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ORIGINAL ARTICLE

# DISORDERED EATING BEHAVIOURS IN FUTURE MILITARY OFFICERS: ORTHOREXIA AND EMOTIONAL EATING AMONG CADETS OF THE MILITARY UNIVERSITY OF TECHNOLOGY IN WARSAW IN RELATION TO BODY MASS INDEX (BMI) AND SEX

Paulina BARAN[1], Paweł JAGIELSKI[2], Magdalena KRZYŻANOWSKA[3], Karolina BERTRANDT-TOMASZEWSKA[3], Agata GAŹDZIŃSKA[3]

[1] Department of Psychophysiological Measurements and Human Factor Research, Military Institute of Aviation Medicine, Warsaw, Poland
[2] Department of Nutrition and Drug Research, Faculty of Health Science, Jagiellonian University, Medical College, Cracow, Poland
[3] Laboratory of Dietetics and Obesity Treatment, Department of Psychophysiological Measurements and Human Factor Research, Military Institute of Aviation Medicine, Warsaw, Poland

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**Author's address:** P. Baran, Military Institute of Aviation Medicine, Krasinskiego 54/56 Street, 01-755 Warsaw, Poland, e-mail: pbaran@wiml.waw.pl

**Introduction:** Military cadets represent a distinct population in whom disordered eating behaviours may develop before exposure to the demands of operational military service. Data on orthorexia nervosa (ON) and emotional eating (EE) in this group remain scarce. The aim of this study was to assess the prevalence of ON and EE among cadets of the Military University of Technology (MUT) in Warsaw and to examine their associations with body mass index (BMI) and sex.

**Methods:** A cross-sectional study was conducted among 783 MUT cadets (638 men, 145 women; mean age 20.7 ± 3.5 years) participating in the National Health Programme 2021–2025. ON risk was assessed using the ORTO-15 questionnaire, and EE was evaluated with the Emotional Eater Questionnaire (EEQ). Chi-square tests and binary logistic regression were performed to examine associations between ON risk and EE and the independent variables of sex, age, and BMI.

**Results:** ON risk was identified in 35.0% of cadets and was not significantly associated with BMI or sex. EE was present in 10.6% of respondents and was significantly more prevalent among individuals with overweight or obesity compared to those with normal body weight (15.1% vs. 8.9%; p = 0.015) and among women compared to men (15.2% vs. 9.6%; p = 0.048). Logistic regression confirmed female sex (OR = 1.92) and overweight or obesity (OR = 1.95) as independent predictors of EE. No statistically significant differences in the prevalence of ON or EE were found between MUT cadets and previously studied Polish military flying personnel (p > 0.05).

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**Conclusions:** Disordered eating behaviours are present in military cadets at a scale comparable to that observed in experienced military personnel, suggesting that such patterns may already be present – or may emerge – during the early stages of a military career. As the study employed a cross-sectional design, causal inferences cannot be drawn, and longitudinal research is warranted; nonetheless, early identification of at-risk individuals within military educational settings may help prevent the progression of disordered eating into clinically significant disorders during active service. Hence, psychodietetic support and educational programmes targeting at-risk individuals should be considered from the outset of military education.

**Keywords:** orthorexia nervosa, ORTO-15, emotional eating, Emotional Eater Questionnaire (EEQ), military cadets, BMI, sex, Polish Armed Forces

## INTRODUCTION

In recent decades, growing public awareness of the relationship between diet and health has brought about significant changes in eating behaviours across various social groups. Whilst a genuine concern for dietary quality is generally conducive to health, for some individuals this concern may become pathological, manifesting as disordered eating behaviours that paradoxically undermine the very health they seek to protect [3,6].

