



Article Motivation and Eco-Attitudes among Night Runners during the COVID-19 Pandemic

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Abstract: Running surrounded by nature at night, often with limited contact with other people, is one of the safest physical activities during the COVID-19 pandemic. The aim of this article is to determine what motivates night recreational runners and to analyse the differences between men and women according to age, and also to see whether the fact of having had COVID-19 or not matters when it comes to athletes' motivation behind participating in runs. Runners were also asked about participating in cities or out-of-town events in terms of verifying the cleanliness of the air before running, using masks or running in green areas. 233 individuals in total participated in this descriptive, quantitative, cross-sectional study. The questionnaire uses the division of motives used in the Marathon Motivation Scale (MOMS) and a number of additional questions on environmental factors. Overall, the main motivation that drives night-time runners is health orientation, weight concern, personal goal achievement, psychological coping, life meaning and self-esteem. The research also showed higher scores for health orientation, recognition, psychological coping, life meaning and self-esteem among runners who had had COVID-19 than runners who had not had the virus. In addition, respondents clearly indicated that night running makes it easier to fall asleep and improves the quality of sleep. Most runners rated their mental health as being good, did not run in the morning despite better air levels, did not choose running events outside the urban area and did not check the air quality index before running. Therefore, it will be important for coaches, event organisers and other professionals to consider athletes' age, gender, whether they have had COVID-19 and runners' approaches to eco-attitudes when trying to understand their reasons for participating in different sports or leisure events, especially those that focus on a priority in shaping environmental attitudes.

Keywords: running; motivation; eco-attitudes; green areas; air quality; night runners; sport; physical activity; COVID-19; Poland

1. Introduction

Running has become one of the most widespread physical activities in the world and is often considered a social phenomenon [1]. The ease with which it can be taken up and the low cost associated with its practice makes it one of the main physical activities practised by adults, children, young people [2] and older adults [3]. The number of sporting and leisure events devoted to running is increasing, which shows that running is a kind of escape from



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Copyright: © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). reality, important for sustainable human development [4]. It is also seen as an effective way of ensuring people are more regularly involved in physical activity, with one of the greatest advantages being the numerous mental and physical health benefits [5,6]. Studies show that running has many psychological benefits for runners, with improvements in mood and mental health [7], and even a reduction in anxiety disorders or depression [8]. Runners also have up to a 40% lower risk of premature mortality, as well as a significantly lower risk of succumbing to certain types of cancer and cardiovascular disease [9]. For this reason, the number of different types of running events and research into runners' motivation behind participating in marathons, ultramarathons, half-marathons or shorter distance runs [10–14] is increasing every year.

It is estimated that there are more than 50 million runners in Europe [15]. However, there are also hundreds of millions of runners around the world, including recreational runners, who do not think of running on a competitive basis [16]. Runners choose to be active in groups, clubs or teams, thus introducing a social aspect to their activities [17]. Sometimes they are also involved in charity, taking part in sports charity events [18]. Recently, new participants have joined such groups of people as the COVID-19 pandemic has developed, which in many countries has resulted in the closure of gyms, fitness clubs, gyms and other spaces commonly used for physical fitness [19]. Running does not require close contact with other runners, which may pose a risk of contracting the coronavirus. Previous research showed that 28.76% of runners reported having to start running during the COVID-19 pandemic, while 72% of them reported health as their main motivating factor for taking up the practice [20].

Running is often accompanied by healthy eating or a desire to take care of the immediate environment in the context of respecting the natural environment [21]. In recent years, running that draws attention to environmental protection and respect for nature has become particularly popular. One of the latest trends has been the plogging initiative linked to many running events, whereby runners pick up litter—thus taking care not only of themselves but also of nature [22]. This involves picking up litter lying around in forests, parks or other green areas during outdoor sports. Importantly, the runner often stops, bends over, picks up the litter, straightens up and starts running again during the activity, which is similar to *fartlek*, which involves developing thigh and buttock muscles, thus strengthening the cardiovascular system and reducing body fat at the same time [23]. As a result of this trend, more and more green sports events are being organised, including plogging events where participants set off on the route with bags. Plastic bottles, cans, individual wrappers or cigarette butts are most often found on running routes and there are far fewer of these remaining after the event. The fastest registered runners or those most committed to collecting litter are rewarded with, among other things, environmentallyfriendly T-shirts, plogging wristbands and even commemorative medals [24]. Such events are a good complement to the public education provided by cultural institutions which, in the age of the pandemic, have intensified their interest in eco-initiatives, emphasising, for example, the need to take care of dirty public spaces and segregate rubbish [25].

