polish sociological review 3(211)'20
ISSN 1231 – 1413
DOI:10.26412/psr211.07

JAKUB RYSZARD STEMPIEŃ
University of Lodz

MAŁGORZATA STAŃCZYK
Polish Mother's Memorial Hospital Research Institute of Lodz

JAROSŁAW TOKARSKI
Development Centre for Teachers and Vocational Education

MARCIN TKACZYK
Polish Mother's Memorial Hospital Research Institute of Lodz

Running for Health? Polish Long-Distance Leisure Runners and the Problem of Health Literacy

Abstract: This article discusses a survey to investigate the problem of the health literacy of leisure runners. The survey was conducted in 2016 in Poland among 963 participants of the DOZ Marathon Lodz with PZU [Polish Insurance Company] . A specially developed scale for measuring the participants' level of health literacy (−3, 23 points) was used, and the survey answers were evaluated by medical doctors. As the average score was 3.16, the surveyed population was shown to lack information about the medical and health consequences of running. The people who were relatively better informed were women and younger runners (and additionally single runners and those not active on the labor market). An unexpected finding was that social-class affiliation, educational level, and advancement in running ability had a low degree of influence on the health knowledge of the surveyed runners. The conclusion is that a health-related motivation to train in the sport of running (which was declared to be a key factor in many studies) is grounded in common knowledge, while the majority of leisure runners are unacquainted with the actual risks and benefits of running.

Keywords: leisure-time sport, health literacy, leisure runners, running boom, marathon races, health-related motivation

Introduction—Leisure Running and the Problem of Health Literacy

Running is currently one of the most popular disciplines of physical activity across the world (Bale 2004; Outdoor Foundation 2017). In 2013 about 3,900 marathon races were organized and about 1.6 billion people (mostly amateurs) participated in them (Scheerder, Breedveld, Borgers 2015: 8–9). In Europe in 2014 every capital of the 28 European Union member states held at least one running event in its streets. These were mass marathons (the competitors had to overcome a distance of 42.195 km), and sometimes shorter races were organized at the same time. The largest events were attended by as many as several tens of thousands of people (e.g., the marathons in Paris or London) (Stempień 2015b: 168–170). "If one were to sum up the number of participants of all the marathons held in EU capitals in 2014, the number would be nearly 244 thousand people" (Stempień 2015b: 170). However,

a certain decline has been noticed in recent years. According to the report *The State of Running 2019* (which considers 70,000 events and 107.9 million individual race results around the world), "the participation in running races has peaked in 2016 with a total of 9.1 million results and then it declined to 7.9 million (a decline of 13%) in 2018" (Andersen 2020).

There are two special characteristics of the running boom. First, there is the unusual construction of the population of runners: well-educated and well-paid people are strongly overrepresented, as may be seen in analyzing both the first wave of running (in the 1970s) and the second wave (since 2000). Some democratization of amateur running can be noticed in comparing the waves in regard to the age and gender of runners (more seniors and more women are now interested in running than three decades ago), but not when considering their social status (Scheerder, Breedveld, Borgers 2015: 4–15; Nilson et al. 2019). Running is still attractive to members of the creative classes (upper class, middle class), but not to members of the working class. Second, the health-related motivation of runners is intriguing. Running is viewed as a simple way of training and staying healthy, and a health motivation is often declared by surveyed runners (Shipway, Holloway 2016: 11–13; Stempień 2015a: 195–198; Pišot 2015).

These two observations may be synthesized by saying that the current running boom is one of the results (or emanations) of the ideology of healthism, which has been spreading for the last few decades in Western societies (Shipway, Holloway 2016: 3–4; Stempień 2016, 2017). Healthism is a kind of new health outlook involving increased individual efforts to stay healthy. Importantly, healthism is specific to the middle class, influencing lifestyle and everyday practices and therefore enabling people to manifest their class identity and to stress their social distinctness (distinction from members of other social classes) (Crawford 1980; Tîrhaş 2012).

People train in the sport of running in order to stay healthy. However, it may be asked what they really know about the health effects of running. Are they well-informed (and then rational) entities or is their health-related motivation perhaps based on ignorant images (however socially vital) of the health benefits of running? Should we then consider the health-related motivation of leisure runners to be artificial?

