

# Relationships between smoking habits, subjective health status, life satisfaction, and happiness among the police officers of a Hungarian region

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**ABSTRACT. Aim:** The aim of the study reported in this paper is to describe the smoking habits of police officers and examine the relationships that can be found between smoking habits, subjective health status, life satisfaction, and happiness. **Methodology:** The mapping of smoking habits served as a component of a research questionnaire prepared as part of the health promotion activities of police officers. In addition to smoking habits, the respondents had to assess their health (subjective health), life satisfaction, and happiness. **Findings:** The proportion of smokers in the population studied is as follows: 42.6% have never smoked, 24.9% quit smoking, and 32.4% still smoke. Subjective health status showed a weak but significant association with happiness ( $p=0.329$ ) and life satisfaction ( $P=0.343$ ). **Value:** Special attention should be given to smoking and planning the development of health promotion programs. The poor association of happiness and life satisfaction with subjective health status continues to emphasize mental and psychological health in addition to physical health.

**Keywords:** Police, smoking, subjective health status, happiness, life satisfaction

**ZUSAMMENFASSUNG.** In der Studie handelt es sich um die Rauchgewohnheiten von Polizisten. Welche Zusammenhänge gibt es unter Rauchgewohnheiten, subjektivem Gesundheitszustand, Lebensfriedenheit und Glück. **Methodik:** Die Erfassung von das Gesundheitsverhalten von Polizeibeamten wurde Forschungsfragebogen als Bestandteil des Rauchverhaltens erstellt. Neben den Rauchgewohnheiten mussten die Befragten ihre Gesundheit (subjektive

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Gesundheit) Lebenszufriedenheit und ihr Glück beurteilen. **Ergebnisse:** Der Anteil der Raucher unter den untersuchten Population: 42,6 % haben noch nie geraucht, 24,9 % haben mit dem Rauchen aufgehört und 32,4 % rauchen noch. Der subjektive Gesundheitszustand ist schwach, aber es hat signifikanten Zusammenhang mit Glück ( $p=0,329$ ) und Lebenszufriedenheit ( $p=0,343$ ) gezeigt. **Wert:** Auf Rauchen muss weiterhin eine besondere Aufmerksamkeit durch Gesundheitsförderung gewidmet werden. Die schlechte Assoziation mit Glück und Lebenszufriedenheit, mit dem subjektiven Gesundheitszustand wird nicht nur die körperliche Gesundheit, sondern auch die psychische und geistige Gesundheit betont.

**Schlüsselwörter:** Polizei, Rauchen, subjektiver Gesundheitszustand, Glück, Lebenszufriedenheit

## Introduction

“Health promotion is the process of enabling people to increase control over, and to improve their health. To reach a state of complete physical, mental, and social well-being, an individual or group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment. Health is, therefore, seen as a resource for everyday life, not the objective of living. Health is a positive concept emphasizing social and personal resources, as well as physical capacities. Therefore, health promotion is not just the responsibility of the health sector but goes beyond healthy lifestyles to well-being.” (Ottawa Charter, 1986).

The goal of the Hungarian National Police Headquarters' occupational health promotion activities (The Life-Strength-Health Program) is to reduce health-damaging behaviors and, at the same time, increase health awareness and the occurrence and effectiveness of activities that serve health (Tánczos, 2021). It also has an explicit aim to promote psychological well-being and mental health both at the individual and organizational levels (Malét-Szabó, 2015). In our whole project, we would like to map the areas that should be given priority in health promotion programs.

This study examines the relationships between subjective health status, smoking habits, happiness, and life satisfaction.

### *Smoking among police officers*

Smoking is one of the most significant public health problems worldwide, the consumption of tobacco products is among the causes of premature death. It is the main health risk that could be avoided (WHO, 2021).

In studies describing research on similar topics, survey questions and different categorization do not match exactly our research questions, so they can only be suitable for an approximate comparison.

Boyce's results published in 2006, the average age of their sample (514 police officers) was 34.8 years. 79% of the participants in the study did not smoke, while 21% identified themselves to be smokers. The average age of men who smoked was higher, while no such difference could be detected in the case of women (Boyce, 2006).

In 2008, one of the results of a study on metabolic syndrome in India found that only 22.6% of police officers smoked (Tharkar, 2008).