Another popular trend that allows care to be taken of the environment and a contribution to be made to the improvement of air quality is limiting the emission of exhaust fumes produced by motor vehicles. People are increasingly choosing to cycle [26] or run [27] when moving around town or going to work, with many companies and corporations even encouraging this form of commuting to the workplace and providing their employees with showers. The route itself is a kind of workout, and an employee who is full of endorphins is often ready to work even more efficiently [28]. As a general rule, the world works on "eight to four" or "nine to five" systems, which makes many people choose to run early in the morning or at night. In the morning, however, it is not possible to extend your workout. Research shows that it is also more difficult to do a running workout as all systems (e.g., circulatory, motor, respiratory) are just getting started [29]. The body temperature is lower and, in addition, for the previous few hours (i.e., sleep time) the runner will not have eaten in any food, and although all vital functions are performed more slowly, their energy resources will be depleted anyway [29]. Running when subject to time pressure to avoid being late for work remains a separate issue. Even with the best intentions, it will take us longer to warm up in the morning and slower to get up to the right speeds, which is why a lot of runners are choosing to run at night. The pluses of night running include an increase in respiratory efficiency of up to 6 percent compared to morning runs [30]. Another advantage may be that there are few people on the paths, the atmosphere is more intimate, and the runner can calmly unwind after a long day—burning off energy accumulated throughout the day and falling asleep faster after a workout [31]. An oxygenated brain allows the whole body to regenerate extremely effectively [32].

Running surrounded by nature at night, often with limited contact with other people, has been one of the safest physical activities during the COVID-19 pandemic. In addition, it is an activity that has been able to be sustained while social distancing restrictions were being introduced during the pandemic. However, a study conducted on a group of adolescent runners aged 9–19 years found that the social distance constraints of COVID-19, including restrictions on competition or team interaction, resulted in a significant decrease in motivation and enjoyment of running [33]. Such results are confirmed by many other studies, showing that the psychological effects of the COVID-19 pandemic are apparent in various social groups, and the lack of motivation behind engaging in any activity, apart from symptoms of anxiety, depression or post-traumatic stress disorder, is one of the most common causes of its occurrence [34–38].

Importantly, at this time of the COVID-19 pandemic, particular attention is being paid to issues such as air pollution, the natural environment and stress level. While air pollution has a negligible impact on runner performance [39], it can decrease physical activity levels during high air pollution episodes or may prevent people from engaging in physical activity overall in highly polluted environments [40]. However, runners aware of polluted air have considered various types of personal control techniques and tried to limit their inhalation of impurities as much as possible [41]. Basically, people do not complain about irritation or difficulties while running, pointing to poor lighting, dogs, bikes or cars as the only nuisance felt [42]. Interestingly, men and women differ significantly in their responses to the importance of running around others and their primary concerns while running [43]. The perceived characteristics of the environment are important determinants in the appeal and regenerative capacity of the running environment for both novice and experienced runners [44].

In addition to the typical participation in night running events, many runs are also organised informally, for example, by arranging to run together through groups on social media. Various runner factors have been analysed, comparing, among others, the variety of running experiences [45], marital status, age or gender [1,11,21]. To date, however, to the best of our knowledge, there have been no scientific studies that directly indicate the motivation of runners who run at night, and far less so less after experiencing or avoiding COVID-19. Therefore, the aims of this article are to determine what motivates night recreational runners (who run after nightfall, before sleeping) and to analyse the differences between men and women, according to age, and to see whether the fact of having had COVID-19 or not matters when it comes to athletes' motivation behind participating in runs. We considered the study of motivations to physical activity after COVID-19 to be important because the literature review shows that after suffering a serious disease, kinesiophobia often occurs among patients [46]. However, we still know little about how COVID-19 affects the motivational structure of athletes-patients. Earlier studies analysed age and gender in the context of motivations of runners [13], and we considered it important whether these variables were also significant in the motivation of night runners.

