



ORIGINAL RESEARCH

QUALITY OF LIFE OF WORKERS AGED 14-16 YEARS IN THE MANISA APPRENTICE TRAINING CENTER

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ABSTRACT

Objective: The literature related to child labor, discusses the causes and socioeconomic factors contributing to child labor but very few studies examine the quality of life among child workers.

The purpose of this cross-sectional study was to investigate the quality of life (QoL), socioeconomic and labor related factors in young people aged 14-16 in the city of Manisa .

Methods: The study population consisted of 266 students who were attending the Apprentice Training Center in Manisa. The QoL of the subjects was measured by the adolescent version of KINDL-R (Kiddo-Kindl). Odds ratios (95% Confidence Interval) were used in the assessment. Logistic regression analysis was performed in multivariate analysis.

Results: Of the 253 adolescent workers, 77.9% were male, with a mean age of 15.6(0.5). According to logistic regression analysis; being female (OR=2.9), lack of family health insurance (OR=2.3), being exposed to family violence (OR=3.7) and absenteeism (OR=2.4) were associated with total QoL. Lack of family health insurance, insufficiency in family income, using alcohol, being exposed to family violence, job dissatisfaction and father illiteracy were associated with poorer QoL of six domains of KINDL-R.

Conclusion: The findings of this study concludes that, socioeconomic, family and job related variables are factors associated with QoL in adolescent workers.

Keywords: Quality of life, Adolescent workers, KINDL-R

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MANİSA ÇIRAKLIK EĞİTİM MERKEZİNDE 14-16 YAŞINDAKİ İŞÇİLERDE YAŞAM KALİTESİ

ÖZET

Amaç: Çocuk işçiliği ile ilgili literatürde daha çok sosyoekonomik faktörler tartışılmakta yaşam kalitesinin eilişkin pek az çalışma bulunmaktadır. Bu kesitsel araştırmada Manisa'da 14-16 yaşındaki işçilerde yaşam kalitesi sosyoekonomik ve işle ilgili değişkenleri incelemek amaçlanmıştır.

Yöntem: Manisa'da Çıraklık Eğitim Merkezi'ne devam eden 266 öğrenci çalışma grubunu oluşturmuştur. Araştırma grubunun yaşam kalitesi KINDL-R adolesan versiyonu ile değerlendirilmiştir. Veri analizinde %95 güven aralığında olasılık hızları hesaplanmış, çok değişkenli analizde lojistik regresyon analizi kullanılmıştır.

Bulgular: İkiyüz elli üç adolesan işçinin %77.9'u erkek, yaş ortalaması 15.6(0.5) dir. Lojistik regresyon analizine göre; kız cinsten olmak (OR=2.9), ailenin sağlık güvencesinin olmaması (OR=2.3), aile içi şiddete maruz kalma (OR=3.7) ve işe devamsızlık (OR=2.4) toplam yaşam kalitesi ile ilişkilidir. Ailenin sağlık güvencesinin olmaması, aile gelirinin yetersizliği, alkol kullanımı, aile içi şiddete maruz kalma, iş doyumsuzluğu ve babanın eğitimsiz oluşu KINDL-R yaşam kalitesi ölçeğinin altı alanının kötü oluşuyla ilişkilidir.

Sonuç: Bu çalışmanın sonuçlarına göre, adolesan işçilerin yaşam kaliteleri sosyoekonomik, aile ve işle ilgili değişkenlerle ilişkili bulunmuştur.

Anahtar Kelimeler: yaşam kalitesi, adolesan işçiler, KINDL-R

INTRODUCTION

Child labor is a worldwide observed phenomenon although it is much more prevalent in poor and developing areas¹. According to International Labor Organization estimates there are 351.7 million economically active children in the world (210.8 million between aged 5-14 and 140.9 million aged 15 to 17). Nearly 170 million of these children are involved in hazardous work (111 million aged 5 to 14; 59 million aged 15 to 17)². Approximately 2.5 million children are working in industrialized countries and at the transition economies³. In Turkey, there are 1 million child workers in the 6-17 age group, according to the data of State Institute of Statistics in the records for 2006. Moreover, in Turkey 52.4% of the child workers live in rural areas and 57.6% of them work in agriculture, 21.8% in industry, 10.2% in commercial and 10.4% in the service sector⁴.