In the following analysis, the concept of "health literacy," which is linked to literacy and "entails people's knowledge, motivation and competences to access, understand, appraise, and apply health information in order to make judgments and take decisions in everyday life concerning healthcare, disease prevention and health promotion to maintain or improve quality of life during the life course" (Sørensen et al. 2012), will be pivotal.

What, then, is the leisure runners' level of health literacy in regard to the health effects of running?

The expected results were that amateur runners would generally prove to be knowledgeable and well-informed about the health effects of running, due to the fact that a high level of health literacy is often linked with belonging to the middle or upper social class, being well educated, and having a white-collar job (Sørensen et al. 2015; Rudd 2007), and these were characteristics of the vast majority of the surveyed population. The healthism ideology underlying the running boom also increased our expectation that members of the upper and middle classes should be knowledgeable about the health effects of running. This was the first hypothesis of our study (hypothesis no. 1).

Hypothesis no. 2 was that younger and better educated runners, and women, should be better informed about the health effects of running due to the fact that young age, good educational status, and being female are good predictors of relatively high health literacy (Sørensen et al. 2015; Marks et al. 2010).

We were also interested in verifying the link between health literacy and the level of advancement in running: were those runners who were more serious about running, who had been training for a long time, and who often participated in races more knowledgeable? Obviously, we expected confirmation of this hypothetical tendency (hypothesis no. 3). In our study, we aimed to verify these three hypotheses and to search for other possible factors influencing leisure runners' health literacy.

Methodological Remarks

Materials and Methods

In this article, the results of a survey conducted in 2016 in Poland among 963 participants of DOZ Marathon Lodz with PZU (22% of the total number of participants in the competition) will be discussed. A specially designed questionnaire (filled in by the respondents) was used. The survey was conducted on the penultimate and last day before the race (at the reception desk, when collecting starter packs), among adult and Polish-speaking participants of the running competition. The respondents were both participants of the main marathon run (39% of the research sample) and individuals starting in the accompanying ten-kilometer run (61%). We decided to analyze the answers of participants of both competitions together, because of similarities in the participants' psychosocial and economic profiles and their level of experience in running. Thus, information about the distance chosen in DOZ Marathon Lodz with PZU is given here only to illustrate the specifics of the event.

The main aim of the survey was to assess the knowledge of long-distance amateur runners about the health consequences of training in the sport of running. The researchers were thus able to test the three hypotheses mentioned above. The respondents were asked in open-ended questions to specify the health benefits and risks of running (spontaneous awareness). The answers were catalogued according to the best medical knowledge and scientific evidence of the health effects of running (Lee et al. 2017; Haase et al. 2004).

The rating system for evaluating runners' health knowledge was prepared and implemented by two medical professionals (Doctors of Medicine—MD). All known effects of running were given 1, 2, or 3 points on the basis of their importance for general health—the highest values were assigned to the most important factors (see table 1). Three points were subtracted from the general result when the participant reported unsubstantiated medical data (e.g., sudden cardiac arrest in an otherwise healthy individual). A maximum of 23 points could be achieved and the range scale was (−3, 23). The researchers agreed that the responses would be assessed at the level of the general knowledge of a person who had graduated from a non-medical university faculty. The content and appropriate level of language were taken into account. All the questionnaires were scored independently by two

Table 1

Scale to assess the knowledge about the medical consequences of running

Health benefits	Points	Health risks	Points
Lower risk of coronary disease	3	Damage of knee joints and ankles	2
Lower risk of cerebrovascular events	3		
Better control of blood pressure	2		
Better control of glucose balance diabetes	2	Injury of tendons and aponeuroses of lower extremities: pain, tendinitis and aponeurositis	1
Better control of lipid disturbances	2		
Body weight reduction	2		
Improved physical functioning. Muscle development	1	Stress fractures	1
Improved bone density—prevention of osteoporosis	1		
Improvement of mental acuity	1		
Antidepressive action and mood improvement	1	Sudden cardiac arrest and death (in individuals with no cardiovascular diseases)	−3
Reduction of infectious diseases (not confirmed by studies)	1		

researchers (MDs). In the cases of different appraisals, negotiations took place, or, when agreement was impossible, arithmetic means were calculated.