2. Materials and Methods

2.1. Design and Participants

The present study is a descriptive, quantitative, cross-sectional study that sampled 233 runners (women: 110; men: 123), from the Greater Poland region. Following previous

research into athletes' motivation [3,6,10–14], participants were asked about the following sociodemographic variables, such as gender (male, female) and age (field for self-entry). For data collection purposes, the questionnaire was sent to night runners' clubs and grassroots night runner groups from the Greater Poland region (which bring together lovers of night running—after nightfall). Only respondents who run most often after nightfall and before sleeping were asked to participate in this study. We investigated runners from: Night Runners Poznan, Poznan Runs, Women in Run, Run into the Forest, Polish Scouting and Guiding Association (organiser of the night run), 1 mile Poznan, Run with the Map Association (organiser of the Explore Poznan by Night event), APS Agency (organiser of the Formoza Challenge Oborniki event), City Trail Poznan, Parkrun Poznan, Poznan University of Economics Running Club, KB Maniac Poznan, the Greater Poland Runners, the Marathon Runner Club Poznan, the Runners' Club of the Poznan University of Economics and Business, the Initiative "I run because I like" Poznan, Warta Poznan Sports Club, Society for Promotion of Physical Culture in Greater Poland, Polish Jogging Association (branch in Greater Poland).

2.2. Procedure

The Google Docs questionnaire survey was open for five months, from 10 March 2021, to 10 August 2021. The study was in accordance with the Helsinki declaration of 1975, and participants were treated ethically according to the American Psychological Association code of ethics. The study did not require any formal ethical approval, because in accordance with the rules in force in Poland, the Bioethics Committee does not submit applications for surveys involving the use of standardised surveys that are used for their intended purpose, in the course of which the research would develop statistically selected elements of the survey. All respondents were informed about the course and nature of the survey. Underage respondents were allowed to take part in the research subject to parental consent, and the survey was anonymous, voluntary and confidential. Our questionnaire did not require completion of a separate participant information sheet or consent form but clearly indicated in the headline that all questionnaire takers give their informed consent to the study.

2.3. Measures

Participants were asked about their gender (male, female), age, weight (kg) and height (cm), with weight and height being used to calculate the body mass index (BMI). Moreover, participants reported whether they had had COVID-19 or not.

An adapted version of The Motivation of Marathoners Scales (MOMS) was used. The original MOMS questionnaire was published in the Research Quarterly for Exercise and Sport in 1993 by Masters et al. [47], and this survey was translated into the Polish language and adapted in 2013 by Dybała [48]. It retained the structure of the original scale, with nine dimensions, all of them divided into four main motivational groups: psychological motives (self-esteem, psychological coping, meaning of life), achievement-related motives (personal goal achievement, competition), social motives (recognition, affiliation) and physical health-related motives (health orientation, weight concern). The questionnaire included 56 items and was based on a 7-point Likert scale, with the highest scores or reasons for participating being 7 (7 = most important reason) and the lowest scores 1 (1 = not a reason).

2.4. Data Analysis

All statistical analyses were performed using the SPSS version 23.0 for Windows (IBM, Armonk, New York, NY, USA), with the significance level being set at p < 0.05. Descriptive statistics are shown as mean (standard deviations) and using the Kolmogorov-Smirnov test, while the homogeneity of variance hypothesis was ascertained using Levene's test. Descriptive statistics on runners' running preferences were also shown, while a multivariate analysis was conducted to analyse differences between the nine MOMS dimensions based on gender and age. These analyses were adjusted for BMI. Finally, an ANOVA was

performed to determine the differences in MOMS scales between participants who had had COVID-19 vs. those who had not.

3. Results

Descriptive statistics for the sample characteristics are shown in Table 1. Overall, the main motivation that drives night-time runners is health orientation, weight concern, personal goal achievement, psychological coping, life meaning and self-esteem. However, competition, recognition and affiliation obtained the lowest scores.

Table 1. Descriptive analysis for the sample characteristics.