Basaza (2020) in a survey among police officers in Uganda found that the highest prevalence of smoking was in the 25-33 age group with 48.0%, followed by the 34-44-year-olds, with 36.0%, the 18-24 year-olds with 16.0%. Among officers, 25.2% of males and 27.8% of females reported current smoking, which is significantly higher than the general Ugandan population (16% males, 3% females). The smoking rate was 25.5%, compared to 5.3% of the general population. In the police population risk factors for smoking included higher education (Basaza, 2020).

Jankowski conducted a cross-sectional study among Polish police officers in 2020 where they found that 19.5% of the respondents smoked daily, and 13.4% smoked occasionally. 3.1% of the respondents stated that they use e-cigarettes daily and 3.2% use e-cigarettes occasionally (Jankowski, 2021).

In 2015, Khan conducted a survey among police officers in Bangladesh. About half of the respondents (48.6%) had never smoked. A quarter of the respondents (25.9%) had smoked but quit, and 25.4% were current smokers. Among current smokers, 7.0% were occasional smokers while 18.4% were daily smokers. (Khan, 2019)

### ***The subjective state of health, life satisfaction, happiness***

Psychology uses many terms and tools to describe well-being. According to Shiota (2022), it would be necessary for clarity of concepts on both the theoretical and research side, which helps the accuracy of the measurements supporting in this way research about the causes and consequences of well-being. Different types of subjective well-being are associated with longevity and different health outcomes. (Sadler 2011; Diener, 2017; Howell, 2007) Subjective well-being and health behavior are also closely related (Baker, 2020; Stenlund 2021, 2021, 2022). Diener also draws attention to the fact that this complex phenomenon needs further studies to understand it (Diener, 2017).

Ottmann (1989) dealt with the subjective health status of officers, assessing the somatic complaints of workers with different work schedules. Researching the relationship between happiness and health, Kushlev (2017; 2020) found that happiness has a positive effect on physical health. There are research findings that happiness and well-being are not directly related to mortality (de Souto Barreto, 2016; Liu, 2016). Liu (2016) concluded that part of the association between unhappiness and mortality, particularly cancer mortality, is mediated by smoking.

In this study, subjective health status, life satisfaction, and happiness are the focus. However, due to methodological differences, it is possible to make a comparison between the studies.

## **Method**

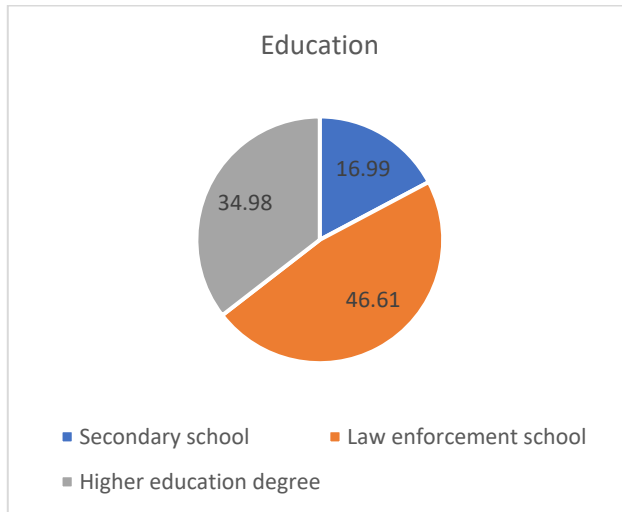
### ***Sample***

The research was carried out in 2020 and 2021. The target population of the research was the staff of the Szabolcs-Szatmár-Bereg County Police Headquarters. A complex set of questions on health and health behaviour included questions about smoking habits, happiness, and life satisfaction. Before starting to fill out the questionnaire, those intending to participate in the research received written and verbal information about the questionnaire and its voluntariness. The participants started completing their answers only after giving their written consent.

After clarifying the relevant information needed to write this study, the sample size is 1212 people, of which 86% are men (1046 people) and 14% are women (166 people). The average age is 39 years, the youngest is 22 years old, and the oldest is 62 years old. There is no significant difference between men's and women's ages, the average age of women is 39.36 (standard deviation: 8.0) and the average age of men is 38.89 (standard deviation: 7.9).

