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Evaluation of satisfaction levels from workwears of forest fire workers

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Abstract: Nowadays, the use of appropriate work clothes in each work lines is mandatory with 4857 labor law. Forestry activities are performed in the open air, difficult working conditions and under the influence of various risk factors. Forest fire workers who work in the forest fire extinguishing and cooling have worked at the greatest risk operations. The majority of these workers work in the status of seasonal workers. In fire season, the fire workers usually wear work clothes for the day and stay in barracks in the forest. Work clothes of fire workers are brightly colored to be visible in the forest, fire-resistant and suitable forest conditions. It is important that to provide easy movement, to be effective against air conditions and to conform to the body features of workers of forest fire clothing in terms of health and safety. In this study, it has been assessed that satisfaction levels of forest fires worker from work clothes. It was applied a questionnaire to 44 forest fire workers. Data were analyzed statistically and solutions were developed.

Keywords: Forest fire workers, workwear, work satisfaction level, occupational health and safety, ergonomic

Orman yangın işçilerinin iş kıyafetlerinden memnuniyet düzeylerinin değerlendirilmesi

Özet: Günümüzde toplumun iş sağlığı ve güvenliğine verdiği önemin artması ve 4857 sayılı iş kanunu gereğince iş yerlerinde iş kıyafetlerinin kullanımı ön plana çıkarmıştır. Ormancılık faaliyetleri; açık havada, zor çalışma koşullarında ve çok değişik risk faktörlerinin etkisi altında gerçekleştirilmektedir. Orman işçilerinden en fazla risk altında olanlar, orman yangınlarının söndürülmesi ve soğutulması faaliyetlerinde çalışan yangın işçileridir. Bu işçilerin büyük bölümü sözleşmeli işçi statüsündeki kişilerdir. İşçiler yangın sezonunda her an yangına acil müdahaleye gitmek durumunda kalmaları nedeniyle genellikle orman içerisindeki barakalarda konaklarlar ve gün boyu iş kıyafetlerini giyerler. İşçilerin kıyafetleri parlak renkte ve ateşe karşı dayanıklı malzemeden yapılırlar. Bu kıyafetlerin orman içerisinde rahat hareket etmeyi sağlaması, hava hallerine karşı etkinliği ve işçilerin vücut yapılarına uygunluğu iş güvenliği açısından çok önemlidir. Bu çalışmada, orman yangın işçilerinin iş kıyafetlerinden memnuniyet durumları değerlendirilmiştir. Bu amaçla hepsi erkek olan 44 orman yangın işçisine memnuniyet düzeyi belirleme anketleri uygulanmıştır. Elde edilen veriler değerlendirilerek işçilerin memnuniyetsizlik duydukları durumlar ortaya konulmuş ve çözüm önerileri geliştirilmiştir.

Anahtar kelimeler: Orman yangın işçileri, iş kıyafeti, memnuniyet düzeyi, iş sağlığı ve güvenliği, ergonomi

1. INTRODUCTION

Forest fires are among the disasters that cause significant losses in lives or property and that have negative impact on the balance of the natural ecosystem. Forest fires can be caused due to natural reasons such as lightning and reflection of sunlight via broken glass or they might start as a result of an accident or be started intentionally by humans. It was put forth in a study carried out that 91% of the forest fires in Turkey are caused by human activities (Karabulut et al., 2013).

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Turkey has an approximate forest area of 21,2 million ha and 58% of these forests are located in regions that are classified as risky for fires (Kucuk and Unal, 2005). The areas where forest fires take place most intensely are areas with a depth of 160 km along the 1700 km coastal strip that stretches all the way through the Mediterranean and Aegean regions to Istanbul. Especially the Aegean and Mediterranean regions are first degree sensitive areas to fires due to the hot and dry summer climates (Basaran et al., 2007). Forest fire workers are employed by the General Directorate of Forestry (GDF) in two different groups as permanent and contract/seasonal workers in order to fight with fires and to carry out the cooling works after the fires are extinguished. GDF employed 1618 contract workers to its provincial organization 2014 for a period of 5 months 29 days (GDF, 2013).