Poverty is the greatest single factor responsible for the movement of children into the workplace. The survival of the family, as well as of the children themselves, often dictates it; this is particularly the case when poor families have many children. In some cases, the child's income accounted for 34-37% of the total household income. The necessity of having them work full-time

makes it impossible for families to invest in the children's education⁵⁻⁶. 78.8% of the working children aged 6-17 years can attend school and the reason for working is to contribute to household income (58.1%) in Turkey⁴. Children in developing countries are poorer and they contribute to the household income more frequently than children in developed countries. The rapid rural-to-urban migration also contributes to the increased rates of child labor.

Such increases, coupled with worsening economic trends, expose children and their families to urban poverty and children are soon required to work. Children are emotionally immature and they need a nurturing psychological and social environment that will socialize them into their cultural environment and enable them to take their places as adults in their particular society. For many laboring children, the work environment is oppressive; in essence, they do not live their childhood⁷⁻⁸. WHO goes on to describe quality of life (QoL) as the individual's perception of their position in life, in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns⁹⁻¹⁰. While QoL research in adults has progressed over the past years, QoL



research in children is a recent field. Ulrike Ravens Sieberer stated that, the development of QoL research in children has occurred in three waves. The first wave in the late 1980's was concerned with how to assess quality of life in children; a second phase beginning in the early 90's, and still going on, consists of constructing and developing quality of life measures for children. And the third phase, which began more recently (about 2000 and later), concerns the application of these measures in clinical studies¹¹.

The QoL of children was affected by socioeconomic variables (income, age, parent education, house conditions, school, ect.) and health status¹². These potential variables were associated with long hours of weekly employment during the school year; decreased performance/engagement in school and satisfaction with the amount of leisure time, increased health risk, and psychological stress. Children from families with a higher income, whose parents had had more years of schooling and were employed and children who lived in two-parent, original (core) families had a significantly higher level of QoL¹³⁻¹⁴.

The QoL of adolescent workers is not well investigated in Turkey. The aims of this study were to determine The QoL of adolescent workers and the main influential factors in Manisa city, located in western Turkey.

METHODS

Sample :

In this cross-sectional study, the study population consisted of 266 students aged between 14-16 years. Attending the Apprentice Training Center in Manisa, and being 14-16 were the criterions for inclusion in this study. These students have also been working in a variety of workplaces such as textile factories, or doing, casting, plumbing and hairdressing in Manisa. The ratio of participation in this study was 95.1 %. The Apprentice Training Centers for children/adolescents between 13-18 years of age, were constituted by law in 1979, with the purpose of training qualified manpower in industry in Turkey. These

children/adolescents attend the Apprentice Training Center twice a week and they also work in the selected workplaces. Apprentice Training Centers are related to the Ministry of National Education. All the children attending Apprentice Training Centers have health insurance covered by the government.

Measurement:

There are disease specific and generic scales to assess the QoL of children. Generic assessment focuses on relevant aspects of children's perceived health, independent of the actual medical condition of the child. Generic measures can be used with both sick and healthy populations and therefore have special merit in situations where comparisons may be involved in making decisions about the allocation of resources related to health, education or social services. Among the generic QoL measures, nine included provision for child and parent assessment, among which two were for parents only. Since generic measures can be used with healthy children, they have the advantage of being based on large samples and population norms are often available¹⁵⁻¹⁶. The available non-utility based generic scales developed for children and adolescents can be listed as Child Health Questionnaire, CHIP-AE, TACQOL, VSP-A, PedsQoL, KIDSCREEN, Disabkids, How are you Questionnaire (HAY) and the KINDL¹⁷⁻²⁵. KINDL was developed for children and adolescents originally in German. The KINDL[®] can be used not only for patients, but also for healthy children and adolescents. Three versions of the KINDL[®] were developed, the Kiddy-KINDL[®] for small children (4-7 years), the Kid-KINDL[®] for children aged 8-12 years and the Kiddo-KINDL[®] for adolescents aged 13-16.

The QoL of the subjects was measured by the adolescent version of Kiddo-KINDL[®], which is a generic QoL instrument developed in German by Bullinger et al²⁶ and revised by Ravens-Sieberer & Bullinger²⁵, validated for Turkish by Eser et al²⁷. KINDL[®] is based on the self-report of children and adolescents, includes 24 items which cover six dimensions of quality of life (physical functioning,



emotional well-being, self-esteem, family, friends and school-functional aspects). The response scale is from 1 (never) to 5 (all the time) and is based on a four week recall. The summary scores of the total and the six subscale KINDL[®] subscales were computed and transformed (range: 0 lowest to 100 highest) using the algorithm provided by the developer. Higher scores indicate better health. The measure was completed by child workers in a special session in the class under inspection. They were told about the confidentiality, benefits, risks, and future implications of the research. Data were then collected from those who verbally consented to participate. The study was approved by the Apprentice Training Center's Administrator and Province National Education Directorate. A questionnaire including sociodemographic, work and school related variables was applied to the subjects as well. Sociodemographic measures, including characteristics such as the respondent's age, gender, mother's and father's education level, family income level, health insurance of the family were assessed. The perceived income level was measured to identify the income level of the family since it is a simple marker for the determination of the economic level, and it was coded as good=1 medium=2 insufficient=3.

