

A Comparison of job selection by students with and without hearing impairment

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Abstract

Objectives: Hearing loss can significantly affect an individual's life, particularly in communication, education, social life and work life. The objective of the present study was to determine the required educational levels for the preferred jobs by the students with and without hearing impairment. **Methods:** This study, based on surveys made in two different schools, was performed in Ankara in May 2004. Surveys were made in Yahya Özsoy Primary School for the Deaf (n=119) with students having a hearing loss over 70 dB, and in a National Primary School (n=119) with students without a hearing impairment. The study, conducted by trained staff on both groups was done by filling up questionnaires focused on the job and educational level preferences of students. The required education levels for preferred jobs were considered as two groups: the first group required an education of a minimum of 11 years in order to become doctors, nurses, teachers etc. The second group did not require any education or required an education of less than 11 years in order to become shoe painters, drivers, ironers, grocers etc. Logistic regression analyses were used for the statistical analyses. **Results:** It was found that several factors influence the required education levels for the preferred jobs: students who were attending the hearing impaired school and were male were more likely to prefer less than 11 years educational level job compared to the other group. There was no association between the required educational levels for the preferred jobs of the students and the class, maternal age, employment status or education, or of the paternal age, employment status or education. Considering only the students with hearing impairment, male students more frequently prefer less than 11 years educational jobs than females. Similar results were also seen in the group of students without hearing impairment. **Conclusions:** The importance of career training and counseling that may benefit young people, especially those who are hard of hearing was seen. In order to meet these needs, specialized instructional programs for dormitory counselors in schools for the deaf should be implemented.

Key Words: Preferred job, hearing-impaired students, career counseling

Note: This study was presented as a poster at 11th World Public Health Congress, Rio De Janeiro, 21-25 August 2006.

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İşitme engeli olan ve olmayan öğrencilerin mesleki tercihlerinin karşılaştırılması

Özet

Amaç: Bu çalışma ile sağlıklı ve işitme engelli öğrencilerin mesleki tercihlerinin karşılaştırılması, olası farklılıklar ile bunu etkileyen faktörlerin saptanması amaçlanmıştır. **Yöntem:** Çalışma Mayıs 2004'te Ankara'da, 70 dB üzerinde işitme kaybı olanların devam ettiği Yahya Özsoy İşitme Engelliler İlköğretim Okulu öğrencileri (n=119) ile belirlenmiş engeli olmayanların devam ettiği bir İlköğretim Okulu öğrencileri (n=119) üzerinde yürütülmüştür. Öğrencilere uygulanan anket formlarında, sosyodemografik bilgilerin yanı sıra ileride kendileri için hangi mesleği düşündükleri ve bu meslek için gereken eğitim seviyesi sorgulanmıştır. Seçilen meslek için gereken eğitim seviyesi kriteri olarak 11 yıl alınmıştır. Ayakkabı boyacılığı, terzilik, demircilik, marangozluk, boyacılık, tır şoförlüğü gibi meslekler 11 yıldan az süre eğitim gerektiren meslekler grubuna dahil edilmiş olup; öğretmen, pilot, doktor, hemşire gibi meslekler 11 yıl ve üzerinde bir süre eğitim gerektiren meslekler grubunda ele alınmıştır. İstatistiksel analiz yöntemi olarak lojistik regresyon kullanılmıştır. **Bulgular:** Seçilen meslek için gereken eğitim seviyesini etkileyen faktörlere bakıldığında, işitme engelli okuluna devam eden öğrenciler ile erkek öğrencilerin diğer gruplara göre daha fazla oranda 11 yıldan az eğitim gerektiren meslek tercihinde buldukları saptanmıştır. Halen devam edilen sınıf, annenin yaşı, çalışma durumu ve eğitimi ile, babanın yaşı, çalışma durumu ve eğitiminin tercih edilen meslek için gereken eğitim seviyesi ile ilişkili olmadığı görülmüştür. Yalnızca işitme engelli öğrenciler ele alındığında, erkek öğrencilerin kızlara göre daha fazla oranda 11 yıldan az eğitim gerektiren meslek tercihinde buldukları saptanmıştır. Benzer fark normal okula devam eden öğrenciler arasında da gözlenmiştir. **Sonuç:** Bu bulgular ışığında, kariyer ve meslek tercihi, konusunda özellikle ağır işitme engeli olan çocukların daha hayatlarının başında beklentilerini düşük tuttıkları görülmektedir. Bununla birlikte, diğer ülkelerde bu konuda yapılan çalışmaların sonuçları da göz önüne alınarak yapılan değerlendirmelerde bu grup çocuklar ve genç erişkinlerin ülkemizde yakalayamadıkları kariyer yönlendirme, geliştirme gibi sosyal desteklerle oldukça önemli mesleklerde başarılı oldukları da görülmektedir. Ülkemizde de bu anlamda geliştirici çalışmalar yapılmalıdır.