The science of ergonomy with its main field of study as the interaction between human-environment-machines has come to the forefront in our day with the increase of the importance given to the health and occupational safety of the workers in our societies. The goals of this science are to ensure worker health as well as occupational safety in addition to minimize occupational hazards and occupational risks while increasing efficiency and quality (Sagocak, 2005; Su, 2001). These can only be possible if the attributes of the job at hand are known well and if necessary precautions have been taken for the environmental or work related risks.

The labor law numbered 4857 went into effect in 2004 in order to decrease occupational hazards in our country as well as to ensure occupational health and safety. The use of special work clothes became obligatory as a result of this law for some occupations based on the type of work carried out (labor law numbered 4857, 2004). Whereas Kuru et al. (2004) define work clothes as clothing that should be worn during activity in accordance with the requirements of the job, Kansoy et al. (2008) define work clothes as clothing worn by workers to protect themselves from bad environmental conditions as well as occupational risks and/or to decrease the risks involved (Kuru et.al., 2004; Kansoy et.al. 2008). Depending on the risks involved, work clothes can vary according to their fabric, model or general properties. Factors such as the heat in the work environment, tools that will be used during the job, properties of the substances that the workers are exposed to during work and the frequency with which work clothes are washed are important for fabric selection (Once and Ozveri, 2006). In addition, it is also important that work clothes have the required thermal comfort that will preserve the heat and moisture balance of the body by transferring the changing temperature and moisture of the body in accordance with the working environment conditions as well as the work carried out (Marmarali and Oglakcioglu, 2013).

The work of fighting with forest fires consists of reducing the risk of a fire outbreak as well as minimizing the damages that occur as a result of the fire or during its extinguishment (Guney et.al., 2016). It is obligatory that work clothes should be made of fire resistant materials for fire extinguishing since the workers work too close to the fire. Cotton or wool clothing can be preferred in case special, fire proof clothing is not available. Synthetic clothing with nylon or polyester content of more than 15% should not be worn since they will melt and cause burns. Long sleeved shirts should be preferred and the pants should be long enough to reach the upper corner of the boots (Engur, 2001). In addition, work clothes should be able to preserve the heat and moisture balance of the body depending on environmental conditions since forest fire workers work under all kinds of weather conditions inside the forest.

Forest fire workers should be wearing their work clothes at all times ready for fighting with forest fires at their first intervention team buildings especially during the summer months (Kucukosmanoglu et.al., 2015). Engur (2001) carried out a study in which it was stated that forest workers do not want to use clothes that hinder their works or that are uncomfortable and that they are complaintive of ailments such as headaches and eczema especially in hot and humid regions.

Hence, it has been put forth in various studies that it is important for the health and safety of workers to feel themselves comfortable in work clothes, that they are not affected adversely from environmental conditions and that they are not strained during their daily activities (Kuru and Kaynak, 2008; Kansoy et.al., 2008; Hollies, 1996). It is known that the activities of the workers are hindered, the risk of occupational

hazards increase and their efficiencies and motivations are adversely affected when the worker does not feel comfortable in work clothes (Civitci and Saygili, 2008; Agac and Yildiz, 2008; Kisoglu et.al., 2004). Many studies have been carried out in our country which examine the problems and satisfaction levels of those who work at rest areas, private security officers, forest protection employees, enforcement and protection clerks, industrial workers, doctors, nurses and garbage collectors (Civitci and Dengin, 2014; Dursun et.al., 2013; Tezel et.al., 2012; Unver, 2012; Agac and Yildiz, 2008; Kansoy et.al., 2008; Civitci and Saygili, 2008; Agac, 2004). However, the satisfaction related with work clothes of workers in different occupations should be carried out separately since the required properties for work clothes differ according to the properties of the environment and the work carried out.

The objective of this study was to put forth the problems related with work clothes as well as the satisfaction levels of forest fire workers who work at forest fire extinguishing and cooling business.

2. MATERIAL AND METHOD

This is a descriptive survey method based study that aims to acquire the opinions of forest fire workers related with work clothes via surveys. Simple random sampling was used in the study during which the applications were carried out on 44 forest fire workers working at the Muğla – Marmaris region in April 2015.