The answer categories of work related variables including features such as learning opportunities in the workplace, job satisfaction level and teacher-contribution to career were coded as (sufficient=1, medium=2 insufficient=3) for learning opportunities in the workplace, (maximum=1, medium=2, minimum/never=3) for job satisfaction and teacher-contribution to career. Use of their salaries (by him/herself, by the family), absenteeism (present, absent) and job sector (industry, services) were also assessed. They were also asked about exposure to family violence, alcohol usage and the presence of chronic disease.

Statistical analysis:

Median KINDL[®] total scores and the six domain scores were re-coded into

dichotomous variables by taking median values as the cut off points and coded (\geq median score) sufficient=1 and ($<$ median score) insufficient=2. Risk approach was used for assessing QoL scores. Odds ratios-OR (95 % Confidence Interval-CI) were used to investigate the univariate association. Variables found to be statistically significant in the univariate analyses were included simultaneously in logistic regression models to evaluate their contribution to QoL in the context of other variables. SPSS version 10.0 (SPSS Inc. Chicago, IL, USA) was used in the statistical analysis.

RESULTS

Of the 253 child workers, 77.9% were male, with a mean age of 15.6(0.5), 81.0% did not report any current or previous longstanding history of illness. 73.5% of the children were working in industry and the duration of employment in the recent work place was 1.6(1.1) years (Table I). 7.5% of the children had chronic conditions and they all answered the disease module of the scale. The total score of QoL, physical functioning, emotional well-being, self-esteem, family, friends, school and disease module scores distribution were 62.9(11.7), 63.9(19.3), 66.5(17.2), 53.6(23.3), 73.6(20.3), 65.8(19.2), 53.2(18.5) and 52.5(24.8) respectively (Table II).

Logistic regression models were specified for total QoL, domains of QoL and included variables which were found statistically significant in the univariate analysis. According to logistic regression analysis; the odds of having poor total QoL was 2.9 times higher in girls than in boys, 2.3 times higher in children whose families had no health insurance than in children whose families had health insurance. Exposure to family violence and absenteeism were also factors associated with total QoL. Exposure to family violence and absenteeism were factors with 3.7 and 2.4 times higher chance for decreased total QoL.

Lack of health insurance and alcohol consumption were factors with 2.3 and 3.4 times higher chance for the decreased physical functioning domain. Insufficiency in



family income (OR=3.0) was the single variable associated with the emotional well-being domain. Alcohol usage and lack of family health insurance were factors with 4.2 and 2.2 times higher chance for the decreased self-esteem domain.

Lack of family health insurance, being exposed to family violence, job dissatisfaction and insufficient contribution from teachers were factors with 3.2, 7.8, 3.1 and 4.4 times higher chance for the decreased family domain. Having poor QoL in the friends domain was associated with lack of family health insurance and being exposed to family violence. Lack of family health insurance and being exposed to family violence were factors with 3.4 and 2.5 times higher chance for decreased friends domain. Father illiteracy, absenteeism and job dissatisfaction were associated with the school domain. They were factors with 17.1, 2.8 and 6.9 times higher chance for decreased QoL in the school domain (Table IV).

DISCUSSION

In this study it was concluded that; sociodemographic and job-related variables are associated with QoL in working children. Lack of family health insurance, being exposed to family violence, absenteeism and being of female gender are associated with poorer total QoL. Lack of family health insurance is also an effective variable in self-esteem, family, friends and physical functioning domains of QoL. The emotional well-being domain of QoL is negatively affected by family income insufficiency. In a study related with this subject, the father's income was the best single predictor of QoL, having a diminishing marginal effect on the child's QoL¹¹. It is indicated that father illiteracy affects QoL of the school domain with a 17.0 times higher chance for decreased QoL. In similar studies, educated fathers positively affect child QoL¹³⁻¹⁴. Exposure to family violence negatively affects the family and friends domain of QoL in working children. Violence is a form of aggressive

behaviour that has a debilitating effect on the optimal growth and development of youth. For all adolescents, exposure to violence at home, school, or in the community is associated with aggression later in life, the development of supportive attitudes toward aggression and violence, psychological distress, school absenteeism, academic dysfunction, and subsequent injury²⁸. Children exposed to domestic violence have worse health status and health problems than others²⁹⁻³⁰.