Statistical analyses were performed using Microsoft Excel, in accord with the requirements of descriptive statistics. Initially, a measure of the central tendency (an arithmetic mean) was used in the calculations, with reference to the operated scale (−3, 23), to assess the level of health knowledge of the surveyed amateur runners (hypothesis no. 1). Subsequently, the question of factors determining health literacy was investigated. According to hypothesis no. 2, the importance of gender, age, and educational degree was tested, as well as "running career" advancement (e.g., expected results, participation in races in the previous year) (hypothesis no. 3). Additionally, a list of other potentially vital elements was generated, including financial situation, marital status, place of residence, position on the labor market, and measurement of importance of health as a life value (a scale of 1–7).

The list of these elements was divided into two parts, according to Stevenes' classification of levels of measurement (nominal, ordinal, interval, ratio). The factual role of nominal elements (statistical significance) was tested with a one-way analysis of variance ANOVA (when the number of investigated sub-samples for which arithmetic means were counted was bigger than 2) as well as Student's t-test (in cases of two sub-samples). When ANOVA proved that at least one of the means compared was statistically different from the others, then the post-hoc Turkey-Kramer test was implemented in order to compare pairs of arithmetic means and identify where statistically significant differences could be observed. For quantitative elements, the Pearson coefficient for linear correlation was counted. The assumed significance level for the analysis of variance of ANOVA, Student's t-test, and Pearson's r was $p = 0.05$.

Surveyed Assemblage

The socio-demographic characteristics of the survey sample were the following: 68% were men and 32% were women. There was a predominance of adults under 40, as the arithmetic

mean of the respondents' age was 36.3 (standard deviation—10.4). To put it another way, participants between the ages of 18 and 40 constituted 68% of the surveyed group. Almost half the total number of survey participants were married (48%), 41% were single, not married, and others were divorced (6%) or widowed (1%), (4%—missing data). Only 11% of the survey participants lived in the countryside. The other respondents were urban dwellers: in cities above 500,000 inhabitants (58%), cities of 100,000–500,000 inhabitants (9%), or cities below 100,000 inhabitants (20%) (2%—missing data).

Table 2

Occupational characteristics of surveyed participants of DOZ Marathon Lodz with PZU (N = 963; in %)

Specification	% of indications
*Position on the labor market**	
Employed	73
Entrepreneur	13
Unemployed	3
Out of labor market (pensioner, student)	11
Missing data	1
Occupation (refers to employed; N = 706)	
Representatives of public authorities, senior officials and managers	7
Specialists (higher education degree)	51
Technicians and other mid-level staff	7
Administrative staff	14
Personal services workers and sellers	6
Farmers, gardeners, foresters and fishermen	0
Industrial workers and craftsmen	4
Operators and assemblers of machinery and equipment	5
Simple tasks workers	1
Army	3
Other	1
Missing data	1
Total	100

* More than one answer possible.

In regard to the social status of the leisure runners surveyed, it can be stated that they generally belonged to the middle and upper segments of the social ladder. First, 68% of them had a university degree (15% had ended their education on graduating from a comprehensive secondary school). Only 11% had ended their education on graduating from a vocational school or postsecondary school, and 3% at lower stages of education (elementary education, basic vocational). Data for 3% was missing. Moreover, 73% assessed their own financial situation as good (58%) or very good (15%); a subsequent 24% described their own material status as neither good nor poor, while only 2% assessed it as poor (1%) or very poor (1%). This subjective grading should be treated as quite adequate and reliable, as research has proven that people in Poland assess their material status in relation to their actual income (Omyła-Rudzka 2017: 3–4). Detailed information about position on the labor market and occupation is shown in table 2. A strong representation of specialists (51%) and administrative staff (14%) is visible.

Considering the occupation (the basic criterion), educational level, and financial situation (additional criterions) of the runners, it was possible to group them into three social classes (according to Pierre Bourdieu's theory): upper, middle, and lower (working). According to the algorithm [1] we employed, we can say that 19% of the surveyed leisure runners belonged to the upper class, 73% to the middle class, and only 8% to the lower (working) class.

