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The Relationships between personality traits and leisure time activities: development of the Leisure Time Activity Questionnaire (LTAQ)

Aneta M Przepiorka[†], Agata P Blachnio

ABSTRACT

Objective:

The article has two aims. Firstly, it examined the relationships between leisure time activities and personality variables. Secondly, it was to develop a questionnaire for measuring leisure time activity. A total of 806 adults took part in two studies. As a result of exploratory and confirmatory analyses conducted, a 16-item was developed.

Results:

Four subscales were distinguished in it: Socializing with Friends, Using the Internet, Leisure Time Management, and Winding Down. The reliability of the scale is acceptable, varying from .70 to .87 for different samples. There were significant correlations between leisure time and personality variables. The Socializing with Friends scale correlates positively with stimulation seeking, activity, endurance, extraversion, hedonistic present, and self-liking. Using the Internet correlates positively with stimulation seeking, activity, extraversion, hedonistic present, and positive past, and negatively with openness to experience and action-oriented decision-making. Leisure Time Management correlates positively with stimulation seeking, self-discipline, and hedonistic present. The Winding Down subscale correlates positively with self-discipline, future, and positive past.

Conclusions:

The outcome of the study is the Leisure Time Activity Questionnaire (the LTAQ). The presented method is a reliable measure with confirmed theoretical validity.

Keywords

Leisure time, Personality, Time perspective, Self-discipline, Action-state orientation, Temperament

Introduction

The quality of free time seems to be important in the lives of individuals; it influences people's health and quality of life, which representatives of various disciplines – from psychologists to cultural anthropologists – have been trying to demonstrate, focusing on different aspects of this phenomenon [1]. The literature abounds in different approaches to leisure time. We follow the definition proposed by Brightbill [2], who

defined leisure time as the time beyond what is compulsory and beyond what we have to do to live. Leisure time is a space that we can shape and fill in any way we want. By engaging in various activities, a person can provide themselves with an appropriate dose of stimulation, broaden their knowledge, and improve their skills [3]. First of all, by means of these activities people can provide themselves with new impressions, develop their interests, and gather new energy for everyday duties. Leisure time can reduce the negative impact of time pressure and enhance spiritual well-being [4]. The way of spending free time is an important contributor to family relationships [5], employees' quality of life [6], health [7], therapeutic recreation [8] or successful aging [9]. The way people spend and experience their leisure time depends on their needs, attitudes, expectations, and personality traits [10]. A Finnish study showed that the most efficient way of spending free time, leading to recuperation after work-related stress, is exercise, outdoor activities, and contact with nature [11]. In their meta-analysis of research articles on the relation between leisure and subjective well-being (SWB), Newman, Tay, and Diener [12] described a mechanism that enhances SWB through the dimensions of detachment-recovery, autonomy, mastery, meaning, and affiliation (DRAMMA).

The aim of our research was twofold. Firstly, we wanted to examine determinants of free time behavior. In our search we included personality traits, time perspective, and temperament because previous studies focused on free time indicated that these factors might play a key role. Secondly, since no questionnaire to measure leisure time activity was available in Polish, we decided the develop a new one. Thus, the outcome of the study is the development of a measure of leisure time activity.

The body of research shows that personality is related to leisure time activity. For instance, extraversion and conscientiousness were positively related to leisure time physical activity and negatively to neuroticism [13]. Likewise, leisure-time sitting-time correlated positively with neuroticism and negatively with extroversion, conscientiousness, and openness [14]. General self-efficacy was a mediator of these associations. Extraversion is related to spending time with friends as well as to traveling. Neuroticism correlates negatively with such forms of entertainment as reading books, while conscientiousness correlated positively with

physical activities or religious practices and self-development is related to openness to experience and computer use [15]. Barnett and Klitzing [16] demonstrated a link between the experience of boredom in free time and personality variables. It turns out that the ability to take care of oneself, extraversion, and emotional stability as well as internal motivation to seek entertainment correlate with a low level of boredom in free time.