This study indicates that job-related variables affect child's QoL. Job dissatisfaction of the child is associated with the physical functioning and school domain of QoL. Emotional well-being, physical functioning, school domains and total QoL are negatively affected by lack of learning opportunities in the workplaces. The self-esteem domain of QoL is worsened if the youth cannot spend the money he or she earns themselves. Although using salary, learning opportunities in workplaces and job sector were effective variables in QoL in univariate analysis, they were not statistically significant in the multivariate analysis. Job related variables (such as job satisfaction, absenteeism and teacher's contribution to career) kept their significance in the multivariate analysis. Job satisfaction is associated with both the family and school life domains of QoL. These two domains of QoL are negatively affected by job dissatisfaction. Job dissatisfaction is a risky variable because most of the working children start working because their parents want them to do so. On the other hand, they learn techniques about their job from the Apprentice Training Center. If the child/apprentice finds the techniques of his trainer at Apprentice Training Center insufficient, QoL of the family domain worsens.

Many investigations have examined the relationship between age and job satisfaction. But in this study age is not a statistically

**Table I.** Sociodemographic features of working children

Variables	n	%
Gender		
Male	197	77.9
Female	56	22.1
Age		
14	4	1.6
15	78	30.8
16	169	66.8
Missing	2	0.8
Job sector		
Services	67	26.5
Industry	186	73.5
Illness		
Yes	44	17.4
No	205	81.0
Missing	4	1.6
Total	253	100.0
	mean (sd)	
Age	15.6 (0.5)	
Duration of employment in the recent work place (years)	1.6 (1.1)	
Weekly income (YTL)	21.1 (14.6)	

YTL = New Turkish Lira

sd= standard deviation

Table II. Distribution of QoL (KIDDO-KINDL) points.

Domains	mean(sd)	median	minimum	maximum
Physical functioning	63.9 (19.3)	62.5	0.0	100.0
Emotional well-being	66.5 (17.2)	66.7	0.0	100.0
Self-esteem	53.6 (23.3)	50.0	0.0	100.0
Family	73.6 (20.3)	75.0	0.0	100.0
Friends	65.8 (19.2)	68.8	0.0	100.0
School	53.2 (18.5)	50.0	0.0	100.0
Chronic disease	52.5 (24.8)	50.0	10.0	95.8
KINDL Total score	62.9 (11.7)	63.5	2.1	92.5