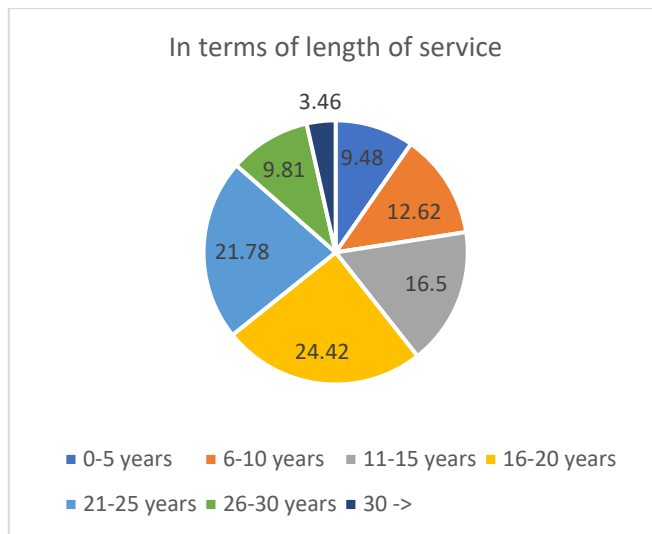
The highest educational level for 16.99% of the respondents is secondary school education, 46.61% of the sample have attended law enforcement school while 34.98% have a higher education degree (Fig. 1).

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**Fig. 1.** Education

In terms of length of service, respondents with 16-25 years of service accounted for approximately half of the sample (16-20 years of service: 24.42%; 21-25 years of service: 21.78%), with respondents with more than 30 years of service being the least represented in the sample (3.46%) (Fig. 2).

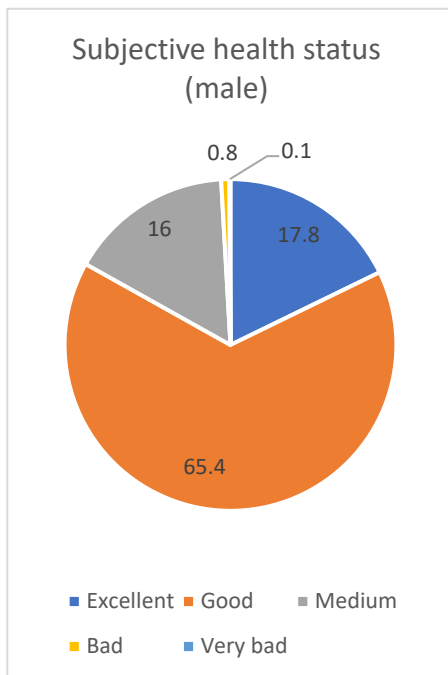


**Fig. 2.** In terms of length of service

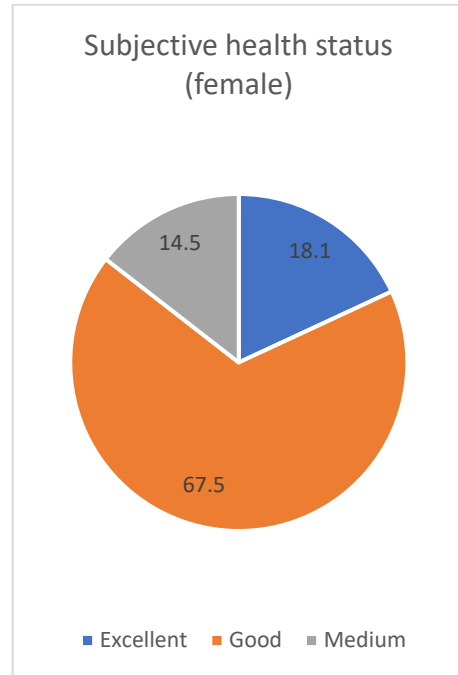
In addition to the traditional socioeconomic characteristics (gender, age, educational level), the questionnaire also includes the time spent in the workforce as a characteristic. The factors we examine include the subjective health status, happiness, and life satisfaction. In the questionnaire, we asked the following question for the subjective perception of health: Overall, how would you rate your own state of health? The answer had to be evaluated on a 5-point Likert scale, in which the options ranged from 1-very bad to 5-excellent.

The results showed that 65.4% of men classified their health status as good. 17.8% of men rated their subjective health status as excellent, and 16% as medium. 0.1% and 0.8% of male respondents rated it bad or very bad. The 1 person who gave a very bad rating belongs to the age group between 46-50. The 8 people who gave 0.8%, a bad rating, are spread across among the age groups. (Fig. 3)

For women, the subjective health status is as follows: no respondent gave a very bad or bad rating, 14.5% gave a medium rating, 67.5% gave a good rating and 18.1% gave an excellent rating to the female respondents (Fig. 4).