Table 3

Fast and slow runners—expected results in the DOZ Marathon Lodz with PZU (N = 956; in %)

Specification	% of indications
Marathon (N = 372)	
< 3 hours 15 minutes	12
3:15–3:29	11
3:30–3:44	18
3:45–3:59	26
≥ 4 hours	33
Total	100
10 km run (N = 584)	
< 40 minutes	4
40–49 minutes	28
50–59 minutes	48
≥ 60 minutes	20
Total	100

In addition, some of the sports characteristics and running experiences of the surveyed group should be given here. First of all, the arithmetic mean of the duration of the respondents' "running career" was 5.3 years and regarding the standard deviation of 6.2 it should be stressed that the group was heterogeneous, consisting of novices, veterans, and intermediates. The diversity became apparent as well in analyzing answers to the question of the results the runners expected in the race (which we assumed to be quite rational and adequate). A range of final times for completing the competition was proposed in the questionnaire according to one of the popular runners' guides, which offers training plans (for more or less advanced runners) for achieving a particular result in a competition (Baur, Thurner 2008). The data obtained is shown in table 3. The respondents' running experiences in the

[1] The following algorithm (Stempień 2017) was employed when categorizing respondents into three social classes: (1) representatives of public authorities, senior officials and managers—upper class (or middle class, in cases where the participant's declared educational level was not tertiary, and the participant's financial situation was graded as medium or poor); (2) specialists (with a tertiary degree)—middle class (or upper class in cases where the participant's financial situation was graded as very good); (3) technicians and other mid-level staff—middle class; (4) administrative staff—middle class; (5) personal services workers and sellers—middle class (or lower class in cases where the participant's declared educational level was basic or basic vocational); (6) farmers, gardeners, foresters, and fishermen—lower class (or middle class in cases where the participant's declared educational level was tertiary); (7) industrial workers and craftsmen—lower class; (8) operators and assemblers of machinery and equipment—lower class; (9) simple-task workers—lower class; (10) military—middle class. Entrepreneurs were classified as belonging to the middle class, but if their financial situation was graded as very good then they were included in the upper class. The unemployed and respondents who were out of the labor market were excluded from this grouping.

year preceding the survey (2015) were as followed: 50% had implemented special training plans, 15% followed a special diet for runners, and 17% had had to treat sports (running) injuries. One in three survey participants (29%) declared that they had used social media in connection with running. The vast majority (79%) of respondents had participated in at least one race in 2015. However, the number of races varied from 1 to 104, giving an arithmetic mean (8.2) lower than the standard deviation (10.2). This is thus one more indication that the survey group was not homogeneous—not only in regard to demographic features, but also in regard to their sports experiences and profiles.

Results

Out of the total number of 963 completed questionnaires, 100 were missing data relating to health knowledge, thus they were excluded from the analysis. The overall mean score (scale −3, 23) for the surveyed group was 3.16 (standard deviation—1.86). As shown in table 4, the highest result noticed in the research sample was 11 points (below the mean of the scale and obtained by only one person). 11 of the survey participants were penalized by points subtracted from the final result.

Social class did not influence the respondents' health knowledge ($p = 0.78$), as quite similar means for people from upper (3.07), middle (3.12), and lower/working (2.94) classes were calculated. We noticed that the lowest mean was obtained—in accord with hypothesis no. 1—by persons from the lower class, but the observation lacked statistical significance.

Table 4

Knowledge about the medical consequences of running—general results (N = 863)

Score (scale: −3, 23)	% of surveyed sample
< 0	1
0–1	14
1.5–3	42
3.5–5	31
5.5–7	10
7.5–9	2
9.5–11	0
11.5–23	—
Total	100

Arithmetic mean: 3.16
Standard deviation: 1.86

In accord with hypothesis no. 2, we have to state that female runners were assessed higher than males (3.69 vs. 2.92 points; $p < 0.0001$). We found no significant differences ($p = 0.44$) in the level of knowledge among people with differing levels of education (elementary, secondary, tertiary): 2.85 vs. 3.10 vs. 3.24 points, respectively. However, despite lacking statistical significance, a tendency can be observed: the better educated the runner was, the more correct the answers to questions on health issues. The third element of the

hypothesis was age (Pearson's $r = -0.20930$; $p < 0.0001$). We found that the more health-aware runners were the younger ones.

Hypothesis no. 3 referred to the non-elite runners' advancement in their running career. Did their experience increase their health knowledge? First of all, the length of time the participants had been engaged in leisure running proved to have an influence on their health literacy (Pearson's $r = -0.1511$; $p < 0.0001$); however, the path of dependency might be surprising. We determined that the respondents who had been training in the sport of running for a long time (veterans) were worse informed about the health effects of running than beginners. This may in part be connected with the above observation that younger runners were more aware than older ones. Second, we investigated if there was a difference between "fast" and "slow" runners (considering the runners' self-anticipated race results—see table 3). These parameters did not influence the results ($p = 0.35$ for marathon race and $p = 0.54$ for 10 km run). Similarly, the number of races completed in 2015 did not affect the level of health knowledge (Pearson's $r = -0.01340$; $p = 0.37$). However, runners who had followed a specially designed individual training plan showed higher health knowledge than others (3.33 vs. 3.05; $p = 0.025$). Similarly, those on a special diet had higher scores (3.51 vs. 3.13; $p = 0.038$). Medical experiences connected with the treatment of a running-related injury in 2015 (medically treated vs. not treated) did not influence the participants' final results ($p = 0.077$). The runners who used social media (Facebook) to share the results of their training and participation in competitions had higher results in the final score (3.46 vs. 3.08; $p = 0.0050$).