sd= standard deviation

**Table III.** Univariate risks of independent variables on the domain scores and the total score

	Total OR(CI)	QoL Physical functioning OR(CI)	Emotional well-being OR(CI)	Self-esteem OR(CI)	Family OR(CI)	Friends OR(CI)	School OR(CI)
Age							
14-15(82) (ref)	1.0			1.0			1.0
16 (169)	2.0(1.2-3.6)	1.9(0.7-3.9)*	2.3(0.4-2.7)*	2.1(1.1-3.9)	3.4(0.7-4.9)*	1.8(0.2-3.5)*	1.9 (1.0-3.5)
Gender							
Male(197) (ref)	1.0						
Female(56)	2.3(1.2-4.4)	1.2(0.6-2.3)*	1.3(0.7-2.7)*	1.3(0.7-2.5)*	1.0(0.5-2.0)*	1.4(0.7-2.8)*	1.9(0.9-3.6)*
Health insurance of family							
Present(175) (ref)				1.0	1.0	1.0	
Absent(78)	1.7(0.7-2.7)*	1.5(0.8-2.5)	1.4(0.4-2.5)*	1.8(1.1-3.4)	1.9(1.1-3.5)	2.6(1.4-4.7)	1.2(0.2-2.3)*
Family income							
Good(45) (ref)	1.0	1.0	1.0		1.0		
Medium(103)	2.3 (0.9-5.8)*	4.2(1.5-12.3)	1.3 (0.6-3.1)*	1.6(0.3-2.5)*	1.5(0.6-4.1)*	1.7(0.3-9.0)*	2.7(0.2-7.8)*
Insufficient(97)	4.4 (1.7-11.2)	4.3(1.5-12.8)	9.1 (1.3-7.3)	2.1(0.8-6.9)	2.7 (1.0-7.0)	2.0(0.3-7.6)*	3.1(0.7-8.9)*
Father education							
Secondary/above(44)(ref)							1.0
Primary(162)	1.5(0.4-9.0)*	1.7(0.5-5.9)*	1.2(0.3-7.8)*	2.8(0.6-5.6)*	1.2(0.8-3.5)*	1.7(0.2-3.5)*	1.1(0.5-2.2)*
Illiterate(7)	4.9(0.6-289.7)*	3.4(0.4-310.0)*	8.9(0.2-310.8)*	7.6(0.3-234.5)*	5.7(0.3-217.0)*	9.7(0.4-185.2)*	13.2(1.3-318.0)
Exposure to family violence							
Present(85)	4.5(0.8-7.6)*	3.2(0.7-7.8)*	3.4(0.5-4.5)*	2.9(0.6-6.7)*	5.0(2.7-9.1)	2.7(1.5-4.9)	2.3(0.4-5.6)*
Absent(168) (ref)					1.0	1.0	
Learning opportunities in workplace							
Sufficient(72)(ref)	1.0	1.0	1.0				1.0
Medium(116)	1.7 (0.9-3.3)*	1.3(0.7-2.5)*	2.5 (1.3-4.7)	2.6(0.5-4.7)*	1.9(0.4-3.6)*	2.3(0.5-4.9)*	0.9 (0.4-1.8)*
Insufficient(25)	4.2 (1.5-12.2)	2.8(1.1-7.4)	3.5 (1.3-9.5)	3.1(0.7-6.7)*	2.1(0.6-4.8)*	3.2(0.4-5.3)*	3.5(1.2-9.8)
Using salary							
By himself(56) (ref)				1.0			
By family(197)	3.4(0.8-4.5)*	2.8(0.6-5.9)*	2.3(0.8-3.4)*	2.2 (1.0-4.7)	3.9(0.5-6.7)*	2.1(0.3-4.3)*	2.7(0.3-5.8)*
Contribution to career by their teacher							
Max(121) (ref)	1.0				1.0		
Medium(69)	1.4 (0.7-2.6)*	1.2(0.5-3.4)*	1.7(0.4-4.3)*	2.0(0.4-3.2)*	1.2 (0.6-2.2)*	1.7(0.4-6.7)*	1.8(0.3-5.1)*
Min/never(23)	3.2 (1.1-9.3)	2.3(0.6-5.8)*	3.7(0.5-4.8)*	2.4(0.4-3.2)*	4.1(1.5-11.7)	2.6(0.4-5.3)*	2.7(0.4-6.2)*
Job sector							
Industry(186)	1.9 (1.1-3.6)	2.3(0.4-5.3)*	1.5(0.3-1)*	1.7(0.4-4.3)*	2.1(0.3-4.9)*	1.8(0.4-3.4)*	2.1(0.5-2.3)*
Services(67) (ref)	1.0						
Absenteeism							
Present(67)	2.2 (1.1-4.2)	1.9(0.4-3.4)*	1.2(0.3-4.3)*	1.7(0.4-4.1)*	1.5(0.3-4.2)*	2.0(0.7-5.4)*	2.3(1.2-4.4)
Absent(186) (ref)	1.0						1.0
Job satisfaction							
Max(139) (ref)	1.0	1.0		1.0	1.0		1.0
Medium(97)	2.2 (1.2-4.1)	1.4 (0.7-2.6)*	1.7(0.4-3.8)*	1.8(0.9-3.3)*	1.9(1.1-3.6)*	1.6(0.3-5.1)*	1.2(0.6-2.1)*
Min/never(17)	6.2 (1.5-29.7)	4.9(1.4-17.7)	2.1(0.4-6.4)*	3.4(1.1-11.1)	3.4(1.0-12.3)*	2.8(0.7-5.6)*	5.8 (1.5-23.7)
Alcohol using							
Yes(27)	1.6(0.7-3.9)*	2.4(1.0-5.9)	3.1(0.4-5.4)*	3.4(1.4-8.3)	2.9(0.4-5.2)*	1.7(0.4-4.6)*	1.9(0.6-4.5)*
No(226)(ref)		1.0		1.0			
Having chronic disease							
Yes(44)	1.6(0.6-2.6)*	3.3 (1.6-6.7)	2.1(0.6-3.7)*	1.8(0.6-9.7)*	2.0(0.4-12.3)*	1.9(0.2-9.8)*	1.8(0.4-9.1)*
No (205)(ref)		1.0					