Research has shown a link between the style of temperament and free time. Klonowicz [17] for instance, investigated the influence of reactivity on free time. In a longitudinal study carried out on a sample of young women aged 19-23, with measurement repeated after 10 years, she demonstrated that, during a certain period in life, reactivity determined more stimulating ways of spending free time. When the women participating in the study were young, looking for a partner and making a life for themselves, they took up various strongly stimulating activities regardless of reactivity. After 10 years, when their situation in life had stabilized, their way of spending free time already depended on the level of reactivity. This means that individuals with low reactivity preferred activities that provided them with a greater dose of stimulation, whereas highly reactive individuals selected those activities that gave them less stimulation.

In our research we took time perspective into account as well. Błachnio, Przepiorka, and Zaleski [18] investigated the relations between spending free time and future time perspective, hope of success, as well as time structuring. Positive correlation was found between short-term future time perspective and the use of instant messaging as well as participation in Internet communities. Significant negative correlations were also found between short-term future time perspective and participation in trainings as well as reading. Based on a study carried out [18], it was concluded that people who have longer-term future time perspective and more long-term goals manage their leisure time better and engage in more activities. These activities allow them to use their potential more effectively and raise their qualifications. As a result of cluster analysis carried out using the k-mean method, two groups were distinguished and labeled, respectively, as the group of active people and the group of passive people [19]. Participants in the active group engaged in various activities more frequently and to a greater degree; they found time for socializing

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with friends, reading books, doing sports, or traveling; they also more often took up paid work and used the Internet. It is, then, possible to say that active people create their reality, face it boldly, take on more tasks, use their leisure time more fully, develop their interests, and thus manage their time better. People in the passive group, by contrast, engage in a small number of activities; they can be called recipients, preferring passive forms of entertainment and not oriented towards achieving long-term goals.

Study 1

■ Method

Instrument: The first step towards constructing the questionnaire was generating the basic set of test items. A total of 100 items were initially generated on the basis of the academic literature on the subject and the available questionnaires. We referred to the questionnaire by Wang, Kao, Huan, and Wu [20] which includes the dimensions of leisure time management such as Goal Setting and Technique, Attitude towards Free Time, or Schedule Making. Since we primarily wanted to examine the way people spend their time and, additionally, to investigate their attitude toward free time management, we developed a new scale that comprises a large range of the most frequent way of spending free time. These items were evaluated by a research team consisting of 4 undergraduate students and 4 graduate students in terms of clarity as well as grammatical and stylistic correctness. Fifty items were removed for these reasons. After eliminating all doubts regarding the meaning or interpretation, the remaining 50 items were approved by the research team and submitted to factor analysis. These items were administered to the participants in this study.

A list of 50 items was compiled, referring to various forms of spending free time. The items generated were checked for grammatical correctness and comprehensibility. The answers were given on a 6-point Likert scale, from *1 – totally disagree to 6 – totally agree*

■ Participants and Procedure

The sample consisted of 231 people aged 19-21 (*M*=19.54 years, *SD*=1.15), of whom 150 were women and 81 were men. None of them was excluded from the study. Participants were supposed to respond to the list of items that had been created by answering the question of to what extent they engaged in the activities listed beyond work and school, indicating their answers. The study was conducted through the following website: www.e-badania.pl. Data were collected using the snowball sampling method. We sent the link to the questionnaire to undergraduate students, who were asked to forward it to the friends from their contact lists. The participants came from different regions: 28.45% were people living in the countryside, 10.68% were those living in small towns of up to 20,000 inhabitants, 18.76% lived in medium-size towns of 20,000-99,000 inhabitants, 31.89% lived in large towns of 100,000-500,000 inhabitants, and more than 10.22% lived in big cities of over 500,000 inhabitants. As regards education, 20.36% of participants had elementary or junior high school education, 5.46% had basic vocational education, 40.12% had secondary education, 13.28% had post-secondary and vocational college education, 5.34% had incomplete higher education, 7.21% had bachelor's degrees, and 8.14% had higher education. The study was approved by the ethics committee.