Data acquisition: A survey (Appendix Table 1) was used in the study which included a total of 13 questions related with the demographic properties of the participants in the first section, the status of their work lives in the second section in addition to their opinions on the work clothes they use in the third section. A survey consisting of 10 statements that was evaluated within the framework of a 4-point Likert scale [I agree (1), I partially agree (2), I am indecisive (3), I do not agree (4)] was used to determine the work clothing satisfaction levels of workers (Appendix Table 2). The surveys were carried out as chats via face to face interview method based on a voluntary basis.

Data evaluation: The statistical evaluation of the acquired data was carried out via SPSS 20.0 package software. A pilot application was carried out with 6 forest fire workers in order to determine the validity level of the satisfaction survey. It was examined whether the reliability and validity levels of the survey forms were sufficient or not in order to acquire significant results from the acquired data. The Cronbach Alpha reliability criteria calculated via internal consistency method was used in this study. Frequency and percentage distribution values according to the type of data acquired via the surveys have been presented in the tables and interpreted. Chi square test was applied in order to test whether there was a statistically significant relationship between the satisfaction levels related with work clothes for the workers who participated in the study and the results were evaluated at a level of $p < 0,05$.

A statistical comparison could not be made about whether there are any gender related differences between the satisfaction levels since all of the target group of the study consisted of males.

3. RESULTS AND DISCUSSION

The Cronbach Alpha coefficient was determined as 0,847 during the Cronbach Alpha (α) reliability analysis carried out to determine the reliability and validity of the survey questions used in this study. This value is located between $0,80 \leq \alpha < 1,00$ in the reliability test classification level and is included in the highly reliable class according to the evaluation criteria (Ozdamar, 2002).

All forest fire workers who participated in the study were males and the frequency table of their demographic properties has been given in Table 1.

Table 1. Demographic characteristics of workers
Tablo 1. İşçilerin demografik özellikleri

Parameters		**Frequency (%)**
Age	18-25	2,3
	26-35	20,9
	36-45	41,9
	45 <	34,9
Education	Illiterate	14,0
	Literate	72,1
	Primary Education	11,6
	High School	2,3
Marital status	Married	83,7
	Unmarried	11,7
	Widows/divorced	4,6

Majority of the workers are aged above 36 (76,8 %), married (83,7 %) and primary school graduates (72,1 %) who work as temporary workers. The frequency of the questions in the second section of the survey in which the properties of the work carried out by forest fire workers are determined has been given in Table 2.

Table 2. The frequency of questions about the working life of workers
Tablo 2. İşçilerin çalışma hayatı ile ilgili soruların frekans tablosu

Parameters		**Frequency (%)**
Accommodation	Home	27,9
	Shelter	72,1
Operating time (years)	< 1	18,6
	2-19	34,9
	20 <	46,5
The number of working days (a week)	5	23,3
	6	76,7
The fee (TL)	1000-1500	7,0
	1500 <	93,0

Majority of the forest fire workers (72,1%) reside in shelters in forests especially during seasons prone to forest fires because of the risk that a forest fire can start at any moment. The workers who live in forest shelters during 6 days of the week have only one day of weekly leave. About half of the workers are experienced people who have been working for over 20 years.

The frequency table for the answers given to the questions related with the work clothes in the third section of the survey carried out on forest fire workers has been given in Table 3.

The clothing of forest fire workers is provided by the government 1 or 2 times annually at certain times of the year and they do not have the chance to purchase the clothing they need at other times. Forest workers stated during the interviews carried out with them that they experience discomfort mostly with pants (32,39%) and shirts (19,72%). Forest workers also put forth that they are uncomfortable about the arm and shoulder sections of upper clothing such as shirts and coats as well as the zipper and cuff sections of the pants. Workers indicated that work clothes limit their ability to act comfortably while working, hamper their ability to move rapidly, that they feel suffocated in these clothes during interventions to the fire and thus their concentrations are affected adversely. It has also been determined in many other studies carried out for determining the satisfaction levels related with work clothes in different work fields or for the development of work clothes that workers mostly complain of not being able to move comfortably while wearing these clothes (Unver, 2012; Kansoy, 2008). The satisfaction levels of forest fire workers related with work clothes have been given in Table 4.