One such condition is orthorexia nervosa (ON), a term coined in 1997 by the American physician Steven Bratman to describe a pathological fixation on consuming food perceived as pure, correct, and healthy [3]. Unlike classic eating disorders such as anorexia nervosa or bulimia nervosa, which centre on the quantity of food intake, orthorexia is defined primarily by an obsessive preoccupation with food quality, composition, and preparation methods. Individuals exhibiting orthorexic behaviour may spend considerable time planning meals, avoiding entire food categories, and experiencing marked distress when unable to adhere to self-imposed dietary rules [6]. However, despite a growing body of research, ON remains absent from the major diagnostic classification systems, namely the ICD-11 and DSM-5, which complicates both clinical recognition and the reliable estimation of its prevalence [6,13]. Therefore, reported prevalence rates vary widely, ranging from approximately 6% in the general adult population to nearly 90% in specific higher-risk groups, much of this variability may be attributable to differences in assessment tools and cut-off thresholds [6,17].

Emotional eating (EE) represents another dimension of disordered eating behaviour with increasing relevance across occupational groups characterised by high and chronic stress. EE is broadly understood as the tendency to eat mainly in response to negative emotional states – including anxiety, stress, sadness, or low mood – rather than in response to physiological hunger [19]. This pattern of eating is recognised as a maladaptive coping strategy and has been associated with excess body weight, loss of dietary control, and an increased risk of binge eating episodes, also in the population of US Army soldiers [12].

Significantly, the military context provides a particularly relevant setting for examining both ON and EE. Military service is characterised by a unique constellation of stressors – including hierarchical discipline, mandatory teamwork in demanding and unpredictable environments, separation from family, and exposure to potentially traumatic situations – that may promote the adoption of maladaptive coping strategies, among which disordered eating behaviours have been increasingly documented [8,9]. Research conducted among active-duty service members and veterans indicates that eating disorders are not uncommon in this population, with recent evidence suggesting that their incidence may be rising [2,16]. Moreover, a systematic review of eating disorders among US active-duty military members and veterans concluded that, whilst the overall rates are broadly comparable to those observed in civilian populations [24], specific subgroups – including women and younger service members – are disproportionately affected [2,16]. Notably, disordered eating in military settings has been conceptualised both as a coping mechanism in response to occupational stress and as a consequence of the demands related to body weight and physical fitness inherent to military service [8,24].

Importantly, whilst certain psychiatric conditions – such as post-traumatic stress disorder, depression, and substance use disorders – are relatively well recognised in the military community, eating disorders remain underdiagnosed and inadequately studied in this population, particularly outside the United States and other Anglophone countries [8,24]. Data on the Polish military are especially scarce. Our

research group has previously documented the prevalence of ON and EE among Polish military flying personnel, finding that 38.9% were at risk of ON and approximately 12.3% exhibited EE, with both figures being comparable to those observed in civilian at-risk groups [9].

Furthermore, military cadets occupy a distinctive position that has received little research attention so far. As students simultaneously undergoing higher education and initial military formation, cadets at the Military University of Technology (MUT) in Warsaw face the combined demands of academic performance and the progressive acquisition of military identity and discipline. As future commissioned officers, they are required to meet demanding health and fitness criteria; accordingly, their nutritional behaviours may be shaped both by heightened health awareness and by the stressors specific to military education. However, whether disordered eating patterns are already established at this early stage in a military career – prior to operational deployment – remains unknown in the Polish context.

In view of the above, the aim of the present study was to assess the prevalence of ON and EE among cadets of the Military University of Technology in Warsaw and to examine their associations with body mass index (BMI) and sex. In addition, the results obtained were compared with those of a previously studied group of Polish military flying personnel in terms of the prevalence of ON and EE [9]. The findings are intended to inform the development of targeted preventive strategies within military educational settings, where early identification of at-risk individuals may help prevent the progression of disordered eating behaviours into clinically significant disorders prior to operational service. Given the scarcity of data on this population, the study also aims to contribute to the broader evidence base on disordered eating in the Polish armed forces.