Results

■ Data analysis

Factor analysis was performed for the purpose of item reduction. The analysis was carried out using the principal components method with *varimax* orthogonal rotation. Based on the results obtained, in accordance with Stevens' [21] approach, we eliminated those items whose factor loadings were below 0.4. We also discarded those items that had high factor loadings on two factors and those that lowered factor reliability. Also in the scree-plot test we obtained a four-factor solution. Both skewness and kurtosis were less than or equal to 1.1 for all items, indicating that the item distributions were similar to the rest of the items in the instrument and the item distributions were fairly symmetrical.

Factor loadings for each test item are presented in **Table 1**.

The procedure resulted in the version of the LTAQ, consisting of 21 items. The adequacy of the sample was confirmed by the Kaiser-Mayer-Olkin index (KMO=.73). Comprising four subscales: Factor 1 – Socializing With Friends (SF); Factor 2 – Using the Internet (SI); Factor 3 – Leisure Time Management (LTM); Factor 4 – Winding Down (WD). Results show that the four-factor solution adopted is satisfactory. Factor loadings ranged from .55 to .89 in

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Test item				
Which of the sentence do you agree with? 1=totally disagree 5=totally agree In my free time….	**Factor 1. SF**	**Factor 2. UI**	**Factor 3. LTM**	**Factor 4. WD**
Whenever I have occassion spend free time with my friends	**.86**	.21	.16	-.19
I like reading books	-.09	-.07	.27	.03
I like surfinging the internet	-.04	**.79**	-.18	-.03
I do causal works	.15	-.04	.26	.19
I do sports	-.02	.07	**.42**	.04
I walk	.31	-.14	.23	.24
I spend free time with my family	**.89**	.23	.07	-.09
I go to the shopping centre.	.18	.28	.07	.31
I write my own blog or I read others' blog.	.01	.29	.04	-.11
I learn foreign languages	.14	-.02	.22	.09
I don'like wasting my free time for doing nothing	.18	.00	.38	-.05
I sleep	.04	.18	-.08	.10
I do shopping	.07	.28	.06	**.46**
I pray	.06	-.15	.26	-.03
I enjoy spending free time alone	-.34	.02	.08	.01
I watch TV	-.22	.02	-.07	**.48**
I browse through different web pages.	-.09	**.90**	-.03	-.02
I take part in different workshops.	.22	-.07	.30	.16
I go to the cinema	**.46**	.02	.01	.30
I am active as a volunteer	.18	.03	.17	-.12
odwiedzam portale internetowe.	.00	**.83**	-.10	.07
I look through the press	-.05	.01	.19	**.46**
I watch a good film	.12	.13	-.07	.32
I like having a scheduled day	.02	.12	.62	.09
I travel	.38	-.07	.24	.39
I like communicating on the social networking sites	.25	**.49**	-.01	.24
czytać portale i relacje podróżników w Internecie	.16	.30	.10	.39
I do dreaming	.30	.36	.04	.24
I watch entertaining programmes in TV	.02	.05	.06	**.47**
I always plan my free time	.02	.05	.71	.11
On social networking websites, I look for friends or browse other people's profiles.	.03	**.47**	.00	.26
I like getting up early to have longer day	-.07	-.22	**.41**	.14
I do not care that free time passes through my fingers	-.01	.02	.02	.18
I watch reality shows	-.01	.20	-.09	.32
I like planning my trips	.34	.02	.28	**.40**
I take a long bath	.34	.15	.14	.37
I like doing nothing	-.01	.20	-.27	.15
I do cleaning	.04	.28	.30	.25
Taking nap during the day is a waste of time	.02	-.04	.20	-.02
I like going to cafes and pubs with my friends	**.55**	.29	.03	.11
I do odd repairs	.19	.02	.25	.25
I like gardening	-.03	-.23	.22	.41
I write my diary	-.02	.07	.05	-.09
I like reading tabloids	-.01	-.03	.16	.01
I have a lot of free time	.16	.24	-.07	.07

Table 1: Factor Loadings for Each Test Item After Rotation (Final Version of the LTAQ) (N=231).