Table 3. The frequency of questions about the work clothing
Tablo 3. İş kıyafetleri ile ilgili soruların frekans tablosu

Parameters		**Frequency (%)**
Daily Wear Time (hours)	12 hours	27,90
	24 hours	72,10
Type of clothing bothers	Trousers	32,39
	Shirt	19,72
	Monte	11,27
	Jacket	4,23
	Raincoat	2,82
	Shoe	12,68
	None	16,90
The disturbing part of the clothing	Arms	15,71
	Legs	21,43
	Collar	11,43
	Shoulder	12,86
	Zipper / Network	11,43
	Foot	11,43
	None	15,71
Cause discomfort	The texture of the fabric	14,81
	Be heavy	16,67
	To overwhelm	18,52
	Movement restrictions	29,63
	None	20,37

Table 4. Satisfaction of workers associated with work clothes
Tablo 4. İşçilerin iş kıyafetleri ile ilgili memnuniyet durumları

	Frequency (%)			
	Agree	**Partially Agree**	**Undecided**	**Not Agree**
I like the model	46,5	34,9	11,6	7,0
I like the color	41,9	39,5	9,3	9,3
I'm glad the mold	44,2	23,3	16,3	16,3
I'm satisfied with the fabric	34,9	32,6	11,6	20,9
Unable comfortable movement	32,6	34,9	4,7	27,9
Difficult to clean	14,0	48,8	7,0	30,2
Resistant	11,6	48,7	2,3	37,2
Protector	62,8	27,9	4,7	4,7
Sweat	41,9	44,2	2,3	11,6
Hard to be worn	4,7	18,6	9,3	67,4

The ratio of those among the male fire workers who are satisfied with the model of the work clothes they use was determined to be quite high (81,4%). However, the satisfaction level related with work clothes was low in studies carried out with forest preservation clerks (Unver, 2012) all of whom were female or with male-female workers from other occupations (Dursun et al., 2013). This might be due to the fact that male forest fire workers who work away from the social environment give less importance to the model and aesthetics of the work clothes in comparison with female workers or workers who work in a social environment.

It was examined whether there is a statistically significant relationship between the satisfaction levels from work clothes and the age of the workers. It was determined as a result of the chi-square test carried out that there are statistically significant relationships between age and satisfaction from color ($p<0,039$, F: 17,718) with a reliability of 95% and between age and the strength of the clothing ($p<0,000$, F: 48,143) and its effect on sweating ($p<0,000$, F: 45,583) with a reliability of 99%.

The clothing of forest fire workers are made of luminous colors because they have to be visible while fighting with fires in case they fall down, are injured or faint. The ratio of discomfort related with the luminous color of the clothing decreases in forest fire workers with increasing age. This might be due to the fact that older people do not give importance to their external appearance, that their familiarity with the clothes they wear increase over time or their awareness related with the importance of the color of their work clothes for occupational safety.

4. CONCLUSION AND RECOMMENDATIONS

Forest fire workers work at jobs that include significant risks such as the application of precautions related with the prevention of fires in forests, the putting out and cooling of fires in forests. These are jobs carried out under external weather conditions, at difficult terrains which are generally rugged and difficult during which they have to use heavy material that include significant dangers such as burning in fire, suffocating with smoke or falling trees. Workers have to walk, run, lift, carry (tools such as hoses, buckets, digging tools etc.), stay standing for long periods of time, kneel, bend down, stretch outwards. The satisfaction of these workers related with their clothing is very important for occupational health and safety since they have to work under difficult climatic and topographic conditions wearing these work clothes throughout the day especially during fire seasons.

It was determined as a result of the study carried out that fire workers are dissatisfied mostly with the fact that they cannot move freely while working. Hence, it should be considered that the work clothing used by forest fire workers should be in accordance with their sizes and should be suited to enable them to work comfortably in order to protect them from forest conditions as well as the occupational risks involved.

The clothing of fire workers are made of luminous colors using special fire resistant fabrics to ensure that they are easily seen in forests in case of an accident or in case they fall down or faint due to smoke. These high cost clothing materials cannot be obtained by the workers and are supplied by the government 1 or 2 times a year. Since majority of the forest fire workers are temporary workers who work as seasonal workers, it is more difficult to find the right size of clothing that fits them.