Study Variables	$\mathbf{M}\pm\mathbf{S}\mathbf{D}$
Age (years)	36.63 ± 8.43
BMI (kg/m^2)	23.64 ± 3.09
Health orientation	4.88 ± 0.81
Weight concern	5.25 ± 1.01
Personal goal achievement	4.19 ± 0.99
Competition	2.88 ± 1.61
Recognition	3.61 ± 1.06
Affiliation	3.29 ± 1.20
Psychological coping	5.07 ± 0.75
Life meaning	4.68 ± 0.78
Self-esteem	4.98 ± 0.77

Note: BMI: Body Mass Index (kg/m²).

Table 2 shows the differences in the nine MOMS dimensions according to gender. In terms of motives for night running, male night runners reported higher personal goal achievement and more competitiveness, recognition and affiliation than female runners (all, p < 0.001). However, female night runners were more concerned about weight than their male peers (p < 0.001). The other MOMS dimensions showed no significant differences between gender (all, p > 0.05).

Table 2	. Differences	in the nine	MOMS	dimensions	according to	gender.
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Study Variables	Male	Female	11
Study variables –	$\mathbf{M}\pm\mathbf{S}\mathbf{D}$	$\mathbf{M}\pm\mathbf{S}\mathbf{D}$	- P
n (%)	123 (52.8)	110 (47.2)	
Health orientation	4.85 ± 0.07	4.92 ± 0.07	0.535
Weight concern	4.91 ± 0.09	5.62 ± 0.09	< 0.001
Personal goal achievement	4.46 ± 0.09	3.90 ± 0.09	< 0.001
Competition	3.35 ± 0.14	2.35 ± 0.15	< 0.001
Recognition	3.87 ± 0.10	3.32 ± 0.10	< 0.001
Affiliation	3.56 ± 0.11	2.99 ± 0.11	< 0.001
Psychological coping	5.10 ± 0.07	5.03 ± 0.07	0.488
Life meaning	4.67 ± 0.07	4.70 ± 0.08	0.727
Self-esteem	5.07 ± 0.07	4.88 ± 0.08	0.071

Table 3 shows the differences between the nine MOMS dimensions according to age range. Higher scores were found for the health orientation dimension as participants' age range increased (all, p < 0.001), while an increase in competition orientation was also found as runners' age increased (p = 0.003). Recognition obtained a higher score in runners aged 51 to 70 years compared to runners aged 26 to 35 years and 36 to 50 years (p = 0.009). Finally, affiliation orientation also scored higher for 51 to 70 year-olds compared to those aged 19 to 25 years old, 26 to 35 years old, and 36 to 50 years old (p < 0.001).

Study Variables	\leq 18 Years	19–25 Years	26–35 Years	36–50 Years	51–70 Years	Б	n
Study variables –	$\mathbf{M}\pm\mathbf{S}\mathbf{D}$	$\mathbf{M}\pm\mathbf{S}\mathbf{D}$	$\mathbf{M}\pm\mathbf{S}\mathbf{D}$	$\mathbf{M}\pm\mathbf{S}\mathbf{D}$	$\mathbf{M}\pm\mathbf{S}\mathbf{D}$	Г	Ρ
n (%)	2 (8.6)	24 (10.3)	72 (30.9)	128 (56.0)	7 (3.0)		
Health orientation	6.00 ± 1.17	4.53 ± 0.49 de	4.59 ± 0.74 ^{de}	5.06 ± 0.82 bc	$5.62 \pm 0.60 \ ^{ m bc}$	8.34	< 0.001
Weight concern	6.25 ± 0.35	5.33 ± 0.76	5.33 ± 0.85	5.19 ± 0.14	4.82 ± 0.64	1.09	0.360
Personal goal achievement	5.59 ± 0.59	4.14 ± 4.08	4.08 ± 0.98	4.20 ± 0.99	5.02 ± 1.14	2.53	0.041
Competition	3.75 ± 0.71	$2.88\pm1.80\ ^{\mathrm{e}}$	$2.48\pm1.34~^{\rm e}$	$2.99\pm1.64^{\text{ e}}$	$4.79\pm1.48~^{ m bcd}$	4.09	0.003
Recognition	4.84 ± 0.94	3.71 ± 1.02	$3.47\pm0.92~^{\rm e}$	$3.59 \pm 1.13^{\ e}$	$4.83\pm0.59~^{ m de}$	3.48	0.009
Affiliation	5.03 ± 0.83	$2.99 \pm 1.11 \ ^{ m e}$	$3.07 \pm 0.98 \ ^{\mathrm{e}}$	$3.36 \pm 1.27~^{e}$	$4.74\pm0.55~\mathrm{bcd}$	5.15	< 0.001
Psychological coping	6.00 ± 0.62	5.29 ± 0.67	4.91 ± 0.63	5.09 ± 0.80	5.28 ± 0.92	2.31	0.059
Life meaning	5.43 ± 0.20	4.60 ± 0.59	4.63 ± 0.74	4.70 ± 0.81	5.02 ± 1.21	0.94	0.442
Self-esteem	5.88 ± 0.71	4.97 ± 0.62	4.92 ± 0.77	4.96 ± 0.79	5.66 ± 0.69	2.23	0.067