ref= reference OR= Odds Ratio *=nonsignificant

**Table IV.** Significant Variables on QoL, Logistic Regression Analysis

	Total QoL OR(CI)	Physical functioning OR(CI)	Emotional well-being OR(CI)	Self-esteem OR(CI)	Family OR(CI)	Friends OR(CI)	School OR(CI)
Gender							
Male(197) (ref)	1.0						
Female(56)	2.9(1.2-6.8)	1.7(0.2-4.3)*	2.1(0.3-5.7)*	1.3(0.5-3.4)*	1.7(0.4-5.6)*	2.1(0.6-4.9)*	1.3(0.4-5.7)*
Health insurance of family							
Present(175) (ref)	1.0			1.0	1.0	1.0	
Absent(78)	2.3(1.1-4.9)	2.3(1.1-4.7)	1.8(0.6-3.7)*	2.2(1.1-4.3)	3.2(1.5-7.2)	3.4(1.7-7.0)	2.1(0.5-4.8)*
Family income							
Good(45) (ref)			1.0				
Medium(103)	1.5(0.4-4.3)*	1.6(0.4-5.7)*	1.4(0.6-3.9)	1.8(0.4-5.4)*	2.1(0.6-6.7)*	1.3(0.7-5.4)*	2.3(0.5-6.8)*
Insufficient(97)	2.7(0.4-4.5)*	2.1(0.3-4.6)*	3.0(1.2-7.5)	2.4(0.4-5.8)*	3.4(0.5-4.3)*	2.7(0.5-7.1)*	3.1(0.2-5.3)*
Father education							
Secondary/above(44)(ref)							1.0
Primary(162)							1.4(0.5-3.2)
Illiterate(7)							17.1(1.6-183.4)
Expose to family violence							
Present(85)	3.7(1.9-8.1)	2.8(0.3-7.6)*	1.7(0.4-8.2)*	3.6(0.6-8.6)*	7.8(3.6-16.7)	2.5(1.3-4.9)	2.7(0.5-9.2)*
Absent(168) (ref)	1.0				1.0	1.0	
Contribution to career by their teacher							
Max (121)(ref)					1.0		
Medium(69)	0.3(0.7-2.3)*	1.2(0.4-2.9)*	1.1(0.4-3.7)*	0.9(0.6-2.3)	0.6(0.3-1.5)	1.2(0.5-5.6)*	2.1(0.5-4.1)*
Min/ never(23)	1.4(0.3-9.4)*	2.5(0.8-12.0)*	3.2(0.5-7.6)*	2.1(0.7-8.9)*	4.4(1.4-14.1)	3.4(0.5-11.1)*	3.2(0.5-10.1)*
Absenteeism							
Present(67)	2.4(1.1-5.4)	1.6(0.5-4.7)*	2.9(0.7-4.1)*	1.9(0.4-4.3)*	2.7(0.6-5.4)*	1.1(0.4-3.2)*	2.8(1.3-6.2)
Absent(186) (ref)	1.0						1.0
Job satisfaction							
Max(139) (ref)					1.0		1.0
Medium(97)	1.2(0.4-9.3)*	2.0(0.5-4.9)*	1.5(0.4-3.4)*	1.7(0.5-9.3)*	2.1(0.3-11.8)	1.1(0.7-4.1)*	1.1(0.5-2.4)
Min/never(17)	2.3(0.7-6.7)*	2.9(0.7-4.8)*	2.1(0.4-7.9)*	2.0(0.6-7.9)*	3.1(1.4-6.9)	2.7(0.4-9.4)*	6.9(1.1-41.8)
Alcohol using							
Yes(27)	2.1(0.5-9.2)*	3.4(1.2-9.7)	1.7(0.3-8.7)*	4.2(1.4-11.7)	3.2(0.8-10.1)*	1.7(0.6-7.9)*	3.9(0.8-7.9)*
No(226) (ref)		1.0		1.0			

ref= reference OR= Odds Ratio *=non-significant

significant factor in the multivariate analysis. In another study the results indicated a significant but weak positive linear age-job satisfaction relationship. That is, age failed to explain a substantial proportion of linear variance in the job satisfaction measure. This indicates that age, as a chronological variable, is not a viable predictor of job satisfaction³¹. Probably QoL is a pertinent psychological variable associated with the underlying ageing process in job satisfaction. Another possible explanation lies within the statistical methods applied. Even in the univariate analyses, the confidence intervals are rather broad (due to the sufficient but not overwhelming sample size), however, with the inclusion of other variables into the logistic regression, there are eventually too many parameters to be estimated for the actual sample size. The confidence intervals grow large and statistically significant results can hardly be found anymore. According to the univariate

and multivariate analyses results, gender is a significant sociodemographic variable on QoL. The total QoL scores of working girls are three times worse than that of boys. Many studies related to QoL in different age groups indicate similar findings³²⁻³⁷.