The provision of clothing with the right size is possible only by analyzing the postures/movements of workers during the work they carry out as well as by knowing their body measurements beforehand. Hence, more comfortable clothes can be provided to these workers in case they become permanent workers. In addition, carrying out comprehensive studies to generate anthropometric data banks for these workers and the preparation of work clothes in accordance with these data might help in resolving this problem. Thus, workers will be able to move more comfortably in clothes that fit their body size, thereby they will be able to focus more on their work and as a result decreasing the risk of musculoskeletal disorders that are the results of occupational hazards or wrong postures during work.

It was determined within the scope of the study that forest fire workers experience the greatest discomfort from the pants and shirts they have to wear all day long. The problems with clothing that the workers experience may be taken into consideration when designing the clothes thereby decreasing the dissatisfaction of the workers.

Majority of the forest fire workers have indicated that their work clothes are resistant and protective against the adverse conditions in their work environments. However, they have complained that they sweat a lot since they have to work during the summer months in regions at hot climate belts where the risk of fire is high and since they are in direct contact with fire during fire-fighting operations. It will be beneficial to

carry out studies which examine the air and water vapor permeability of these clothes and to enhance these properties.

REFERENCES

Agac, S., 2004. A Research on the Determination of Satisfaction Status of Doctors from the Operating Room Clothing. 10. National Ergonomics Conference, Bursa, 07-09 October 2004, pp. 14-27. [Turkish]

Agac, S., Yildiz, Ş., 2008. A Research on Determining the Level of Satisfaction Regarding the nurses' Clothing. 14. National Ergonomics Conference, Trabzon, 30 October-1 November 2008, Volume: 1, pp. 305-312. [Turkish]

Basaran, M.A., Saribasak H., Camalan I., 2007. Using Geographic Information System Techniques for Determining Fire Risks and Hazards Class. International Symposium on Bottlenecks, Solutions and Priorities Scope of Functions of Forest Resources, Istanbul, 17-19 October 2007, pp.3-15.

Civitci, S., Saygili, B.B., 2008. Problems of Employees the Garbage Collection Business related to Clothing and a Design Example. 14. National Ergonomics Conference Trabzon, 30 October-1 November 2008, Volume: II., 30 October-1 November 2008, pp. 585-591. [Turkish]

Civitci, S., Dengin S., 2014. An analysis of correction officer uniform in terms of clothing comfort. *e-Journal of New World Sciences Academy NWSA-Vocational Education* 9(3): 60-72, DOI: 10.12739/ NWSA.2014.9.3.2C0052. [Turkish]

Dursun, F., Abanoz G., Caliskan D.C., 2013. The Satisfaction Levels and Expectations of Private Security Officers about Their Uniforms: A Case in Düzce University. 16. National Ergonomics Conference: Ergonomics for Quality of Life, Çorum, 3-5 December 2010, pp. 601-612. [Turkish]

Engur, O., 2001. Personal Protective Equipment in Forest Works. *Journal of the Faculty of Forestry Istanbul University* 51(1): 89-101. [Turkish]

GDF, 2013. Fight Against Forest Fires Evaluation Report]. General Directorate of Forestry, Forest Protection and Fire Fighting Department of the Presidency, Ankara. http://www.ogm.gov.tr/SitePages/OGM/OGMDefault.aspx (1 August 2013). [Turkish]

Guney, C.O., Ozkan, K., Senturk, O. 2016. Modelling of spatial prediction of fire ignition risk in the Antalya-Manavgat district. *Journal of the Faculty of Forestry Istanbul University* 66(2): 459-470. DOI: 10.17099/jffiu.42696 [Turkish]

Hollies, N.R.S., 1996. Investigation of The Factors Influencing Comfort in Cotton Apparel Fabric. US Dept. of Agriculture, New Orleans.

Labour Law, 2003. T.C. Official Newspaper, 25134, 10.06.2003.