Table 3. Differences in the nine MOMS dimensions according to range age.

Note: ^b *p* < 0.05 vs. 19–25 years; ^c *p* < 0.05 vs. 26–35 years; ^d *p* < 0.05 vs. 36–50 years, ^e *p* < 0.05 vs. 51–70 years.

Table 4 shows the differences in the nine MOMS dimensions in terms of having had COVID-19 or not. Runners who had had COVID-19 obtained higher scores for health orientation (p < 0.001), recognition (p < 0.05), psychological coping (p < 0.05), life meaning (p < 0.05) and self-esteem (p < 0.05) than runners who had not had COVID-19.

Table 4. Differences in the nine MOMS dimensions according to whether participants had had COVID-19.

Study Variables	No COVID-19	COVID-19	11
Study valiables -	$\mathbf{M}\pm\mathbf{SD}$	$\mathbf{M}\pm\mathbf{S}\mathbf{D}$	- P
<i>n</i> (%)	170 (72.96)	63 (27.04)	
Health orientation	4.85 ± 0.77	6.20 ± 0.66	< 0.001
Weight concern	5.27 ± 1.07	5.75 ± 1.29	0.649
Personal goal achievement	4.19 ± 0.99	3.57 ± 0.73	0.536
Competition	2.84 ± 1.56	1.25 ± 0.56	0.156
Recognition	3.66 ± 0.99	2.50 ± 0.85	0.013
Affiliation	3.27 ± 1.11	2.63 ± 2.46	0.571
Psychological coping	5.12 ± 0.75	5.85 ± 0.76	0.016
Life meaning	4.68 ± 0.78	5.51 ± 0.67	0.023
Self-esteem	5.02 ± 0.74	5.33 ± 0.83	0.016

Table 5 shows the descriptive variables of the study in terms of running in green areas, running with a mask, whether or not the air quality index had been checked and the reasons why respondents run at night. Respondents clearly indicated that night running makes it easier to fall asleep (56.9%) and improves the quality of sleep (59.1%), while at the same time disagreeing with the claims that it is worse to fall asleep (65.9%) or that sleep is lighter and of lower quality (65.9%).

Table 6 shows the descriptive variables used in the study in terms of the answers to 10 questions in which respondents could choose one of the five options on the Likert scale. The results showed that most of the respondents rated their mental health as being good (56.5%) and did not run in the morning despite better air levels (50.4%). Respondents further indicated that they mostly did not choose running events outside the urban area (61.6%) and did not check the air quality index before running (70.3%).

Study Variables	Not Agree	Indifferent	Agree	
Study variables	n (%)	n (%)	n (%)	
Running in green areas	74 (32.3)	131 (57.2)	24 (10.5)	
Running with mask	89 (38.9)	109 (47.6)	31 (13.3)	
Whether air quality index is checked	31 (13.5)	169 (72.5)	29 (12.4)	
Running in the evening/at night because				
It reduces your stress level	22 (9.5)	137 (59.1)	59 (31.5)	
It improves your falling asleep	17 (7.3)	83 (35.8)	132 (56.9)	
It improves the quality of your sleep	17 (7.3)	78 (33.6)	137 (59.1)	
It increases your stress level	111 (47.8)	104 (44.8)	17 (7.3)	
It makes it more difficult for you to fall asleep	153 (65.9)	61 (26.3)	18 (7.8)	
It makes the quality of your sleep worse	153 (65.9)	61 (26.3)	18 (7.8)	

Table 5. Descriptive information for running characteristics.