Anahtar Kelimeler: Meslek tercihi, işitme engelli çocuklar, kariyer danışmanlığı

Introduction

Hearing impairment has different outcomes from a medical and social point of view. If the neuropsychiatric impact of deafness on children were to be investigated by researchers from a variety of different fields and backgrounds, their conclusion would be that children with hearing impairment might follow many different developmental pathways.¹ Hearing loss can significantly affect an individual's life, particularly in communication, education, social life and work life.² A child with hearing impairment needs assistance not only to grow intellectually and achieve academically but to develop emotionally and socially as well.³ There have been a number of important publications on attitudes toward people with hearing loss in many countries⁴. The

family may feel isolated by an atmosphere of stigmatization, whether real or perceived, or by real or perceived social exclusion or rejection by friends and family.⁵

Deafness has been reported to be a "low-prevalence disability" with about 200 students out of 100 000 people with hearing impairment in the whole American population.^{6,7} The prevalence of hearing loss among elderly people is more than 400 per 100 000 people older than 75 years. Every year, 1 in 1000 children is born with severe to profound hearing loss, and 4 to 5 children per 1000 have a hearing impairment significant enough to affect language acquisition.⁶ In Turkey, total hearing disability in proportion to the overall population is 12.3%. The proportion with a disability in hearing (76.1%) is higher.

Among people having hearing disabilities, the proportion with deafness is the highest proportion with 32.5%.⁸

In Turkey's total population, approximately one person in ten is illiterate. This number increases to four in ten among disabled people; the rate of illiteracy is 36.37% and rate of graduation from primary school is 40.9% among all disabled group.⁸ There are some special schools for students with hearing impairment such as segregated (institutional), mixed (a new facility housing those from the previously segregated school for the deaf in a hearing secondary school), resource programs (in mainstream schools, providing both special class instruction and opportunities for integration).⁹ In most countries the great majority of students with significant sensorineural hearing loss, attend regular schools. In Australia, approximately 85% of students who are deaf or have a hearing impairment attend regular classes, with support from itinerant teachers for the deaf. These proportions are higher than those in the United States and the United Kingdom.¹⁰ The number of students with hearing impairment attending universities and colleges has increased dramatically over the past two decades.¹¹ Today more than 25 000 students with hearing impairment are enrolled in higher education programs in the United States.¹² Many schools provide routine and qualified backup as a part of the job application process.³

For people with disabilities in general, and for young people with hearing impairment in particular, the transition to work is likely to be problematic.¹⁰ It is quite as hard to start work for the young who have a hearing impairment as it is for disabled people in general.

Advanced industrial societies usually demand a well-educated and technically skilled workforce. However, there is also an increase of poor wages and low-skilled work with minimal prospects, often comprising part-time and casual employment.

Methods

This descriptive study was performed in Ankara in May 2004, and was based on a

survey of primary school students with a hearing loss of over 70 dB from the Yahya Ozsoy Primary School for the Deaf (YOPSD) (n=119) and on students without any hearing problems from a National Primary School (n=119). Firstly the study was applied at the YOPSD. There were 208 students at the YOPSD and, 140 of them stated their preferred job when they grew up. Secondly, a National Primary School (NPS) of moderate to low socioeconomic status like the YOPSD was selected from the Ankara University Medical School, Public Health Department Training Area. 317 students were surveyed by taking a class. After that the two groups were matched for some of the factors associated with the preferred job. The student group without any hearing problem was matched one-to-one on gender, children's classroom and father's educational levels. All these factors in terms of responses to the survey matched the 119 students from each school for a total of 238 students whose data were evaluated.

