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ADVANCES IN FOREST FIRE RESEARCH

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Firefighters' lifestyle and well-being

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Abstract

The firefighters' lifestyle has important consequences in their well-being. A sample of 861 Portuguese firefighters answer an adapted version of the FANTASTIC checklist that included questions related to family and friends' relationships, physical activity, nutrition, sleep and stress, alcohol and tobacco consumption's, and health behaviors. We observed that the majority did not have physical activity in the professional context, only sometimes had a healthy nutrition, was overweight, had a tobacco consumption higher than that observed in the Portuguese population and a consumption of alcohol identical to that observed in Portuguese population, about 10% never sleep well and about 50% sometimes sleep well, about 40% only sometimes had capacity to manage stress and about 49% only sometimes relax in free time. Furthermore, we observed that the firefighter's lifestyle was an important predictor of his(er) general well-being, namely his(er) flourishing (e.g., meaning and purpose in life, positive relationships, self-esteem, feelings of competence, optimism, and involvement in daily activities), after control the gender, age, marital status, tenure as firefighter, and hours of work per week. We concluded that is important to develop an intervention to promote the lifestyle of Portuguese firefighters: encouraging the practice of physical exercise, healthy eating, non-consumption of tobacco or dangerous consumption of alcohol and promoting of a healthy sleep and management of stress. These programs must adjust to the idiosyncrasies of corporations and transform those same idiosyncrasies in valid and essential resources. In fact, some of the cultural or operational characteristics (e.g, combination of professionals and volunteers) must be considered so that these programs can be successfully implemented.

1. Lifestyle and Well-being on Firefighters

Previous research has supported the influence that lifestyle factors and behaviors, namely food, sleep, physical activity, body mass index, social, alcohol consumption and tobacco consumption, have on well-being. (e.g. Dale, Brassington & King, 2014; Kilani et al., 2020; Prendergast, Schofield & Mackay, 2016), particularly in firefighters in the UK (Siddall et al., 2014) and Finland (Airila, 2015).

2. FANTASTIC as a valid measure to evaluate lifestyle

The FANTASTIC Lifestyle Assessment Inventory is a lifestyle assessment tool that incorporates physical, emotional, and social factors. There are several advantages of this tool: having only one page, it can be completed quickly; components are easily remembered; it is holistic; can be used for self-assessment; scores are benchmarks for ongoing assessments; results are available immediately; can be immediately combined with a personalized prescription and follow-up plan; saves time by incorporating lifestyle data into a single fill; issues are relevant and based on daily life; it includes only behaviors that can be controlled, minimizing "victim blaming".

Several studies have been using the FANTASTIC Inventory to study lifestyle of the general population (Ramírez-Vélez & Agredo, 2012; Ramírez-Vélez et al., 2015; Rodriguez-Añez, Reis & Petroski, 2008), healthy

individuals (Kim, Kim, & Kim, 2007) and different population groups (e.g., paramedics and Armed Forces (Wilhelm et al., 2016), students (Decina, Mcgregor & Hagino, 1990; Kamien & Power, 1996; Kim, Park, Joe & Cho, 2006; Lo, Francis-Cracknell, & Hassed, 2017), individuals with suicidal behaviors (Wilhelm et al., 2016), deliberate self-harm (Wilhelm et al., 2007), hypertension (López-Carmona et al., 2000), diabetes (Rodríguez Moctezuma et al., 2003), metabolic syndrome (Triviño et al., 2009), cancer (Dennis, Waring, Payeur, Cosby & Daudt, 2013), elderly (Deluga et al., 2018), and patients from family practice (Kason & Ylanko, 1984)).

In this study was used an adaptation of the FANTASTIC Lifestyle Assessment Inventory to the Portuguese firefighter population. The first aim was to know the lifestyle of the Portuguese firefighters, namely related to physical activity, nutrition habits, alcohol and tobacco consumption's, sleep quality and management of stress. The second aim was relating the lifestyle with the firefighters' well-being, namely their flourishing, which refers to the existence of meaning and purpose in life, positive relationships, self-esteem, feelings of competence, optimism, and involvement in daily activities Diener et al., 2010).