Table 6. Descriptive variables used in the study.

Chudy Variables	Never/Very Bad	Rarely/Bad	Sometimes/Indifferent	Often/Good	Always/Very Good
Study variables	n (%)	n (%)	n (%)	n (%)	n (%)
1. How do you generally rate your physical health?	8 (3.4)	30 (12.9)	101 (43.5)	83 (35.8)	10 (4.3)
2. How do you generally rate your mental health?	3 (1.3)	11 (4.7)	60 (25.9)	131 (56.5)	27 (11.6)
3. Do you run in green areas because of the good air quality?	5 (2.2)	40 (17.2)	71 (30.6)	84 (36.2)	32 (13.8)
4. Do you run in an anti-pollution face mask?	115 (49.6)	79 (34.1)	25 (10.8)	8 (3.4)	5 (2.2)
5. Do you check the air quality index before running?	163 (70.3)	44 (19.0)	13 (5.6)	4 (1.7)	8 (3.4)
6. Do you run in the morning because the level of air pollution is highest during the day and in the evening?	48 (20.7)	117 (50.4)	28 (12.1)	21 (9.1)	18 (7.8)
7. Do you run in the evening because it reduces your stress level?	25 (10.8)	15 (6.5)	34 (14.7)	111 (47.8)	47 (20.2)
8. Do you run in the evening because it makes it easier for you to fall asleep?	24 (10.3)	14 (6.0)	19 (8.2)	91 (39.2)	84 (36.2)
9. Do you run in the evening/at night because it improves the quality of your sleep?	25 (10.8)	13 (5.6)	20 (8.6)	88 (37.9)	86 (37.1)
10. Do you choose running events (marathons etc.) outside the urban area?	143 (61.6)	27 (11.6)	36 (15.5)	24 (10.3)	2 (0.9)

4. Discussion

In the modern world, night running is becoming increasingly popular and gaining importance in social terms. Running has become one of the most popular physical activities, which has at the same time led to an increase in researchers' interest in this subject, by analysing the dependence of running in relation to various factors associated with it. Among the numerous scientific publications, attempts have been made to analyse the motivational factors that encourage runners to engage in endurance running, for which the MOMS scale has been most frequently used [3,6,11–13,49]. The questionnaire has been used in many previous studies to analyse the motivation of amateur runners during marathons, half-marathons or 5-kilometre runs, but to date, there has been no study of the motivation behind people running various distances at night—as all sporting events of various sizes at which motivation has been studied have taken place during the day.

The aims of this article were to determine what motivates night recreational runners and to analyse the differences between men and women, according to age, and to see whether the fact of having had COVID-19 or not matters when it comes to athletes' motivation behind participating in runs. Earlier studies analysed age and gender [13,49], and we considered it important whether these variables were also significant in the motivation of night runners.

The main findings showed that the variables analysed, namely gender and age, have an impact on reasons for participating in night running. In many previous studies, age and gender have been analysed in a binomial fashion, and the purpose of this study was to determine whether age matters in terms of motivational differences among runners [50,51]. One of the most frequently analysed variables was athletes' gender when trying to understand the reasons why athletes participate in endurance sports. In this case, the present study shows that the reasons why amateur athletes night running in Poland differ significantly across the five dimensions of MOMS according to gender. The motivation behind female amateur runners taking up night running is significantly greater in terms of weight concern (p < 0.001) compared to male runners. At the same time, the motivation behind participating in amateur night running is greater in men than in women in terms of goal achievement, competition, recognition and affiliation (p < 0.001). These results are partly in line with those obtained by León-Guereño et al. [11], who also showed that personal goal achievement and competition are directly related to motivation on the part of Polish runners behind running marathons. However, the authors noted a major role played by psychological coping in female runners, which was not confirmed in our study. Only partial concordance can also be seen with the study performed by Stempień [52], who showed statistically significant differences in motivation behind marathon running between men and women and noted that variables unrelated to performance were preferred by female runners. The dominance of the weight concern motive among women shown in our study was in turn recognised by Ogles and Masters [53] and Waśkiewicz et al. [49], and the emphasis on the sports competition motive among men was confirmed in the study by Malchrowicz-Mośko and Waśkiewicz [54], which was conducted on novice runners in Poland when surveying participants taking part in Parkrun—runs organised in parks or other green areas over a distance of 5 kilometres. Overall, however, these results are only partially consistent with our study, as we did not show that female motivation was also associated with affiliation and self-esteem. Instead, affiliation was shown to be important for men's motivation behind running at night, which may be attributed to the desire to meet and socialise with other runners and create a sort of group identity. For many men in Poland, the primary role is to provide for the family and ensure that the family feels safe—they often devote a large part of their lives to earning money and pursuing their careers, not having the time or opportunity to meet friends on a regular basis [55]. Meeting amateur runners who share a passion for running at night, when there is time for a bit of rest and relaxation, can therefore prove extremely valuable to them.