## METHODS

### Participants

This cross-sectional study included 783 cadets of the Military University of Technology (MUT) in Warsaw (638 men and 145 women), who participated in the National Health Programme 2021–2025 as part of the Operational Objective 3: Promotion of Mental Health. The mean age of the participants was 20.7 ± 3.5 years. Data were collected during a routine preventive vaccination programme conducted at the Military Institute of Aviation Medicine (WIML). All cadets who signed up for the vaccination provided consent to participate in the study.

Participation in the study was voluntary, and all participants provided informed consent prior to completing the questionnaire. This study was approved by the Ethics Committee of the Military Institute of Aviation Medicine (decision No. 01/2018 of 9 March 2018).

### Measures

The risk of orthorexic behaviour was assessed using the ORTO-15 questionnaire, developed by Donini et al. [5] and adapted for Polish use by Stochel et al. [22]. The instrument comprises 15 items pertaining to the cognitive, clinical, and emotional dimensions of orthorexic behaviour, each rated on a four-point scale (“always”, “often”, “sometimes”, “never”). Scores range from 15 to 60 points, with lower scores indicating a greater risk of orthorexic behaviour. A cut-off threshold of 35 points was adopted to define the risk of ON, consistent with the Polish validation study [22]. The ORTO-15 was selected as the assessment tool for orthorexia nervosa risk in this study based on the availability of a validated Polish-language version [22] and its widespread use in prior Polish research [1,11], which enables direct comparison of findings across studies. Whilst recent literature has raised concerns regarding the psychometric properties of the ORTO-15, including its potential to overestimate the prevalence of orthorexic tendencies [6,17], no alternative validated Polish-language instruments were available at the time of data collection. In view of the above, the limitations associated with this tool are discussed in detail in the Limitations section.

Emotional eating was assessed using the Emotional Eater Questionnaire (EEQ), originally developed and validated by Garaulet et al. [7] and adapted for Polish use by Skolmowska et al. [20]. The EEQ consists of 10 items assessing various eating-related behaviours, each rated on a four-point scale (“never”, “sometimes”, “generally”, “always”). The maximum attainable score is 30 points, with higher scores reflecting more favourable eating patterns. Based on total scores, respondents were classified into four categories: non-emotional eaters, low emotional eaters, emotional eaters, and very emotional eaters. For the purposes of the present analysis, the latter two categories were combined to yield an overall prevalence of emotional eating.

Body height and body mass were self-reported by participants as part of the study questionnaire. Body mass index (BMI) was calculated as weight in

kilograms divided by height in metres squared (kg/m²). Participants were classified into nutritional status categories according to the World Health Organisation (WHO) criteria: underweight (BMI < 18.5 kg/m²), normal weight (BMI 18.5-24.9 kg/m²), overweight (BMI 25.0-29.9 kg/m²), and obesity (BMI ≥ 30.0 kg/m²) [25].

## Statistical analyses

All statistical analyses were performed using PS IMAGO PRO 10 (IBM SPSS Statistics 29). Continuous variables are presented as means ± standard deviations (SD) and medians (Q1-Q3), and categorical variables as numbers and percentages. The normality of distribution of continuous variables was assessed using the Shapiro-Wilk test.

Differences in the distribution of BMI categories between sexes were assessed using the chi-square ($\chi^2$) test. The associations between ON risk (as defined by ORTO-15 score) and BMI category, as well as between ON risk and sex, were evaluated using the chi-square test. Similarly, the associations between emotional eating (as defined by EEQ score) and BMI category, and between emotional eating and sex, were examined using the chi-square test.

For the purposes of these analyses, the overweight and obesity groups were combined into a single category due to the small number of individuals classified as obese. Comparisons of the prevalence of ON risk and emotional eating between MUT cadets and the previously studied group of Polish military flying personnel [9] were performed using the chi-square test. Additionally, binary logistic regression analysis was performed to identify independent predictors of ON risk and emotional eating. In both models, the dependent variable was binary (ON risk: ORTO-15 score < 35 vs. ≥ 35; EE: present vs. absent), and the independent variables were sex, age, and BMI category (underweight or normal weight vs. overweight or obesity).

