - ◯ Джалал-Абадская область
   - ◯ Баткенская область
   - ◯ Не в Кыргызстане

4. **В каком году Вы окончили ВУЗ?** *

5. **Ваша специальность в ВУЗе (первое высшее образование)** *

6. **Была ли у Вас детская мечта о будущей профессии/карьере? Опишите** *

7. **Смогли ли Вы осуществить свою детскую мечту?** *
Отметьте только один овал.

- Нет, у меня не было мечты/не помню, о чем мечтал(-а) в детстве
- Нет, моя мечта оказалась недостижимой
- Нет, моя мечта изменилась и я выбрал(-а) новую специальность
- Да, я выбрал специальность, о которой мечтал(-а) с детства

8. **Когда Вы впервые задумались о будущей профессии?** *
Отметьте только один овал.

- В средней школе
- В старшей школе
- При поступлении в ВУЗ
- Во время учебы в ВУЗе
- Я до сих пор не знаю

Выбор специальности

9. **Вы поступили в университет сразу после окончания школы?** *
Отметьте только один овал.

- Да
- Нет

10. **Если вы ответили "Да", то почему Вы поступили в университет после окончания школы?**
Отметьте все подходящие варианты.

- [ ] Для получения знаний и навыков, необходимых для трудоустройства
- [ ] Для получения диплома о высшем образовании, необходимого для трудоустройства
- [ ] Не знал(-а), чем именно хочу заняться
- [ ] Не поступить в университет - стыдно
- [ ] Хотел(-а) продолжить изучение любимых предметов
- [ ] Другое:

11. **Было ли у Вас достаточно времени, чтобы все обдумать, взвесить все за и против до поступления в университет?** *
Отметьте только один овал.

- Да, у меня было достаточно времени, чтобы принять взвешенное решение
- Нет, у меня было недостаточно времени, чтобы принять взвешенное решение

12. **Считаете ли Вы, что Ваше школьное образование было достаточным для поступления на желаемую специальность?** *
Отметьте только один овал.

- Да, я успешно сдал(-а) вступительные экзамены без дополнительной подготовки
- Нет, мне понадобилась самостоятельная подготовка
- Нет, я посещал(-а) дополнительные курсы
- Нет, я не смог(-ла) поступить на желаемую специальность из-за недостаточной подготовки

13. **Получали Вы ли услуги профориентации профессионального консультирования по выбору специальности?** *
Отметьте только один овал.

- Да, я получал(-а) профессиональную помощь по выбору специальности
- Нет, я самостоятельно проходил(-а) тесты по профориентации
- Нет, я никогда не получал(-а) профессиональную помощь по выбору специальности, хотя очень хотел(-а) бы
- Я не думаю, что помощь по выбору специальности необходима

14. **Вам кто-нибудь помогал с выбором специальности?** *
Отметьте все подходящие варианты.

- [ ] Мои родители в значительной степени оказали влияние на мой выбор
- [ ] Мои друзья в значительной степени оказали влияние на мой выбор
- [ ] Учителя/наставники в значительной степени оказали влияние на мой выбор
- [ ] Нет, я принимал(-а) решение самостоятельно
- [ ] Другое: _____

15. **Были ли факторы, ограничивающие Ваш выбор?** *
Отметьте все подходящие варианты.

- [ ] Стоимость контракта за обучение повлияла на мой выбор специальности
- [ ] Балл по ОРТ повлиял на выбор специальности
- [ ] Мои родители повлияли на выбор специальности
- [ ] Я принимал(-а) решение исходя из моих способностей/интереса к предметам
- [ ] Я не был(-а) ограничена в принятии решения

16. **Как Вы искали/получали информацию для выбора специальности?** *

Отметьте все подходящие варианты.

- [ ] Я внимательно изучал(-а) востребованные специальности на рынке труда
- [ ] Я изучал(-а) истории успеха/статистику трудоустройства выпускников этой специальности
- [ ] Я изучал(-а) информационные брошюры университетов
- [ ] Я советовался(-лась) с моими родителями/друзьями
- [ ] У меня уже был определенный образ/ожидания о выбранной специализации
- [ ] Другое: _____

17. **Считаете ли Вы, что полученная информация о специальности соответствует действительности? Ваши ожидания оправдались?** *

Отметьте только один овал.

- ◯ Полностью согласен(-на)
- ◯ Согласен(-на)
- ◯ Не знаю
- ◯ Не согласен(-на)
- ◯ Полностью не согласен(-на)

18. **Сколько разных специальностей Вы рассматривали до того, как принять окончательное решение?** *

Отметьте только один овал.