Our results are also partly in line with previous studies that found an age effect on reasons for marathon participation. The results showed that athletes' reasons for participation differed statistically according to age in terms of health orientation as participants' age range increased (all, p < 0.001). Indeed, concern for health increased with runners' age, that is, the youngest runners obtained the lowest scores or showed the fewest reasons for participation in terms of this dimension, whereas it gained importance with athletes' age. Such results, in relation to marathon and ultramarathon runners, are also confirmed by the Gerasimuk et al. [56] study, and Thuany and colleagues [57] who studied Brazilian runners in general diagnosed health as the main motivation for running. However, the increase in competition orientation following the increase in runners' age (p = 0.003) is not consistent with previous research, as previous studies have diagnosed the dominance of competitionrelated motives in younger athletes rather than in older athletes [13]. However, night running may intensify older runners' desire to match younger runners in terms of speed or distance running. Young people can inspire older people and make them feel young as well because essentially competition, in this case, is not about winning a certain place or a position on the podium but about running a certain distance or accomplishing this feat within a predetermined time. This approach also explains the increase in recognition and affiliation, which was greater in runners aged 51 and over compared to younger runners. Senior citizens often do not have the same opportunities to meet people as younger runners (i.e., school, college, work, the Internet) and are also less likely to concern themselves with status as they age. However, by being accepted by a group of younger runners and having the opportunity to compete, they can feel a sense of status because they feel valued, and the mere fact of belonging to a group and being able to spend leisure time with other people who share their passion is extremely valuable to them. This is supported by a study by León-Guereño et al. [11], which found that the importance of belonging to runners increased with age, as well as a study of singles aged 35 and over who participated in an ultramarathon in Poland [54]. Having said this, there appears to be only partial agreement

with the study by León-Guereño et al. [3], who found that affiliation was one of the least desirable motives for older athletes, although the results regarding recognition are in line with those obtained in our study. In contrast, in a study by Nikolaidis et al. [13], motivation associated with competition was found to be more important for younger athletes than for older runners, which was not confirmed in our study.

In our research, runners who had COVID-19 obtained higher scores in health orientation (p < 0.001), recognition (p < 0.05), psychological coping (p < 0.05), life meaning (p < 0.05), and self-esteem (p < 0.05) than runners who had not. Research by Bazett-Jones et al. [58] proved that the main motive for young long-distance runners prior to the COVID-19 pandemic was competition, although the significance of this motive decreased significantly during the pandemic, which is also confirmed by our study, as the competition motive was missing among the five increases noted. The lack of competition also influenced socialisation on the part of long-distance runners, as training with teammates was no longer possible, and it was always a strong motivator for runners [59]. Our study confirms that among runners who had had COVID-19, affiliation was not a significant factor, which was also reflected in the findings by DeJong and colleagues [19]. The health benefits of running, on the other hand, remained a strong motivator, and in fact strengthened after COVID-19 developed, as confirmed by our study in addition to other studies [33].

In research conducted by Bodin and Hartig [60], runners preferred the park over the urban environment and perceived it as being more psychologically restorative, but our respondents indicated that they mostly did not choose running events outside the urban area. However, these results are confirmed by Ren et al. [61], which indicates that people most often run around urban spaces, albeit those with a typical topography or a good climate or air quality. In addition, Könecke et al. [62] noted that runners are even showing a willingness to pay for environmental sustainability, which can increase the environmental friendliness of organised runs. Our results showed that most of the respondents rated their mental health as being good, which is in line with studies by Oswald and colleagues [8], although researchers also emphasise some associations with adverse mental health (such as exercise addiction). While Wicker [63] and Pickering et al. [64] stated that the more an individual is active in the natural environment, the more knowledge they will gain about environmental hazards, it turns out that those of our night runners doing green area running did not decide to run in masks or check the air quality, despite out-of-the-box running experiences at city events.