The study was conducted on two groups of students through an interview by trained staff and by filling up a questionnaire focused on job and educational level preferences of the students. The study plan was reviewed by the Surveys Consent Procedure of the Institutional Review Board of our Institution and was also carried out by the management of each of the two schools

The objective of the study was to investigate the preferred job and required education levels for the preferred jobs of the students with and without hearing impairments, to determine the factors that influence the choice of these jobs, and to compare these results for with students without hearing impairments. The required education levels for the preferred jobs were considered as two groups: the first group required an education of at least 11 years in order to become doctors, nurses, teachers etc. The second group did not require any education or required less than 11 years in order to become shoe painters, drivers, ironers, grocer ?? etc.

The following were included in a logistic regression model as independent variables and a backward conditional

method was used: study groups (students with hearing impairment and students without hearing impairment), sex (male and female), classroom (1st -5th class of primary school and 6th to 8th class of primary school), age of mother (≤ 34 years and ≥ 35 years), employment status of mother (working and not working), education of mother (no

education, completed 5 or 8 years and completed more than 8 years), age of father (≤ 38 years and ≥ 39 years), education of father (no education, completed 5 or 8 years and completed more than 8 years) and required education for father's job (required 11 years and over and not required).

Table 1. Some characteristics of students with and without hearing impairments

Variable	Students with hearing impairment		Students without hearing impairment		χ^2 and p value
	n	%	n	%	
Classroom					
1 st to 5 th class of primary school	75	63.0	75	63.0	$\chi^2=0.00$
6 th to 8 th class of primary school	44	37.0	44	37.0	p=1.00
Sex					
Male	60	50.4	60	50.4	$\chi^2=0.00$
Female	59	49.6	59	49.6	p=1.00
Age of mother					
≤ 34 years	45	37.8	63	52.9	$\chi^2=2.89$
≥ 35 years	59	49.6	52	43.7	p=0.08
Education level of mother					
No education	23	19.3	12	10.1	$\chi^2=8.22$
Completed 5 or 8 years	88	73.9	89	74.8	p=0.001
Completed more than 8 years	4	3.4	13	10.9	
Employment status of mother					
Working	4	3.4	15	12.6	$\chi^2=6.92$
Not working	115	96.6	104	87.4	p=0.008
Age of father					
≤ 38 years	50	42.0	51	42.9	$\chi^2=0.09$
≥ 39 years	56	47.1	62	52.1	p=0.76
Father's educational levels					
No education	6	5.0	6	5.0	$\chi^2=0.00$
Completed 5 or 8 years	101	84.9	101	84.9	p=1.00
Completed more than 8 years	12	10.1	12	10.1	
Required education of father's job					
11 years or over	5	4.2	19	16.0	$\chi^2=9.27$
8 years or less	109	91.6	94	79.0	p=0.002
Required education of preferred job of student					
≥ 11 years	50	42.0	102	85.7	$\chi^2=49.23$
< 11 years	69	58.0	17	14.3	p=0.000

Results

The ages of the all participants ranged from 7 to 19 years with a mean age of 11.5 ± 2.9 years. For students without a hearing

impairment, this value was 10.5 ± 2.5 (7-16) and for those with hearing impairment, the value was 12.5 ± 3.0 (7-19).

As shown in Table 1, socioeconomic characteristics except classroom, gender, age of mother, age of father and father's educational level were different for the students with and those without hearing impairment. The required education for the preferred job was significantly related to

study groups and gender for all students. It was seen that students with hearing impairment (58%) were more likely to prefer low-level educational jobs when compared to the students without hearing impairment (14.3%) ($p < 0.05$).

Table 2. Some characteristics of students with and without hearing impairments according to required education levels of preferred job of students