- ◯ Я рассматривал(-а) только 1 специальность
- ◯ Я рассматривал(-а) до 3-х разных специальностей
- ◯ Я рассматривал(-а) до 5-ти разных специальностей
- ◯ Я рассматривал(-а) больше 5-ти разных специальностей

19. **Почему Вы выбрали именно эту специальности среди всех?** *

Отметьте все подходящие варианты.

- [ ] Эта специальность была востребована среди работодателей, я бы смог(-ла) устроиться на работу
- [ ] Вступительные экзамены были легкими
- [ ] Для этой специальности предоставлялись бюджетные места/стипендия
- [ ] Мои родители посоветовали эту специальность
- [ ] Эта специальность считалась престижной
- [ ] Я следовал(-а) семейной традиции (например: если Вы из семьи юристов, врачей, учителей и т.д.)

20. **Вы знали, чем именно занимаются выпускники Вашей специальности?** *

Отметьте только один овал.

- ◯ Да, я точно знал(-а), какой работой занимаются выпускники моей специальности
- ◯ Нет, я не знал(-а), какой работой занимаются выпускники моей специальности

21. **Вы знали о карьерных возможностях для выпускников вашей специальности?** *

Отметьте только один овал.

- ◯ Да, я знал(-а), в какой сфере я могу работать после окончания учебы
- ◯ Да, я знал(-а), какой именно работой могу заниматься после окончания учебы
- ◯ Нет, я не знал(-а)

22. **Считаете ли Вы, что это была единственно-верная специальность для вашего профессионального развития?** *

Отметьте только один овал.

- ◯ Полностью согласен(-на)
- ◯ Согласен(-на)
- ◯ Не знаю
- ◯ Не согласен(-на)
- ◯ Полностью не согласен(-на)

23. **Что университет смог Вам предоставить? Выберите самое важное** *

Отметьте все подходящие варианты.

- ☐ Знания и навыки в моей специальности
- ☐ Диплом о высшем образовании
- ☐ Нетворкинг (знакомство с новыми людьми/друзья)
- ☐ Более высокий статус по сравнению с теми, у кого нет высшего образования
- ☐ Время подумать о будущей карьере

24. **Кто оплачивал контракт за обучение?** *

Отметьте только один овал.

- ◯ Я сам(а)
- ◯ Мои родители/родственники помогали с оплатой контракта за учебу
- ◯ Мои родители/родственники оплачивали контракт за учебу
- ◯ Я получил(-а) бюджетное место/стипендию
- ◯ Я взял(-а) кредит на обучение

25. **Если бы у Вас не было возможности оплатить контракт самостоятельно, согласились бы Вы взять кредит на обучение по той же специальности?** *

Отметьте только один овал.

◯ Да, потому что я уверен(-а), что моя специальность востребована и я легко могу найти работу

- ◯ Да, потому что я стал (-а) хорошим специалистом и нашел(-ла) хорошую работу
- ◯ Нет, потому что оно того не стоит
- ◯ Не знаю

Трудоустройство

26. **Вы сейчас работаете по своей специальности?** *

Отметьте только один овал.

- ◯ Да
- ◯ Нет

27. **Можете уточнить причину?** *

_____

_____

_____

_____

_____

28. **Если бы вы могли вернуться к моменту выбора специальности, Вы бы изменили свое решение?** *

Отметьте только один овал.

- ◯ Да, я бы начал(-а) работать/стажироваться, чтобы лучше понять, чего хочу
- ◯ Да, я бы выбрал(-а) другую специальность исходя из ее востребованности
- ◯ Да, я бы взял(-а) больше времени на обдумывание и принятие взвешенного решения
- ◯ Да, я бы самостоятельно разработал(-а) свою учебную программу, выбрая нужные курсы/программы обучения, необходимые для развития нужных навыков и знаний
- ◯ Нет, я бы ничего не поменял(-а)

29. **Считаете ли Вы, что абитуриентам нужны услуги профориентации и профессионального консультирования по выбору специальности?** *

Отметьте только один овал.

- ◯ Да
- ◯ Нет
- ◯ Не знаю

30. **Какие рекомендации Вы бы дали сегодняшним абитуриентам?** *

Отметьте все подходящие варианты.

- ☐ Анализировать рынок труда и выбирать востребованные специальности
- ☐ Для начала пройти стажировку в выбранной сфере, чтобы понять, на самом ли деле он/она хочет в ней работать
- ☐ Обратиться за профессиональной консультацией, так как это важно для приянтия правильного решения
- ☐ Планировать свою карьеру на 5/10/15 лет и выбирать специальность исходя из этого
- ☐ Не быть ленивым и выбирать сложные/технические специальности
- ☐ Следовать своим желаниям, а не тому, что считается модным и престижным
- ☐ Другое: _____

Спасибо за уделенное время. Если Вы захотите ознакомиться с результатами исследования, обращайтесь по электронной

почте kyzytu15@apu.ac.jp

На платформе
Google Forms