All tests were two-tailed, and a p-value of less than 0.05 was considered statistically significant.

## RESULTS

The anthropometric characteristics of the study participants, along with mean ORTO-15 and EEQ scores, are presented in Table 1, stratified by sex. Men and women differed significantly in body height, body weight, and BMI ($p < 0.0001$ for all three variables), whereas no statistically significant differences between sexes were observed for age, ORTO-15 scores, or EEQ scores.

As shown in Table 1, male cadets were on average significantly taller, heavier, and had a higher BMI than their female counterparts (all $p < 0.0001$). No statistically significant difference in age was observed between sexes ($p = 0.051$). The mean ORTO-15 score for the total sample was 36.8 ± 4.0 points, with no significant difference between men and women ($p = 0.622$). The mean EEQ score was 5.8 ± 3.6 points overall, and did not differ significantly between sexes ($p = 0.061$).

The distribution of BMI categories among MUT cadets is presented in Figure 1. Overall, 2.8% of respondents were classified as underweight, 69.2% as normal weight, 25.7% as overweight, and 2.3% as obese. A statistically significant difference in BMI distribution was observed between sexes ($p < 0.001$). Figure 1 shows that excess body weight was significantly more common among male cadets than among females. Among men, 1.7% were underweight, 66.6% had normal weight, 28.8%

Tab. 1. Anthropometric characteristics and mean ORTO-15 and EEQ scores of MUT cadets by sex (N = 783).

| Variable | Total N = 783 | Males N = 638 | Females N = 145 | Mann-Whitney U test p |
|---|---|---|---|---|
| | M (SD) Me (Q1-Q3) | M (SD) Me (Q1-Q3) | M (SD) Me (Q1-Q3) | |
| Age (years) | 20.7 (3.5)<br>20.0 (19.0-22.0) | 20.5 (3.3)<br>20.0 (19.0-21.0) | 21.4 (4.4)<br>20.0 (19.0-23.0) | 0.0505 |
| Height (cm) | 177.8 (8.7)<br>178.0 (173.0-184.0) | 180.3 (7.1)<br>180.0 (175.0-185.0) | 167.0 (6.2)<br>166.0 (163.0-170.0) | <0.0001 |
| Weight (kg) | 74.3 (12.6)<br>74.0 (65.0-83.0) | 77.5 (11.1)<br>76.0 (70.0-85.0) | 60.3 (8.5)<br>60.0 (54.0-66.0) | <0.0001 |
| BMI (kg/m²) | 23.4 (3.0)<br>23.3 (21.1-25.2) | 23.8 (3.0)<br>23.8 (21.8-25.5) | 21.6 (2.5)<br>21.2 (19.6-23.4) | <0.0001 |
| ORTO-15 | 36.8 (4.0)<br>37.0 (34.0-40.0) | 36.7 (4.1)<br>37.0 (34.0-40.0) | 37.0 (3.4)<br>37.0 (35.0-39.0) | 0.6220 |
| EEQ | 5.8 (3.6)<br>5.0 (3.0-8.0) | 5.7 (3.6)<br>5.0 (3.0-8.0) | 6.2 (3.5)<br>6.0 (3.0-9.0) | 0.0607 |

M – mean, SD – standard deviation, Me – median, Q1 – lower quartile, Q3 - upper quartile, ORTO-15 – questionnaire developed by Donini et al. [5] and adapted for Polish use by Stochel et al. [22], EEQ – Emotional Eater Questionnaire, developed by Garaulet et al. [7] and adapted for Polish use by Skolmowska et al. [20]

Tab. 2. Binary logistic regression analysis of predictors of orthorexia nervosa risk and emotional eating among MUT cadets (N = 783).