The surveys we conducted had their limitations. Firstly, we only distributed them online, given that they were conducted during the COVID-19 pandemic and the difficulties arising from completing them at night. Although we made every effort to ensure that the surveys reached the widest possible group of night runners through sports clubs and unofficial night runner groups (available on Facebook, among others), we cannot fully confirm whether the data provided by respondents are accurate due to the lack of direct contact with them. Owing to the high degree of anonymity provided by the Internet, respondents have the chance to assume a different identity, and this can be considered a major limitation. Moreover, each respondent found themselves most likely in different conditions with regard to filling in the data (resulting, for example, from the place where it was filled in or Internet access), and, consequently, different possibilities for getting in contact with us. There may also have been intermittent barriers to filling in the questionnaires for technical reasons, or even because of different computer and Internet skills on the part of respondents. All of these limitations meant that respondent selection was also limited—excluding runners who do not use the Internet and thus could not gain access to our survey. On the other hand, few studies have been conducted that attempt to understand night runners' behaviour/perceptions. Since most of the runners indicated they were training during this period of day, the results may provide insights for intervention (e.g., awareness campaigns), especially regarding mask use. Additionally, public policies can be developed to reach young (≤ 18 years) and the oldest (51–70 years) groups, given

that they are the ones with the lowest participation. These policies include accessibility to places and event organisation.

This study provides important information regarding the motivational aspects of night running participants, and this knowledge may be useful for leisure or sporting event organisers, and even personal trainers or coaches, who wish to increase night running motivation according to gender or age. It is very important because running may decrease the risk of developing cardiovascular diseases and does not require close contact with other runners, which may pose a risk of contracting the coronavirus [65,66].

5. Conclusions

The study found that although night runners choose green areas to run in, they most often choose to participate in sporting events within the urban agglomeration. Their mental and physical health was generally good. Based on examination of the different MOMS dimensions, we observed that the main motivation driving night-time runners is health orientation, weight concern, personal goal achievement, psychological coping, life meaning and self-esteem. However, competition, recognition and affiliation obtained the lowest scores. At the same time, we confirmed that age and gender are important when it comes to the reasons why runners run. Moreover, motivation related to night running participation marked a clear line according to age and gender, showing a greater role of the weight concern motive in women and a greater importance of goal achievement, competition, recognition and affiliation in men. In addition, higher scores were obtained in the case of the health orientation and competition dimensions as participants' age range increased, and recognition and affiliation appeared to be dominant in runners aged 51 to 70 years compared to younger runners. The research also showed higher scores for health orientation, recognition, psychological coping, life meaning and self-esteem among runners who had had COVID-19 than runners who had not had the virus. Furthermore, despite recent research suggesting that wearing face masks while doing exercise has little effect on physiological responses [67], only 13.3% of athletes agreed about using them, and only 2.2% of them always use a face mask when jogging.

The results of our study show a low level of awareness in terms of masks among the runners. Athletes should be better educated in terms of the protective functions of masks during running. Some runners are afraid to take part in runs organised in polluted cities because of the possibility of reduced lung capacity [68–70]. People's connectedness to nature appears to be changing and this has important implications as to how humans are now interacting with nature [71].

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Institutional Review Board Statement: The study was conducted according to the guidelines of the Declaration of Helsinki. The study did not require formal ethical approval, because in accordance with the rules in force in Poland, the Bioethics Committee did not submit applications for surveys involving the use of standardised surveys, used for their intended purpose, insofar as the research will develop statistically selected elements of the survey.

Informed Consent Statement: The questionnaire did not require the completion of a separate participant information sheet or consent form but clearly indicated that all questionnaire takers give informed consent to the study. Respondents were informed about the course and nature of the survey. The survey was voluntary and confidential.

Data Availability Statement: The data presented in this study are available on request from the corresponding author. The data are not publicly available due to the lack of access to the public repository.

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