Variable	Student with hearing impairment				Student without hearing impairment			
	Required educational levels of preferred job				Required educational levels of preferred job			
	≥ 11 years		< 11 years		≥ 11 years		< 11 years	
	n	%	n	%	n	%	n	%
Sex**								
Male	16	26.7	44	73.3	45	75.0	15	25.0
Female	34	57.6	25	42.4	57	96.6	2	3.4
Classroom								
1-5 class	26	34.7	49	65.3	65	86.7	10	13.3
6-8 class	24	54.5	20	45.5	37	84.1	7	15.9
Age of mother								
≤ 34 years	18	40.0	27	60.0	50	79.4	13	20.6
≥ 35 years	27	45.8	32	54.2	48	92.3	4	7.7
Employment status of mother								
Working	0	0.0	4	100.0	15	100.0	0	0.0
Not working	50	43.5	65	56.5	87	83.7	17	16.3
Education of mother*								
No education	13	56.5	10	43.5	11	91.7	1	8.3
Completed ≤ 8 years	35	39.8	53	60.2	73	82.0	16	18.0
Completed > 8 years	2	50.0	2	50.0	13	100.0	0	0.0
Age of father*								
≤ 38 years	21	42.0	29	58.0	42	82.4	9	17.6
≥ 39 years	25	44.6	31	55.4	54	87.1	8	12.9
Education of father								
No education	4	66.7	2	33.3	6	100.0	0	0.0
Completed ≤ 8 years	41	40.6	60	59.4	85	84.2	16	15.8
Completed > 8 years	5	41.7	7	58.3	11	91.7	1	8.3
Required education for father's job*								
Required ≥ 11 years	4	80.0	1	20.0	17	89.5	2	10.5
Not required	46	42.2	63	57.8	80	85.1	14	14.9
Total	50	42.0	69	58.0	102	85.7	17	14.3

*The percentages were calculated according to the giving answer, missing data were excluded

** $p < 0.001$ in both groups

Students with and without hearing impairment were investigated separately in order to determine factors associated with the required level of education for the preferred job in these groups (Table 2). We found that for students with a hearing impairment, male students were more likely to prefer low-level educational jobs (73.3%) than were female students (42.4%) ($p=0.007$). Similar results were also seen for students without a hearing impairment (Males: 25.0% vs. Females: 3.4%, $p=0.001$).

In order to identify factors affecting the required educational level of the preferred job, logistic regression analysis was applied. According to the results, male students (49.2%) were more likely to prefer low-level educational jobs compared to female students (22.9%) (OR=3.3 (1.9-5.7) ($p<0.05$). In addition, students with hearing impairment, preferred a lower educational level job (OR=8.3 (95% CI 4.4-15.5) compared to students with no hearing loss. (Table 3).

The other variables such as mother's and the father's age, education and work status did not have any effect on the preferred jobs.

Discussion

The required education for the preferred job was significantly related to the groups with and without a hearing impairment. It was seen that students with a hearing impairment tend to prefer low-level educational jobs compared to students without a hearing impairment. According to the 2002 Disability Survey for Turkey, the rate of primary school graduation is 40.9% and for secondary school graduation is 6.9% among all people with disabilities.⁸ Although the number of students with hearing impairment enrolled in postsecondary education has increased in both Australia and the United States, this

participation rates of these country still do not match with those without hearing.¹³

The educational achievement and literacy levels of children with a hearing impairment have been reported as considerably below those of their hearing peers. Many studies measuring reading comprehension levels report that, average reading ages were many years below chronological age.^{10,14} Low levels of literacy and educational achievement continue to contribute to the transition difficulties of many school-leavers with a hearing impairment. However, these conditions may now pose fewer barriers to career achievement for this population than they did in the past.

Socioeconomic conditions in many countries are such that families depend on incomes from all members of the family. One study reported that one third of 116 hearing parents of children with a hearing impairment reported negative changes in relationships with their own parents, family members and friends when their child with a hearing impairment was born.¹⁵ In a Canadian study of youths who were hard of hearing, one fifth of respondents reported that the career options suggested by their parents' were limited by concerns about their son's or daughter's hearing loss.¹⁶ Generally, the expressed advice to a person without hearing impairment was consistently more encouraging than the advice given to a person with a hearing loss across a range of occupations, based in part upon considerations of communication and safety factors.¹⁷ Workers with disabilities, especially sensory impairments, appear to have an elevated risk for occupational injury.¹⁸ In Turkey, of the population that has disabilities, whether orthopedic, in seeing, hearing, speaking or in mental capacities, only 21.7% participate in the labor force and the other 78.2% are not in the labor force.