| Variable | B | SE | Wald | OR | 95% CI | p |
|---|---|---|---|---|---|---|
| **Panel A: Emotional eating (EEQ)** | | | | | | |
| Sex (female vs. male) | 0.650 | 0.281 | 5.357 | 1.92 | 1.10–3.32 | 0.021 |
| Age | 0.041 | 0.026 | 2.430 | 1.04 | 0.99–1.10 | 0.119 |
| BMI category (overweight/obesity vs. normal/underweight) | 0.669 | 0.254 | 6.961 | 1.95 | 1.19–3.21 | 0.008 |
| Constant | −4.667 | 0.719 | 42.095 | - | - | <0.001 |
| **Panel B: Orthorexia nervosa risk (ORTO-15)** | | | | | | |
| Sex (female vs. male) | −0.189 | 0.202 | 0.872 | 0.83 | 0.56–1.23 | 0.350 |
| Age | −0.016 | 0.023 | 0.503 | 0.98 | 0.94–1.03 | 0.478 |
| BMI category (overweight/obesity vs. normal/underweight) | 0.084 | 0.171 | 0.242 | 1.09 | 0.78–1.52 | 0.623 |
| Constant | −0.175 | 0.534 | 0.107 | - | - | 0.744 |

B – regression coefficient; SE – standard error; Wald – Wald chi-square statistic; OR – odds ratio; CI – confidence interval.

were overweight, and 2.8% were obese. Among women, the corresponding figures were 7.6%, 80.7%, 11.7%, and 0.0%, respectively.

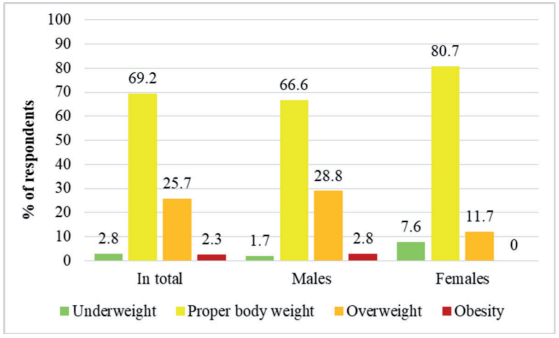


Fig. 1. Prevalence of underweight, normal weight, overweight, and obesity among MUT cadets according to BMI, by sex (N = 783).

Based on ORTO-15 scores, 35.0% of cadets were identified as being at risk of ON, whilst 65.0% showed no such risk. Regarding emotional eating, 53.6% of respondents were classified as non-emotional eaters, 35.8% as low emotional eaters, 10.5% as emotional eaters, and 0.1% as very emotional eaters. Combining the latter two categories, the overall prevalence of emotional eating in the study group was 10.6%. The distribution of ORTO-15 and EEQ results is presented in Figure 2.

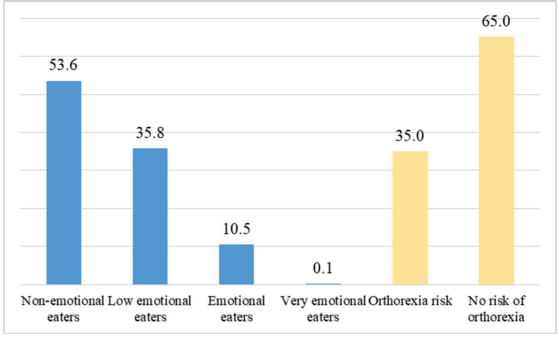


Fig. 2. Distribution of EEQ and ORTO-15 results among MUT cadets (N = 783).

For the analysis of emotional eating in relation to nutritional status, the overweight and obesity groups were combined. The prevalence of EE was significantly higher among cadets with overweight or obesity compared to those with normal body weight or underweight (15.1% vs. 8.9%; p = 0.015), as shown in Figure 3. Women demonstrated a significantly higher prevalence of EE compared to men (15.2% vs. 9.6%; p = 0.048) (Figure 4). The risk of ON was not significantly associated with BMI category (p = 0.574) or sex (p = 0.268).