Kansoy, O., Dirgar E., Kirtay E., 2008. Progressing suitable work clothes for workers in industry. *Textile and Apparel* 18(4): 306-310. [Turkish]

Karabulut, M., Karakoc A., Gurbuz M., Kizilelma Y., 2013. Determination of forest fire risk areas using geographical information systems in Baskonus mountain (Kahramanmaras). *International Journal of Social Research* 6(24): 171-179. [Turkish]

Kisoglu, S., Erenler Ç.G., Şanlı N., 2004. Investigation of the Eligibility to Work of Clothing of Staff Working in Cleaning Company. 10. National Ergonomics Conference, Bursa, 07-09 October 2004, pp. 238-243. [Turkish]

Kuru, S., Kaynak M., 2008. Problems in Large Size Consumers in terms of Sizes And Mold in Pants. 14. National Ergonomics Conference, Trabzon, 30 October-1 November 2008, Volume: II, pp. 517-523. [Turkish]

Kuru, S., Solak L., Soyal N., 2004. Clothing Comfort and Labor Interaction: Postmen in Clothing Case. 10. National Ergonomics Conference, Bursa, 07-09 October 2004. [Turkish]

Kucuk, O., Unal S., 2005. Determination of Fire Sensitivity Degree: A Case Study in Taşköprü State Forest Enterprise. *Journal of the Artvin Faculty of Forestry Kafkas University* 6(1-2): 28-34. [Turkish]

Kucukosmanoglu, M.A., Ayberk, H., Kucukosmanoglu, A., 2015. The comparison of the actual fire protection and control measures according to the data derived from Istanbul forest management. *Journal of the Faculty of Forestry Istanbul University* 65(1): 41-52. DOI: 10.17099/jffiu.15503. [Turkish]

Marmaralı, A., Oglakcioglu, N., 2013. Termal Comfort in Clothes. 11. National Installation Engineering Congress, İzmir, 17-20 April 2013, pp. 1957-1963. [Turkish]

Once, G., Ozveri, O., 2006. Integrated Approach to Modern Marketing Concept of Quality and Fashion Factor in the Textile Industry. Buldan Symposium, Denizli, 23-24 November 2006, pp. 423-430. [Turkish]

Ozdamar, K., 2002. Statistical Data Analysis with Package Programs-Multivariate Analysis. Etam, Kaan Bookstore, Eskişehir. [Turkish]

Sagocak, D.M., 2005. Colour in ergonomic design. *Trakya University Journal of Science* 6(1): 77-83. [Turkish]

Su, B.A., 2001. Ergonomy, Atilim University Publish, Ankara.

Tezel, Z., Sahin H., Sanli, H.S., 2012. Examination of Satisfaction States of Personnel Working in Accommodation on Facilities from Their Work *Cloth: Antalya Sample. e-Journal of New World Sciences Academy NWSA-Vocational Education* 7(2): 33-42. DOI: 10.12739/ NWSA.2014.9.3.2C0052. [Turkish]

Unver, S., 2012. A New Women Step to the Forestry Sector: Problems of Women Forest Guards. 18. National Ergonomics Conference, Gaziantep, 16-18 November 2012, pp. 570-576. [Turkish]

Appendix Tables

Appendix Table 1. General properties of workers survey
Ek Tablo 1. İşçi genel özellikleri anketi

Questions		X
Demographic Characteristics		
Gender	Women	
	Man	
Age	18-25	
	26-35	
	36-45	
	>45	
Education	Illiterate	
	Literate	
	Primary Education	
	High School	
	University	
Marital status	Married	
	Unmarried	
	Widows/divorced	
Work Life		
Accommodation	Home	
	Tent	
	Shelter	
	Caravan	
Operating time (years)	≤ 1	
	2-19	
	>20	
The number of working days (a week)	≤ 4	
	5	
	6	
The way of works	Salaried	
	Piecework	
	Casual	
The fee	< 500	
	500-1000	
	1000-1500	
	>1500	
Work Clothes		
Daily Wear Time (hours)	12	
	24	
Type of clothing bothers	Trousers	
	Shirt	
	Monte	
	Jacket	
	Raincoat	
	Shoe	
	None	
The disturbing part of the clothing	Arms	
	Legs	
	Collar	
	Shoulder	
	Zipper / Network	
	Foot	
	None	
Cause discomfort	The texture of the fabric	
	Be heavy	
	To overwhelm	
	Movement restrictions	
	None	

Appendix Table 2. Work clothing satisfaction survey
Ek Tablo 2. İş kıyafeti memnuniyet düzeyi anketi

	Satisfaction Status Scale			
	Agree	Partially Agree	Undecided	Not Agree
I like the model				
I like the color				
I'm glad the mold				
I'm satisfied with the fabric				
Unable comfortable movement				
Difficult to clean				
Resistant				
Protector				
Sweat				
Hard to be worn				