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I manage my free time well.	-.03	.01	**.72**	.11
I am satisfied with the way I plan my day	.02	.06	**.77**	.01
I am socially active in the organisations	.24	-.03	**.41**	-.01
I do daydreaming	.22	.39	-.09	.09
I redecorate my flat	.32	.10	.11	**.43**
Eigenvalue	4.83	3.53	3.47	2.11
The percentage of explained variance %	9.67	7.05	6.94	4.22
factor 1. SF – Socializing with Friends; factor 2. UI – Using the Internet; factor 3. LTM – Leisure Time Management; factor 4. – Winding Down				

factor 1, from .47 to .90 in factor 2, from .41 to .71 in factor 3, and from .41 to .48 in factor 4. The removal of a few items: 19, 35, 46, 47, 48 significantly improved the reliability of the scale. Reliability analysis revealed the following values of Cronbach's alpha for each subscale, respectively: factor 1 – .85, factor 2 – .83, factor 3 – .60, factor 4 – .58. The explained variance is presented in the **Table 1**. The final version of the scale comprises 16 items.

Discussion

In the study, a four-dimensional questionnaire was obtained, with a coherent structure and high internal reliability. The final version of the questionnaire comprises 16 items making up 4 subscales. The first of the factors isolated – Socializing with Friends – comprises items that refer to spending time in a group, with friends: it expresses concern for social relations. The second factor is composed of statements concerning ways of spending free time on the Internet, browsing websites, and membership in social networking services. It thus refers to a form of spending free time alone. The third factor – Leisure Time Management – comprises items that express good organization of one's day and making a plan. The fourth factor – Winding Down – is made up of statements that refer to the enjoyment of activities, getting away from everyday life, slowing down, and unwinding.

Since the validity of the test should be assessed on a sample different than that which was used in item selection, another study was carried out.

Study 2

The aim of the second study was to determine the internal structure of the LTAQ and to check the criterion validity of the measure. This method is standardized questionnaires that were mentioned in the previous literature on the ways of spending free time. Confirmatory analysis was performed.

■ Participants

The participants were 575 people: 275 women and 300 men, aged from 15 to 68 (*M*=33.24 years; *SD*=13.13). Participants were diversified in terms of place of residence: 32.52% were people living in the countryside, 14.78% were those living in small towns with up to 20.000 inhabitants, 19.65% lived in medium-size towns with 20.000-99.000 inhabitants, 19.30% lived in big towns with 100,000-500,000 inhabitants, and more than 13.74% lived in big cities with over 500.000 inhabitants. As regards education, 11.30% of participants had elementary or junior high school education, 7.65% had basic vocational education, 30.09% had secondary education, 15.48% had post-secondary and vocational college education, 7.48% had incomplete higher education, 6.61% had bachelor's degrees, and 21.39% had higher education. One third of the participants *(*32%) were married.

Material and procedure

The study was conducted via the Internet. Participants of a Polish nationwide Internet panel survey received invitations with a link and invitation to fill in the questionnaire. The material was the 16-item questionnaire obtained in Study 1.

■ Methods

For measuring self-discipline, we used the *Brief Self-Control Scale* [22] as translated into Polish by Blachnio and Przepiorka [23]. The scale has good psychometric properties; Cronbach's alpha was .81. Each participant is supposed to respond to 9 statements on a scale from 1 (strongly disagree) to 5 (strongly agree).