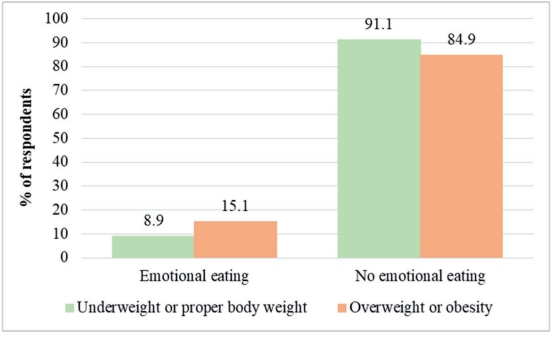


Fig. 3. Prevalence of emotional eating among MUT cadets according to BMI category (N = 783).

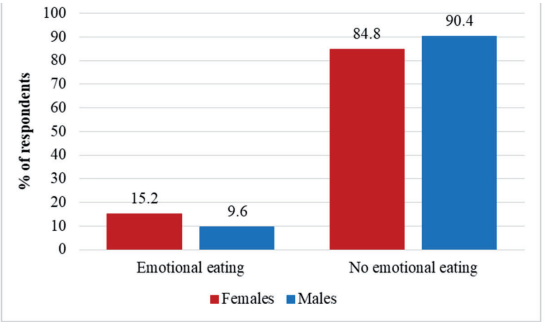


Fig. 4. Prevalence of emotional eating among MUT cadets according to sex (N = 783, of which 638 were men and 145 were women).

The results of binary logistic regression analyses are presented in Table 2. In the model for emotional

eating, both female sex (OR = 1.92; 95% CI: 1.10–3.32; p = 0.021) and overweight or obesity (OR = 1.95; 95% CI: 1.19–3.21; p = 0.008) were identified as independent predictors of EE, whilst age was not significant (OR = 1.04; 95% CI: 0.99–1.10; p = 0.119). In the model for orthorexia risk, none of the variables reached statistical significance (Table 2).

Finally, no statistically significant differences were found between MUT cadets and the previously studied group of Polish military flying personnel (N = 760) [9] with respect to the prevalence of either ON (35.0% vs. 38.9%; p = 0.114) or EE (10.6% vs. 12.3%; p = 0.294).

## DISCUSSION

The present study is, to our knowledge, the first to assess the prevalence of both orthorexic behaviour and emotional eating in a cohort of Polish military cadets. The key findings can be summarised as follows: approximately one in three MUT cadets was identified as being at risk of ON; emotional eating was present in roughly one in ten respondents, with significantly higher rates among individuals with overweight or obesity and among women; and the overall scale of disordered eating in this cadet sample was statistically comparable to that previously documented in experienced Polish military flying personnel [9].

The prevalence of ON risk observed in the present study (35.0%) falls within the upper range of rates reported in the literature for the general adult population, consistent with the wide variability in prevalence estimates described previously [6,17]. A recent review of the literature characterised ON as a spectrum condition sharing features with obsessive-compulsive disorder, other eating disorders, and anxiety-related presentations, and highlighted the wide variability in prevalence estimates across populations and assessment tools [13]. The prevalence found in the present study is also consistent with rates documented in higher-risk groups, such as students of health-related disciplines and individuals engaged in regular physical activity [10,15]. Studies conducted among Polish university students using the ORTO-15 questionnaire have reported ON risk prevalence of approximately 22% [1], though figures vary considerably depending on the study population, recruitment method, and cut-off threshold applied [1,11]. The relatively high prevalence observed among MUT cadets may reflect the physical fitness requirements of military education, combined with elevated nutritional awareness that, in some individuals, may develop into orthorexic preoccupation. This interpretation is consistent with research by Grajek et al. [10], who demonstrated that theoretical knowledge of nutrition and regular physical activity are associated with a substantial increase in the likelihood of orthorexic behaviour.