Table 3. Factors affecting the required education level of the preferred job (Logistic regression analysis result)

Some characteristics	Required education levels for the-preferred job				OR	95 % CI	p value
	≥ 11 years		<11 years				
	n	%	n	%			
Study Groups							
Students with hearing impairment	50	42.0	69	58.0	8.3	4.4-15.5	0.0001
Students without hearing impairment	102	85.7	17	14.3	1.0		
Sex							
Male	61	50.8	59	49.2	3.3	1.9-5.7	0.0001
Female	91	77.1	27	22.9	1.0		
Classroom							
1 st to 5 th class of primary school	91	60.7	59	39.3	1.5	0.8-2.6	0.4
6 th to 8 th class of primary school	61	69.3	27	30.7	1.0		
Age of mother							
≤ 34 years	68	63.0	40	37.0	1.2	0.7-2.1	0.1
≥ 35 years	75	67.6	36	32.4	1.0		
Employment status of mother							
Working	15	78.9	4	21.1	0.44	0.1-1.4	0.6
Not working	137	62.6	82	37.4	1.0		
Education of mother							
No education	24	68.6	11	31.4	2.3	0.2-28.9	0.5
Completed ≤ 8 years	108	61.0	69	39.0	4.1	0.4-41.3	
Completed > 8 years	15	88.2	2	11.8	1.0		
Age of father							
≤ 38 years	63	62.4	38	37.6	1.2	0.7-2.1	0.3
≥ 39 years	79	66.9	39	33.1	1.0		
Education of father							
No education	10	83.3	2	16.7	0.4	0.1-5.5	0.5
Completed ≤ 8 years	126	62.4	76	37.6	1.3	0.3-4.7	
Completed > 8 years	16	66.7	8	33.3	1.0		
Required education for father's job							
Required ≥ 11 years	21	87.5	3	12.5	0.23	0.1-0.8	0.4
Not required	126	62.1	77	37.9	1.0		

In our study, according to the logistic regression analysis, there was a significant difference between students with and those without hearing impairments. The students with a hearing impairment showed an 8.3 times greater preference for a lower educational job. Additionally, there was a significant difference between male and female

students about the educational status of their preferred job, and this applied for both students with and those without a hearing impairment. Male students with or without hearing impairment showed a 3.3 times greater preference for a low-level educational jobs than did the female students. In fact in Turkey, the labor force participation rate in the orthopedically,

seeing, hearing, speaking or mentally disabled population is higher for males, the unemployment rate is higher for females.⁸ The job preference expressed was influenced by environmental and familial factors. Recently, girls have started to prefer women's occupations less (lower effect from the role of their motherhood), boys prefer their fathers' job.^{19,20} Because of the gender roles of men, the boys are expected to choose a job as soon as possible. For this reason they prefer jobs that require less education.

According to one study, girls with hearing impairments who were confident and frequently asked for clarifications or who were comfortable playing alone, tended to achieve good relationships with hearing peers. In contrast, the relationships of boys with hearing impairment with hearing peers benefited mostly from the boys' ability to perform well in sports.²¹ Schroedel and Watson²² reviewed seven surveys of college graduates who were primarily deaf and showed that the men earned on average, 30% a year more than women. These inequities continued even though higher percentages of women acquired bachelors and masters degrees, whereas higher percentages of men earned vocational and associates degrees. There were also gender differences in the occupations in which these alumni were employed: A plurality of men were concentrated in machine-operative and crafts jobs, whereas a plurality of women were clustered in clerical jobs.

According to one study, discrepancies in labor force, occupation, and earnings outcomes were observed between men and women in a follow-up study of 4,900 high school graduates with hearing impairment who had responded to annual surveys conducted from 1982 to 1989. It was reported that, despite efforts to expand career awareness and postsecondary programs for people with a hearing impairment, women with a hearing impairment continue to pursue a relatively narrow range of programs, leading to stereotypical female careers. Moreover, when women earn less than a bachelor's degree, they experience high underemployment and unemployment

relative to men with a hearing impairment and hearing peers.²³

Conclusion

The importance of the context of career education and counseling interventions that may benefit young people, especially who are hard of hearing was seen. There is still a great need for specialized instructional programs for dormitory counselors in schools for the deaf if the schools are to meet these responsibilities. Environmental drawbacks can be reduced by altering workplace conditions through the provision of accommodations. More attention must be paid to accommodation of people with disabilities in the workplace, especially those with impairments of hearing.

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