**Fig. 3.** Subjective health status (male)



**Fig. 4.** Subjective health status (female)

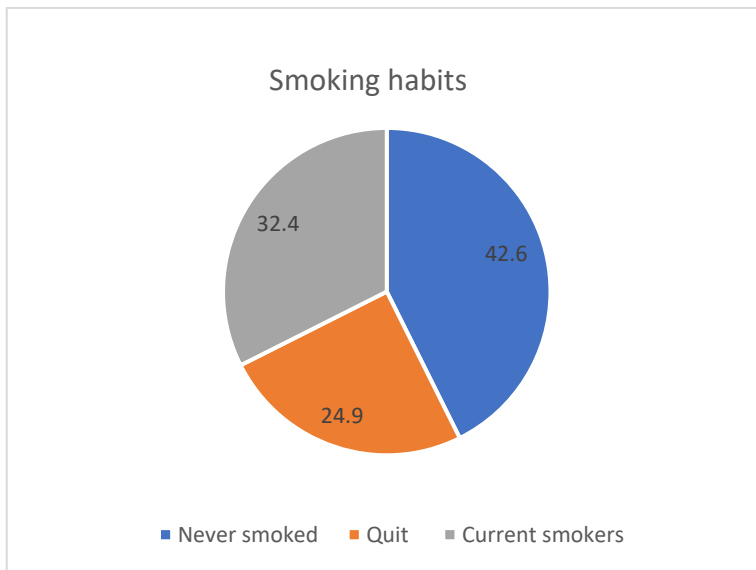
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In the context of smoking, we used the following question in the current analysis: *Which statement is true for you?* 1. never smoked, 2. used to smoke, but no longer, 3. still smoke now.

In terms of smoking, 41.9% of men have never smoked, 25.4% used to smoke but no longer, and 32.7% of respondents are smokers.

In the case of women, 47.0% have never smoked, 22.3% used to smoke but no longer, and 30.7% still smoke.

Summing up the smoking habits of men and women, the sample is as follows: 42.6% have never smoked, 24.9% no longer smoke, and 32.4% still smoke. 67.6% of the staff do not smoke (Fig. 5).



**Fig. 5.** Smoking habits

Regarding smoking, we found no significant differences in the different age groups. (Table 1)

**Table 1.** Age category and smoking habits (crosstabulation)

Age category	Smoking habits			Total
	Never smoked	Quit	Current smokers	
<25	34,4%	23,4%	42,2%	100.0%
26-30	45,6%	14,0%	40,4%	100.0%
31-35	44,1%	22,6%	33,3%	100.0%
36-40	35,7%	30,5%	33,8%	100.0%

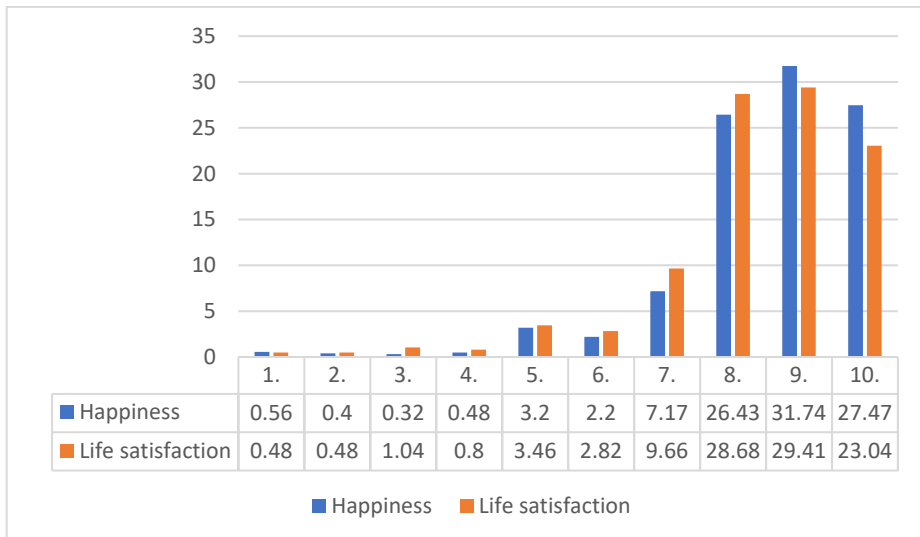
Age category	Smoking habits			Total
	Never smoked	Quit	Current smokers	
41-45	44,6%	24,5%	30,9%	100.0%
46-50	42,4%	31,8%	25,8%	100.0%
51-55	46,3%	24,1%	29,6%	100.0%
>56	40,0%	40,0%	20,0%	100.0%
Total	41,9%	25,4%	32,7%	100.0%

Those who rated their subjective health status as bad or very bad are treated separately in further statistical calculations. Men and women are treated as one sample for further analysis.