Importantly, the risk of ON was not significantly associated with either BMI or sex in the present sample, which is an observation also made by other authors of review papers [15]. The absence of a sex-based difference in orthorexia risk is consistent with several published reports and with a meta-analytic review by Strahler [23], which found no consistent sex differences across studies using the ORTO-15 instrument. The lack of association between ON risk and BMI is similarly in line with findings from student populations reported by Souza and Rodrigues [21] and contrasts with findings from other student cohorts where higher BMI was linked to greater orthorexic tendencies, particularly among men [18]. Overall, given that the cadet population is characterised by relatively homogeneous physical fitness standards and a shared institutional environment, the absence of BMI-related differences in orthorexia risk may partly reflect reduced between-individual variability in health-related attitudes and behaviours within this group.

The overall prevalence of emotional eating (10.6%) observed among MUT cadets is broadly consistent with figures reported in other military populations. A systematic review of eating disorders in US active-duty military personnel and veterans concluded that disordered eating, including emotionally driven overeating, is an important and underappreciated health concern in military settings [24]. A narrative review by Gaviria and Ammerman [8] further highlighted the role of occupational stressors in driving disordered eating behaviours in military personnel, a framing that is particularly pertinent in the context of emotional eating, given its recognised function as a maladaptive coping strategy. Indeed, the scale of this problem appears to be growing. More recent surveillance data from the US military indicate that the incidence of eating disorders among active component service members increased by over 64% between 2016 and 2021 [2], with women and younger service members being disproportionately affected [2,16].

The significantly higher prevalence of EE among cadets with overweight or obesity compared to those with normal body weight (15.1% vs. 8.9%; p = 0.015) is a finding of particular practical relevance. Whether emotionally driven eating preceded

the development of excess body weight in these individuals or emerged as a secondary response to weight-related distress cannot be determined from the present cross-sectional data. Therefore, longitudinal research would be required to disentangle this relationship. Nevertheless, the association between EE and elevated BMI is well established in both civilian and military populations [12] and underscores the importance of addressing emotional regulation alongside dietary habits in the management of overweight and obesity in military cadets.

Furthermore, the finding that female cadets exhibited a significantly higher prevalence of EE than their male counterparts (15.2% vs. 9.6%; p = 0.048) is consistent with broader evidence indicating that women are generally more prone to emotionally driven eating [14]. This sex difference has been documented in both civilian and military populations and may reflect differences in emotional regulation strategies, with women more likely than men to use food as a means of coping with negative affect [4]. Binary logistic regression analysis further confirmed these associations, identifying female sex and overweight or obesity as independent predictors of emotional eating, each approximately doubling the odds of its occurrence (OR = 1.92 and OR = 1.95, respectively). Importantly, given the increasing representation of women in the Polish armed forces, this finding warrants attention in the design of targeted psychodietetic support programmes.

Perhaps the most noteworthy finding of the present study is the absence of statistically significant differences in the prevalence of either ON or EE between MUT cadets (mean age ~20 years) and the previously studied group of experienced Polish military flying personnel (mean age ~39 years) [9]. This suggests that disordered eating behaviours may not be solely an artefact of prolonged exposure to the specific stressors of active military service but rather may already be present – or may emerge – during the early stages of a military career. However, given the cross-sectional nature of the present study, longitudinal research is needed to determine whether these patterns are established prior to military education, develop during cadet training, or persist and evolve over the course of active service. Nevertheless, this observation may have important implications for the timing of preventive interventions: waiting until individuals enter operational service may mean that the window for early psychodietetic support has already been missed. This issue, however, requires further and more in-depth research.