3. Hypothesis

In order to test whether there is an influence of lifestyle on the well-being of Portuguese firefighters, the following hypothesis was put forward:

Hypothesis: Firefighters with a better lifestyle have better well-being (i.e. flourishing).

4. Procedure and Sample

The National School of Firefighters sent an email to all the commanders of the different corporations in the Portuguese mainland, asking that it be disseminated by its operational staff. This email had a link to access the questionnaire placed on the Qualtrics platform for two weeks. The anonymity of the participants was ensured.

The sample consisted of 861 firefighters: 578 (67%) men and 283 (33%) women; 540 (62.7%) aged up to 40 years and 321 (37.3%) over 40 years old; 53,4% was married, 45,8% was single and 0,3% was Widower; 472 (54.8%) firefighters for more than 10 years; 492 (57.1%) working less than 40 hours a week as a firefighter and 369 (42.9%) working more than 40 hours a week as a firefighter, with a mean of 34.72 hours (SD = 22.92).

Flourishing was measured through 8 items (Silva e Caetano, 2012) (e.g. I lead a purposeful and meaningful life), answered on a 7-point scale, 1 (strongly disagree) to 7 (strongly agree), where a higher score is indicative of better well-being (Cronbach's alpha = 0.83).

5. Results and conclusions

5.1. Firefighters' Lifestyle

Table 1. Synthesis of FANTASTIC results

Physical Activity	Individual	Collective in professional Context
Never	18%	58,4%
1 time a week	44,8%	28,8%
3 or more time a week	36,7%	12,8%
Nutrition	Healthy eating	Consumption of high-calorie foods
Never/almost never	14,3%	12%
Sometimes	59%	81,2%
Always/almost always	26,7%	6,9%
Tobacco consumption	Yes	No
	36,2%	63,88%
Alcohol consumption	More than 7 drinks per week	Sometimes more than 4-5 drinks per time
	6,8%	42,3%

Sleep	Good quality	Difficulties
Almost never	9,6%	31,9%
Sometimes	50,2%	50,9%
Almost always	40,2%	17,2%
Stress	Management of stress	Relax during free time
Almost never	1,9%	8%
Sometimes	41,5%	48,9%
Almost always	56,7%	43,1%

5.2. Firefighters’ lifestyle and flourishing

After controlling for the effect of demographics (gender, age, marital status, time as a firefighter, working hours per week), lifestyle is a significantly predictor of flourishing (cf. Table 2). Thus, the Hypothesis that firefighters with a better lifestyle have better well-being (i.e. flourishing) was supported.

Table 2. Hierarchical Regression of Firefighters’ Lifestyle in Flourishing

Step 1	Flourishing	
	Beta	Beta
Gender	.24	.20
Age	.04	.05
Marital status	.05	.03
Tenure as firefighter	.02	.04
Work hours per week	.05	.01
Step 2		
Lifestyle		.35**
F	1.20	19.67**
Adj. R-Sq.	0	.12
R-Sq. Change	.01	.12**

** p < .01

This study found that the lifestyle habits of Portuguese firefighters are mainly very good and excellent, which is in line with the studies by Deluga et al. (2018) (with seniors), Triviño et al. (2009) (with middle-aged adults), Ramírez-Vélez e Agredo (2012) (with colombian adults) and Ramírez-Vélez et al. (2015) (with colombian university students). We can observe critical factors regarding each one of the considered categories.

Although the FANTASTIC Lifestyle Assessment Inventory is a measure from 1984, it has had a lot of use in recent years. Its small size and ease of response proved to be especially suited for firefighters.

We can conclude that to improve the firefighters’ well-being we must increase their lifestyle, namely the practice of healthy habits related to physical activity, nutrition, alcohol and tobacco consumption, sleep, and stress management.

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