We also checked several other factors, such as material and marital status, position on the labor market, and place of residence. The runners' financial situation, as assessed by subjective grading (good, average, poor), showed no significant influence ($p = 0.12$) on the response rating (3.25 vs. 2.99 vs. 2.69, respectively). Nevertheless, just as in the case of education, a certain trend could be noticed: the better the material situation of the surveyed runners, the more correct answers they gave. Position on the labor market had significant influence on the score ($p = 0.0014$). Unemployed or non-active respondents (e.g., on maternity leave, retired) had higher knowledge than those active on the market (employees or entrepreneurs): 3.71 vs. 3.09 points. Marital status significantly influenced the quality of the answers ($p = 0.0060$). The post-hoc Turkey-Kramer test allowed differences to be identified between single runners (unmarried men or women, as well as divorced or widowed people) (3.44 point) and those who were married (3.01). For this pair, the empiric q (4.53) was higher than the critical one (3.31). Place of residence (city above 500,000 inhabitants, city of 100,000–500,000 inhabitants, city below 100,000 inhabitants, village) proved (3.23 vs. 3.30 vs. 2.99 vs. 3.10) to have no influence on runners' health knowledge ($p = 0.44$). We also analyzed the individual perception of the value the respondents attributed to health (a scale of 1–7, where 1 was of the lowest importance; 7—the highest importance). No dependence was detected (Pearson's $r = 0.03693$; $p = 0.22$).

Discussion

The results of the study are quite surprising. Hypothesis no. 1 should be rejected, as the average score of the survey was 3.16 (scale −3, 23), showing that the surveyed group had

a mediocre level of information about the health-related risks and benefits of running. Moreover, social class affiliation did not influence the respondents' health knowledge. This is the main research finding and should ensure us that discussion of healthism as a basis for the running boom should include the argument that a pro-health motivation for running workouts is probably artificial.

Furthermore, hypothesis no. 2 should be treated as only partially confirmed. As was expected, younger runners and women were more informed about the health-related effects of running in comparison to older runners and men. However, educational level (the third element of hypothesis no. 2) was not proven to affect runners' literacy.

Finally, hypothesis no. 3 should be rejected. More advanced leisure runners (those who had been training for a longer time, who more often entered races, and expected better results in the current competition) were only as competent as those who were less serious about running (beginners, occasional runners). However, better results were noticed for runners who used social media and for those who followed special training plans or diets. Additionally, we have observed that the better informed respondents were single respondents and those who were not active on the labor market.

Our results, which are somewhat surprising at first glance, can be considered reliable and conclusive because as the structure (the socio-demographic characteristics) of the surveyed group was similar to the structure observed in other studies conducted not only in Poland but also in other countries in Europe and elsewhere. First, the overrepresentation of men in our survey corresponds to the whole population of amateur runners, as has been proven in many studies dedicated to the phenomenon of the running boom (Nilson et al. 2019; Besomi et al. 2018; Saragiotto, Yamato, Lopes 2014; Scheerder, Breedveld, Borgers 2015; Stempień 2015a, 2015b; Janssen et al. 2017). The same can be said in regard to the confirmed high educational and financial status of the majority of leisure runners (Nilson et al. 2019; Besomi et al. 2018; Saragiotto, Yamato, Lopes 2014; Stempień 2015a, 2015b; Janssen et al. 2017). The age structure of the sample (an average age of 36 years, 65% of the group were below 40) and the structure of the total population of leisure runners (which is dominated by people in their thirties and forties), has been documented in several studies (Scheerder, Breedveld, Borgers 2015; Besomi et al. 2018; van Dyck et al. 2017; Saragiotto, Yamato, Lopes 2014), and also seems to be quite similar. However, Polish runners are probably a bit younger than runners from other, well-developed EU countries.