Also used was the *Stimulation Seeking Scale* by Przepiorka [24] made up of 20 items. It measures the need for stimulation. Individuals with high need for stimulation react negatively to monotony and a lack of thrills in their surroundings. The reliability of the test is Cronbach's alpha=.71. Answers are given on a scale from 1 (strongly disagree), to 4 (strongly agree).

For measuring temperament, we used the *Formal Characteristics of Behavior – Temperament Inventory* (*FCB-TI*) [25] which was designed for diagnosing basic biologically determined dimensions of personality, describing formal aspects of behavior. It consists of 120 items making up 6 scales: Briskness, Perseveration, Sensory Sensitivity, Emotional Reactivity, Endurance, and Activity. Reliability, expressed in Cronbach's α, varied from .73 to .85.

For the measurement of personality, the *NEO-FFI Personality Inventory* was used as adapted into Polish by Zawadzki, Strelau, Szczepaniak, and Śliwińska [26]. The scale serves for diagnosing the personality traits included in the Big Five model: Neuroticism (alpha=.79), Extraversion (alpha=.79), Openness to Experience (alpha=.60) Agreeableness (alpha=.74), and Conscientiousness (alpha=.81). It consists of 60 statements.

For measuring the Perception of Time variable, the *Zimbardo Time Perspective Inventory* ZTPI was used as adapted into Polish [27]; the inventory serves for investigating temporal perspective. The original version of the method comprises 56 items. Five factors can be isolated within this scale: Negative Past, (alpha=.85), Hedonistic Present (alpha=.73), Future (alpha=.82), Positive Past (alpha=.71), and Fatalistic Present (alpha=.59).

For the measurement of action control, Kuhl's [28] *Action Control Scale* (ACS-90) was used as adapted into Polish by Marszał-Wiśniewska [29]. The scale comprises 36 items being descriptions of situations with two mutually exclusive responses (A and B) the scale comprises 3 subscales: 1. AOF subscale (*failure-related action orientation vs. preoccupation*) – measuring action orientation *vs.* state orientation after failure, in situations of unpleasant experiences; 2. AOD subscale (*decision-related action orientation vs. hesitation*) – measuring action orientation *vs.* state orientation (hesitation) in situations of planning and decision making; 3. AOP subscale – (*performance-related action vs. volatility*) – measuring action orientation (focus on activity) *vs.* volatility orientation. The psychometric properties of the scale are good, with the following reliability figures for the subscales, respectively: AOF alpha=.70, AOD alpha=.78 and AOP alpha=.74.

For measuring self-esteem, *Rosenberg's Self-Esteem Scale* was used as translated by Kaniasty and as adapted into Polish by Laguna, Lachowicz-Tabaczek, and Dzwonkowska [30] consisting of 10 items. Responses were given on a scale from 1 (strongly agree) to 4 (strongly disagree). The Cronbach's alpha reliability coefficient for the Polish version of the scale varies from .81 to .83 depending on the sample [30]. Two factors were isolated in keeping with Tafarodi and Milne's approach [31]; self-liking and self-competence.

Results

■ Data analysis

We conducted a confirmatory factor analysis (CFA), using AMOS 17.0, in order to confirm the structure of factors obtained in factor analysis. The presented model is well-fitted and all the indices are acceptable. As regards the goodness of fit of the model, the chi² statistic was 416.9 with 97 degrees of freedom, the root mean square error of approximation (RMSEA) was .076, the comparative fit index (CFI) was .908, and the standardized root mean square residual (SRMR) =.072.

The next stage in the analysis consisted in determining the correlations between factors for the scales of the LTAQ **(Table 2)**. The highest correlation was found between the second and the fourth scales (r=.48, p<.001). Mean correlation between items is r=.68, p<.05 for the Socializing with Friends scale, r=.37, p<.05 for the Using the Internet scale, r=.50, p<.05 for the Leisure Time Management scale, and r=.27, p<.05 for the Winding Down scale.

The correlation between the total score and subscale scores was verified. The results are presented in **Table 3**.