Risky behaviour in working children is another subject of investigation. It is found that, the tendency towards taking risks is higher in boys, in children who grew up in cities, and who do not like their work, also when there is alcohol, smoking or drug usage in the family or among friends, and violence in the workplace³⁹. In this study, alcohol consumption is associated with the physical functioning and self esteem domains. In the struggle against the threads that affect the physical and psychological development of working children negatively, workplace conditions must not be overlooked. Foster's study has indicated that young workers may



suffer a long-term physical, emotional and intellectual distress⁴⁰.

The progressive elimination of child labour requires a strategy that takes into account long-term and short-term economic objectives, access to employment, increase in living standards, improvements in the educational infrastructures and efforts to promote awareness of the need for change. The QoL of working children is affected by sociodemographic variables and job related negative experiences. According to this study, being female, lack of family health insurance, insufficient family income, father illiteracy, exposure to family violence, alcohol consumption, job dissatisfaction, teachers' insufficient contribution and absenteeism are risk factors that negatively affect the QoL of children. QoL is an important tool for the determination of child workers who live and work in hard conditions.

Authors' Contributions

PED conceived the study and participated in its design, the statistical analysis, coordination and drafting of the manuscript. HB, EE participated in the design of the study, performed the statistical analysis and helped to draft the manuscript. AE participated in the design of the study and helped to draft the manuscript. BB, NN, TP and AO helped in the acquisition of data and participated in the design of the study. All the authors read and approved the final manuscript.

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REFERENCES

1. Bequle A, Boyden J. Working children: current trends and policy responses. *Int Labour Rev* 1998; 2:153-171.
2. http://www.who.int/occupational_health/publications/newsletter/Gohnet9eng.pdf
3. Child protection- Child labour (online), available from <http://www.unicef.org/protection/index_childlabour.html>, (accessed 2006-09-02).
4. ÇocukİşgücüAraştırması2006 (online), available from <http://www.tuik.gov.tr/PreHaberBultenleri.do?id=482>, (accessed 2006-10-08).
5. Syed KA, Mirza A, Sultana R, Rana I. Child labour: socioeconomic consequences. *Pakistan and Gulf Economist* 1991;10:36-39.
6. Child Labour in India: Causes, governmental policies and the role of education (online), available from <<http://www.geocities.com/CollegePark/Library/9175/inquiry1.htm>>, accessed 2005-11-12.
7. Barker G, Knaul F. Exploited entrepreneurs: street and working children in developing countries (online), available from <<http://www.childhope.org.uk/documents/children-violence.pdf>>. (accessed 2006-10-08).
8. Gharabieh M, Hoeman P, Hoeman S. Health hazards and risks for abuse among child labor in Jordan. *J Pediatric Nurs* 2003;18:140-147.
9. Division of Mental Health and Prevention of Substance Abuse: WHOQOL Measuring Quality of Life. WHO: 1997.
10. Rajmil L, Herdman M, Sanmed M J. Generic health related quality of life instruments in children and adolescents: a qualitative analysis of content. *J Adolesc Health* 2004;34:37-45.
11. Sieberer UR. The challenge of assessing the health related Quality of Life of children. In *Proceedings of the 1st Health Related Quality of Life Symposium* : 8-10 April 2004 Izmir/Turkey : 17.
12. Jirojanakul P, Skevington SM, Hudson J. Predicting young children's quality of life. *Soc.Sci.Med.* 2003; 7: 1277-1288.
13. Spurrier NJ, Sawyer MG, Clark JJ, Baghurst P. Socioeconomic differentials in the health -related quality of life of Australian Children: results of a national study. *Aust NZ J Public Health* 2003; 1:27-33
14. Weller NF, Kelder SH Cooper SP, Bason-Engquist K. School-year employment among high school students: effects on academic, social and physical functioning. *Adolescence* 2003;38:441-458.
15. Eiser C, Morse R. A review of measures of quality of life for children with chronic illness. *Arch Dis Child* 2001; 84: 205-211.
16. Swaminathan M. Economic growth and the persistence of child labor: evidence from an Indian city. *World Dev.* 1988; 8:1513-1528.
17. Landgraf JM, Ware JE, Schor E, et al. Comparison of health status profiles for children with medical conditions preliminary psychometric and clinical results from children's health and quality of life project. Paper prepared for the 10th annual meeting for Health Services Research. Washington, 1993
18. Landgraf JM, Abetz, L, Ware J.E : *The CHQ: A User's Manual*. 1st ed. The Health Institute, New England Medical Center, Boston, MA, 1996
19. Verrrips GH, Vogels AGC, Verloove-Vanhorick SP, et al.: Health-related quality of life measure for children – the TACQOL. *J Appl Therapeutics* 1997,1. 357-360.