As the population of leisure runners is dominated by members of the middle class, who are well educated and financially well-to-do, we had expected that they would be adequately informed about the health benefits and risks of running. However, this was not proven. The dependence between educational status (as well as social status) and health literacy is well known and has been widely discussed (Sørensen et al. 2015; Rudd 2007; Marks et al. 2010; Howard, Sentell, Gazmararian 2006; Lee et al. 2010; Nutbeam 2008; Paasche-Orlow et al. 2005; van der Heide et al. 2013). How should the results obtained in our study be interpreted then? The key factor is probably the artificial status of a health-related motivation for running. We suppose that people train in the sport of running in order to stay healthy, basing on beliefs drawn from common knowledge and socially prevalent images of the benefits of running. In this case, declaring health as a reason for running would be nothing more than a signboard. We can explain it thus because respondents who had different attitudes to their

health had comparable results in the survey. Furthermore, gaining experience in running did not increase the runner's knowledge about the effects of running.

Why did the young participants—who were mostly single, non-active on the labor market, and adhering to special training activities (the use of social media, special training plans and diets implementation)—prove to be relatively well informed about the health effects of running? An initial explanation can be given here. If such features as being young, single, and outside the labor market are treated as a set of linked characteristics, then certain associations with bamboccioni phenomenon and crowded nest syndrome are visible (Schnaiberg, Goldenberg 1989). In connection with this syndrome, people have relatively more time for their passions (e.g., running) than people seriously engaged with family and job duties. This means they have more time for implementing special training plans, following a particular running diet, or studying articles, periodicals, or guides in order to learn more about how to train in a healthy way and what could be good or risky for their health. This hypothesis should be verified in future research.

Finally, the question of a connection between the gender and health literacy of the surveyed runners should be discussed. We have shown that women were better informed about the health effects of running than men. This should not be surprising. Previous studies have revealed that the motivations for running are partially different for men (the need for competition, the dream of finishing a marathon, the need for improving sports results) and for women (the desire to lose weight, to relieve stress, and to care for their health) (Stempień 2015a; Ogles, Masters 2003). The women participants declared (more frequently than men) that they were interested in the health effects of running, in running injuries, and running diets. For men, the more vital issues—when searching for information about running—were organized races and running equipment (shoes, watches, etc.) (Stempień 2014).

Conclusions

The study proved that the population of Polish leisure runners may lack even the most basic knowledge about the health effects of running. Thus a health-related motivation to engage in running is possibly grounded in common knowledge (which is based on socially vital, untrue beliefs about the benefits to be gained by individuals who train in the sport of running) or is of an artificial nature (declared in surveys to hide the conscious or unconscious real motives, that is, e.g. a desire to manifest social class affiliation, to be trendy, or to find a challenge). The factual risks and benefits (according to the best medical knowledge) seem to be unfamiliar to the majority of leisure runners.

Some aims for further studies can be pointed out here. First, the quality of the accessible information (via guides, websites, blogs, mass-media) about the health effects of running should be investigated. This is vital, as the runners' lack of health literacy could be the result of the amount of poor information available (selective, unverified, unreliable, inadequate, etc.). Furthermore, the connection between lack of health literacy and risky performance should be tested. Do better informed runners train in a way that is safer for their health (according to the best medical knowledge and the recommendations of specialists in physical culture)? An answer should enrich our understanding of runners' motivations

(what should we think about "healthy motives"?) and actions. Then, informational and educational campaigns could be more precisely prepared and addressed, so that the health benefits of running could be maximized.

Funding

This work was supported by the Medical University of Lodz, grant no. 502-03/6-074-02/502-64-080 (Author: Jakub Ryszard Stempień).

References

Andersen, J. J. 2020. The State of Running 2019. Available from: https://runrepeat.com/state-of-running.

Bale, J. 2004. *Running Cultures: Racing in Time and Space*. London: Routledge.

Baur, Ch. & Thurner, B. 2008. *Laufen bis zum Marathon*. Munchen: Droemer Knaur.

Besomi, M., Leppe, J., Di Silvestre, M. C., & Setchell, J. 2018. SeRUN® study: Development of running profiles using a mixed methods analysis, *PLoS One 13*(7): e0200389.

Crawford, R. 1980. Healthism and the Medicalization of Everyday Life, *International Journal of Health Services 10*(3): 65–88.