We asked about life satisfaction with the following question: *Overall, how satisfied are you with your life these days?* They were able to indicate their answer to the question on a 10-point Likert scale, in which 1 is completely dissatisfied and 10 is completely satisfied with their lives.

The question to measure happiness: *How happy do you consider yourself overall?* They were able to indicate their answer to the question on a 10-point Likert scale, where 1 represents unhappy and 10 represents completely happy. Responses related to satisfaction and happiness are presented in Table 2.

**Table 2.** Happiness and life satisfaction distribution





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The values of life satisfaction and happiness show a high degree of correlation ( $p=0.825$ ).

We used the correlation coefficient regarding the relationships between life satisfaction, happiness, and subjective health status. Subjective health status showed a weak but significant association with happiness ( $p=0.329$ ) and satisfaction ( $P=0.343$ ).

The Kruskal-Wallis test was used to examine the association of smoking-related behavior. According to the results, there is no clear significant difference between subjective health status, ( $H=4.039$ ,  $p=0.133$ ), "satisfaction with life" ( $H=3.106$ ;  $p=0.442$ ), and "happiness" ( $H=1.634$ ;  $p=0.442$ ) about smoking, but there are trend-like differences.

### Kruskal-Wallis Test

	Smoking habits	N	Mean Rank
Subjective health status	Never smoked	513	608.10
	Quit	300	621.57
	Current smokers	390	578.93
	Total	1203	
Life satisfaction	Never smoked	513	619.12
	Quit	300	602.24
	Current smokers	390	579.29
	Total	1203	
Happiness	Never smoked	513	614.00
	Quit	300	603.19
	Current smokers	390	585.30
	Total	1203	

### Test Statistics (Kruskal Wallis test; Grouping Variable: Smoking habits)

	Subjective health status	Life satisfaction	Happiness
Chi-square	4.039	3.106	1.634
df	2	2	2
Asymp.Sig.	.133	.212	.442

## Discussion

The prevalence of smoking is high, as every third person among our respondents is a smoker (32.4%). This rate is also high in international comparison, Boyce (2006) found that 21% of police officers smoke, according

to the Indian survey (Tharkar, 2008) 22.66% is the rate of smokers. Ugandan law enforcement officers are among 25.5% of smokers (Basaza, 2020). In Poland, 13.4% of law enforcement officers declared themselves smokers (Jankowski, 2021), and in Bangladesh, the proportion of smokers was 18.4% (Khan, 2019).

Regarding smoking, even though public health programs and the legal regulations on the protection of non-smokers have made smoking subject to strict conditions, smoking still cannot be excluded from health promotion programs.

The sample who was present with a small number of elements is indicative, in the sense that health and psychological care activities should probably be carried out with them on an individual level in order to avoid possible somatic or psychological illnesses or to support their recovery.

In our study, smoking shows a weak trend-like correlation with subjective health status, happiness, and life satisfaction. According to the results of Lappan (2020), smoking predicts worse life satisfaction after 4 years. In this regard, it may be interesting to analyze the data in this direction, this could be a planned comparative analysis in the future.

If the goal is to support your physical and mental health, then it is advisable to keep in mind Ngamaba's finding (2017) that better health (both objective and subjective) is also associated with higher life satisfaction. According to Velten (2014), the more health behavior domains are at a favorable level, the stronger satisfaction with life is. Considering the above concepts, it is worthwhile to include both physical and mental well-being programs in health behavior changes during health promotion programs.

### **Limitations of the survey**

The factors we examine are complex in themselves, the question is really very complex. Happiness and life satisfaction, as well as subjective health status, are influenced by many factors.

The sample has a much higher number of males compared to the female sample. However, this is in line with the proportions found in law enforcement.

The present study presents the partial results of a complex health awareness and health behavior questionnaire. To reduce the length of the original questionnaire, it was necessary to minimize the number of questions. For the measurement of Happiness and Life Satisfaction, a multi-item instrument would have been more appropriate due to its better psychometric properties.

At the beginning of the survey in 2020, electronic smoking devices were not yet as popular, so we did not specify which tobacco product we mean by smoking: traditional smoking habits or more recently used electronic devices.

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**Conflicts of interest / Competing interests:** The authors have no conflict of interest to declare.

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