20. Simeoni MC, Auquier P, Gentile S, et al.: Results of the conceptualisation and validity of a new French health related quality of life instrument in adolescence. In Proceedings of the 5th Annual Conference of the International Society for Quality of Life Research: 1998 Baltimore
21. Varni JW, Seid M, Knight TS, Uzark K, Szer IS. The PedsQL 4.0 generic core scales: sensitivity, responsiveness, and impact on clinical decision-making. *J Behav Med.* 2002;25:175–193.
22. Ravens-Sieberer U, Gosch A, Abel T, et al. and the European KIDSCREEN group. Quality of life in children and adolescents– a European public health perspective. *Soz Präventivmed* 2001;46, 294–302 .
23. Bullinger M, Schmidt S, Petersen C.. Assessing quality of life of children with chronic health conditions and disabilities: a European approach. *Int J Rehabil Res* 2002;25:1-11.
24. Bruil J, Maes S, le Coq L, Boeke J: The development of the how are you (HAY), a quality of life questionnaire for children with a chronic illness. *Quality of Life Newsletter* 1996, 13: 9.
25. Ravens-Sieberer U, Bullinger M. Assessing the health related quality of life in chronically ill children with the German KINDL: first psychometric and content-analytical results. *Qol Life Res* 1998; 7: 399-408.
26. Bullinger M, Mackensen S, Kirchberger I: KINDL – ein fragebogen zur gesundheitsbezogenen lebensqualität von kindern. *Zeitschrift für Gesundheitspsychologie.* 1994; 2: 64-67.
27. Eser E, Yüksel H, Baydur H, Bilge B, Dünder PE, Pala T, Oral A: KIDDO_KINDL Yaşam Kalitesi Ölçeği Türkçe Sürümü Geçerlilik Ve Güvenirlik Sonuçları. In Proceedings of the 1st Health Related Quality of Life Symposium: 8-10 April 2004 Izmir/Turkey . 2004: 78.
28. Pratt HD, Greydanus DE: Adolescent violence: concepts for a new millennium. *Adolesc. Med.* 2000; 11:103-129.
29. Onyskiw JE. Health and use of health services of children exposed to violence in their families. *Can J Public Health* 2002;93:416-420.
30. Daane DM. Child and adolescent violence. *Orthop.Nurs* 2003;22: 23-29.
31. Bernal D, Snyder D, Mc Daniel M: The age and job satisfaction relationship: does its shape and strength still evade us?. *J Gerontol B Psychol Sci Soc Sci.* 1998;53: 287-293.
32. Bisegger C, Cloetta B, von Rueden U, Abel T, Ravens-Sieberer U: Health-related quality of life: gender differences in childhood and adolescence. *Soz Präventivmed* 2005;50: 281-291.
33. Zahran HS, Kobau R, Moriarty DG, Zack MM, Holt J, Donehoo R; Center for Disease Control and Prevention: Health-related quality of life surveillance- United States, 1993-2002. *MMWR Surveillance Summ* 2005;54: 1-35.
34. Mazur J, Woynarowska B: Risk behaviors syndrome and subjective health and life satisfaction in youth aged 15 years. *Med Wieku Rozwoj* 2004; 8: 567-583.
35. Khang YH, Cho SF, Yang S, Lee MS: Socioeconomic differentials in health and health related behaviors: finding from the Korea Youth Panel Survey. *J Prev Med Pub Health.* 2005; 38: 391-400.
36. Brooks TL, Harris SK, Thrall JS, Woods ER: Association of adolescent risk behaviors with mental health symptoms in high school students. *J Adolesc Health* 2002;31: 240-246.
37. Artazcoz L, Borrel C, Benach J: Gender inequalities in health among workers: the relation with family demands. *J Epidemiol Community Health* 2001;55: 639-647.
38. Özçevikel A: İzmir Bornova Meslek Eğitim Merkezinde Eğitim Gören Çıraklarda Risk Alma Davranışları ve Etkileyen Faktörlerin İncelenmesi, PhD Thesis. Dokuz Eylül University, Public Health Department; 2003.
39. Foster J: Why Does Child Labor occur? (online), available from www.earlham/Globalprobs/children/Ameye.html.>, (accessed 2006-12-09).