Haase, A., Steptoe, A., Sallis, J. F., & Wardle, J. 2004. Leisure-time physical activity in university students from 23 countries: associations with health beliefs, risk awareness, and national economic development, *Preventive Medicine 39*(1): 182–190.

Howard, D. H., Sentell, T., & Gazmararian, J. A. 2006. Impact of Health Literacy on Socioeconomic and Racial Differences in Health in an Elderly Population, *Journal of General Internal Medicine 21*(8): 857–861.

Janssen, M., Scheerder, J., Thibaut, E., Brombacher, A., & Vos, S. 2017. Who uses running apps and sports watches? Determinants and consumer profiles of event runners' usage of running-related smartphone applications and sports watches, *PLoS One 12*(7): e0181167.

Lee, D. C., Brellenthin, A. G., Thompson, P. D., Sui, X., Lee, I. M., & Lavie, C. J. 2017. Running as a Key Lifestyle Medicine for Longevity, *Progress in Cardiovascular Diseases 60*(1): 45–55.

Lee, S. Y., Tsai, T. I., Tsai, Y. W., & Kuo, K. N. 2010. Health literacy, health status, and healthcare utilization of Taiwanese adults: results from a national survey. *BMC Public Health* 10: 614.

Marks, J. R., Schectman, J. M., Groninger, H., & Plews-Ogan, M. L. 2010. The association of health literacy and socio-demographic factors with medication knowledge, *Patient Education and Counseling 78*(3): 372–376.

Nilson, F., Lundkvist, E., Wagnsson, S., & Gustafsson, H. 2019. Has the second 'running boom' democratized running? A study on the sociodemographic characteristics of finishers at the world's largest half marathon, *Sport in Society*, DOI: 10.1080/17430437.2019.1703687.

Nutbeam, D. 2008. The Evolving Concept of Health Literacy, *Social Science & Medicine* 67: 2072–2078.

Ogles, B. M., & Masters, K. S. 2003. A Typology of Marathon Runners Based on Cluster Analysis of Motivations, *Journal of Sport Behavior 26*(1): 69–85.

Outdoor Foundation. 2017. *Outdoor Recreation Participation Topline Report 2017*. New York. Available from: https://outdoorindustry.org/wp-content/uploads/2017/04/2017-Topline-Report_FINAL.pdf.

Omyła-Rudzka, M. 2017. *Materialne warunki życia*. CBOS report No 5515.

Paasche-Orlow, M. K., Parker, R. M., Gazmararian, J. A., Nielsen-Bohlman, L. T., & Rudd, R. R. 2005. The Prevalence of Limited Health Literacy, *Journal of General Internal Medicine 20*(2): 175–184.

Pišot, S. 2015. Running and Serious Leisure Perspective, *Research in Physical Education, Sport and Health 4*(2): 119–122.

Rudd, R. E. 2007. Health Literacy Skills of U.S. Adults, *American Journal of Health Behavior 31*(Suppl 1): 8–18.

Saragiotto, B. T., Yamato, T. P., & Lopes, A. D. 2014. What Do Recreational Runners Think About Risk Factors for Running Injuries? A Descriptive Study Of Their Beliefs, *Journal of Orthopaedic & Sports Physical Therapy 44*(10): 733–8.

Scheerder, J., Breedveld, K., & Borgers, J. 2015. Who Is Doing a Run with the Running Boom? The Growth and Governance of One of Europe's Most Popular Sport Activities, in: J. Scheerder, K. Breedveld

(ed.), *Running across Europe. The Rise and Size of one of the Largest Sport Markets*. Hampshire: Palgrave Macmillan.

Schnaiberg, A., & Goldenberg, S. 1989. From Empty Nest to Crowded Nest: The Dynamics of Incompletely-Launched Young Adults, *Social Problems 36*(3): 251–269.

Shipway, R., & Holloway, I. 2016. Health and the running body. Notes from an ethnography, *International Review for the Sociology of Sport 51*(1): 79–96.

Sørensen, K., Pelikan, J., Röthlin, F., Ganahl, K., Słońska, Z., Doyle, G., Fullam, J., Kondilis, B., Agrafiotis, D., Uiters, E., Falcon, M., Mensing, M., Tchamov, K., Van den Broucke, S., & Brand, H. 2015. Health Literacy in Europe: Comparative Results of the European Health Literacy Survey, *European Journal of Public Health 25*(6): 1053–1058.