## Limitations

Several limitations of the present study should be acknowledged. Primarily, the assessment of both ON and EE was based exclusively on self-reported questionnaire data. Participants may have provided responses perceived as socially desirable, particularly in a military context where the disclosure of health-related difficulties may carry perceived professional consequences. This may have resulted in an underestimation of the true prevalence of disordered eating behaviours in the studied group. Moreover, it should be noted that orthorexia nervosa does not constitute a formal clinical diagnosis, and the ORTO-15 questionnaire is not a diagnostic instrument in the clinical sense. The results obtained should therefore be interpreted exclusively in the context of screening, aimed at identifying certain trends and patterns in eating behaviour rather than establishing clinical diagnoses. Notably, the ORTO-15 has been subject to some psychometric criticism in recent years, including concerns about its tendency to overestimate the prevalence of orthorexic tendencies [6,17]. These limitations are well recognised in the literature and may have contributed to the relatively high prevalence observed in the present study. Nevertheless, the use of ORTO-15 was deemed appropriate for the purposes of this initial exploratory investigation, given the lack of alternative validated instruments in Polish during data collection and the opportunity it afforded for comparison with prior Polish studies [1,9,11]. Future research should consider the use of more recently developed and psychometrically robust instruments. Overall, the figures reported in the present study should be interpreted with appropriate caution.

Furthermore, the proportion of female cadets in the study sample was relatively low (18.5%, N = 145), which limits the statistical power of sex-based comparisons and may increase the risk of failing to detect true differences between women and men. Consequently, the absence of a statistically significant sex difference in orthorexia risk should be interpreted with caution, as a larger and more balanced sample might reveal differences not detected in the present study. The under-representation of women reflects the actual demographic composition of the MUT cadet cohort but nonetheless constitutes a methodological limitation that warrants acknowledgement.

Moreover, body height and body mass were self-reported rather than measured by trained personnel, which may have introduced reporting bias in BMI-based analyses. Previous research

has shown that self-reported anthropometric data tend to underestimate BMI, particularly in men, which could affect the accuracy of nutritional status classification.

Furthermore, the cross-sectional design of the study precludes any causal inference regarding the associations observed between disordered eating behaviours, BMI, and sex. Therefore, longitudinal studies are needed to determine the directionality of these relationships and their long-term effects.

Additionally, the study was conducted at a single military university, which may limit the generalisability of the findings to cadets at other Polish military academies or to cadets in other national contexts.

Finally, no data were collected on potential confounding variables such as physical activity levels, dietary habits, psychological well-being, or academic and training-related stress, all of which may be relevant to the development of disordered eating behaviours in this population.

## Conclusions and practical recommendations

The present study demonstrates that disordered eating behaviours are present among military cadets of the Military University of Technology in Warsaw at levels comparable to that observed in experienced Polish military flying personnel, suggesting that such patterns may already be established or may emerge during the early stages of a military career. However, due to the cross-sectional design of the study, causal inferences cannot be drawn, and longitudinal research is warranted to clarify the temporal development and persistence of these behaviours.

The risk of orthorexia nervosa was identified in 35.0% of MUT cadets and was not significantly associated with either BMI or sex. Emotional eating was identified in 10.6% of respondents and was significantly more prevalent among individuals with overweight or obesity and among women.

These findings lead to the following practical recommendations. Primarily, psychodietetic support programmes should be introduced from the beginning of military education rather than reserved for operational personnel. Such programmes should target, in particular, those cadets identified as being at elevated risk – namely women and individuals with excess body weight. Furthermore, educational interventions addressing the psychological dimensions of eating behaviour should be directed at both cadets and the training staff responsible for their welfare. Moreover, institutional efforts to reduce the stigma associated with disordered eating within the military environment are warranted, as stigma remains one of the key barriers to early help-seeking. Finally, an interdisciplinary approach integrating dietitians, psychologists, and medical officers is recommended for the effective management of both orthorexic tendencies and emotionally driven eating in this population.

In conclusion, continued research in this area is needed, both to monitor trends in disordered eating behaviours across different stages of a military career and to evaluate the effectiveness of targeted preventive interventions in military educational settings.

## AUTHORS' DECLARATION

**Study Design:** Agata Gaździńska, Paulina Baran. **Data Collection:** Magdalena Krzyżanowska, Karolina Bertrandt-Tomaszewska, Paweł Jagielski. **Statistical analysis:** Paweł Jagielski. **Manuscript Preparation:** Agata Gaździńska, Paulina Baran, Paweł Jagielski. The Authors declare that there is no conflict of interest.

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