Sørensen, K., Van den Broucke, S., Fullam, J., Doyle, G., Pelikan, J., Słońska, Z., & Brand, H. 2012. Health literacy and public health: A systematic review and integration of definitions and models, *BMC Public Health* 12: 80.

Stempień, J. R. 2014. Płeć maratonu, *Kultura i Społeczeństwo 58*(1): 169–186.

Stempień, J. R. 2015a. Ladies and gentlemen… On your marks, get set, go! About leisure time sport and the popularity of running among men and women, *Acta Universitatis Lodziensis. Folia Sociologica 55*: 183–209.

Stempień, J. R. 2015b. "Must Be Healthy, Must Be Sporty"—Experiences of Poland And Selected European Countries. The Case of Popularity of Running, in: B. Sawicki (ed.), *Promotion of Healthy Lifestyle in European Countries*. Lublin: University of Life Sciences.

Stempień, J. R. 2016. Popularity of running in Poland in the perspective of healthy lifestyle. A sociological approach—conference paper presented at 3rd International Scientific Conference "Recreational Sport, Health, Quality of Life." Košice, 14–15.04.2016.

Stempień, J. R. 2017. Ideologia healthismu jako fons et origo mody na bieganie, *Kultura i Społeczeństwo 61*(2): 125–152.

Tîrhaş, C. 2012. The healthist ideology: towards a new form of health awareness in the contemporary life-style? *Studia Ubb. Philosophia 57*(3): 55–70.

van der Heide, I., Wang, J., Droomers, M., Spreeuwenberg, P., Rademakers, J., & Uiters, E. 2013. The Relationship Between Health, Education, and Health Literacy: Results From the Dutch Adult Literacy and Life Skills Survey, *Journal of Health Communication 18*(Suppl 1): 172–184.

van Dyck, D., Cardon, G., de Bourdeaudhuij, I., de Ridder, L., & Willem, A. 2017. Who Participates in Running Events? Socio-Demographic Characteristics, Psychosocial Factors and Barriers as Correlates of Non-Participation—A Pilot Study in Belgium, *International Journal of Environmental Research and Public Health 14*(11): 1–14.

Biographical Notes:

Jakub Ryszard Stempień (Ph.D.), Lecturer at the Department of Rural and Urban Sociology, University of Lodz. He is interested in sport sociology and sociology of health, illness and medicine. During 2013–2016 he conducted set of surveys dedicated to the phenomenon of running boom in Poland. He is the Chairman of the jury of the Award for the best Bachelor and Master theses in the sport sociology (run by Sport Sociology Section—Polish Sociological Association). Most recent publication: The medical sociology and the sport sociology in Poland—the dissimilar twins, *Acta Universitatis Lodziensis—Folia Sociologica*, 72/2020: 115–129.

ORCID iD: https://orcid.org/0000-0001-9526-4823

E-mail: j.r.stempien@wp.pl

Małgorzata Stańczyk (Ph.D.), Research Associate at Polish Mother's Memorial Hospital Research Institute of Lodz. She graduated Medical University of Lodz in 2008, specialized in paediatrics (2016) and paediatric nephrology (2019). She continuously runs research on urinary tract and kidney diseases, particularly in the area of hypertension among children and adolescents. She is interested in their pro-health activities, social aspects and quality of life connected with the disease.

ORCID iD: https://orcid.org/0000-0001-6613-1642

E-mail: mbstanczyk@gmail.com

Jarosław Tokarski (Ph.D.), Head of Labor Market Observatory for Education (part of the Development Centre for Teachers and Vocational Education—Lodz). He specializes in statistical analyses and statistical methods of data description with appliance in social sciences (mostly: labor market studies).

E-mail: jar_tok@poczta.onet.pl

Marcin Tkaczyk (Ph.D.), Full professor at the Department of Pediatrics, Immunology and Nephrology (Polish Mother's Memorial Hospital Research Institute of Lodz), where he is Vice-Director. He is also assistant professor at the 4th Department of Paediatrics, Medical University of Lodz and a regional consultant in the field of pediatric nephrology in Lodz. President of the Polish Society of Pediatric Nephrology. He is active in the International Society of Nephrology and the European Society for Pediatric Nephrology. For many years, he has been implementing projects and publishing works on the border of the fields of medicine and sociology, including social health problems and social medicine.

ORCID iD: https://orcid.org/0000-0003-1753-7560

E-mail: marcin.tkaczyk45@gmail.com