In order to check if spending free time was related to demographic variables – namely: sex, age, place of residence, and education – we used the Pearson's r method **(Table 4)**.

Negative correlation was found between education and Using the Internet (r=-.14, p<.01). Socializing with Friends correlated negatively with age (r=-.32, p<.001) and education (r=-.10, p<.01). Age correlated positively with Leisure Time Management (r=.16, p<.001) and winding down (r=.18, p<.001). In the group of high school students, Socializing with Friends correlated negatively with average grade and parents' education.

Analyses revealed no differences in LTAQ scores between women and men in spending free time.

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Table 2: Descriptive Statistics, Reliability Indices, and Intercorrelations between the Scales of the LTAQ (N=575).

Subscales	M	SD	α	1	2	3	4
1. Socializing	4.34	1.18	.79	–			
2. Using the Internet	3.41	1.40	.87	.43***	–		
3. Leisure Time Management	3.86	1.51	.75	.27***	.29***	–	
4. Winding Down	3.39	1.20	.70	.37***	.48***	.45***	–

*p<.05. **p<.01. ***p<.001

Table 3: LTAQ Item Mean Scores and Item-Total Correlations.

Item	M	SD	Item-total correlations
	Factor 1: Socializing		
1.	When I have a moment to spare I spend it with friends.	3.60	1.55	.91***
3.	I prefer to spend my free time with family.	3.69	1.53	.90***
15.	I unwind best by socializing with friends in a pub/café.	2.94	1.66	.86***
	Factor 2: Using the Internet		
2.	I like to surf the Internet when I have a spare day.	4.81	1.44	.65***
6.	I like to browse various websites.	5.12	1.28	.70***
7.	I frequently visit social networking websites.	4.74	1.52	.73***
10.	In my free time, I like to communicate with my friends via social networking service.	3.64	1.88	.78***
13.	On social networking websites, I look for friends or browse other people's profiles.	3.40	1.86	.77***
	Factor 3: Leisure Time Management		
9.	I like to have my free day planned out.	4.12	1.80	.73***
12.	I always plan my free time.	3.68	1.82	.86***
14.	I like to get up early so as to have a longer free day.	3.76	1.92	.85***
	Factor 4: Winding Down		
4.	I like to go shopping in my spare time.	3.42	1.57	.74***
5.	I watch television in my spare time.	4.34	1.68	.67***
8.	I browse through the papers in my spare time.	3.93	1.64	.63***
11.	I watch quiz shows on television.	2.89	1.71	.68***
16.	My greatest relaxation is gardening.	3.42	1.57	.68***

■ Leisure time activity in different age groups

For the purpose of analyzing the ways of spending free time with greater precision, the results are presented in four age groups: 15-19 years, 20-34 years, 34-50 years, and over 50 years. The one-way ANOVA test was used along with the post hoc to test differences among the groups. The results are presented in **Table 5**. In the Socializing with Friends factor, people aged above 55 had the lowest mean, while the youngest group, aged 15-17, had the highest mean. In the Using the Internet factor, the mean was the lowest for the group aged 33-44 years and the highest for the youngest group. In the Leisure Time Management factor, the lowest mean was found for the group aged 18-19 and the highest mean for the oldest group. As regards the Winding Down factor, the youngest group scored the lowest mean and the oldest group scored the highest.

■ Leisure time activity in groups with different education levels

Table 6 presents the results concerning leisure time activity in groups with different education levels: elementary / junior high school, basic vocational, post-secondary, incomplete higher, bachelor's degree, and higher education. In the Socializing with Friends factor, the group with completed higher education scored the lowest mean and participants with elementary / junior high school education scored the highest. In Using the Internet factor, people with higher education scored the lowest mean and those with basic vocational education scored the highest. In the Leisure Time Management, people with incomplete higher education had the highest mean score and those with elementary education had the lowest. In the last factor, Winding Down, participants with elementary education scored the lowest mean and those with basic vocational education scored the highest.

In the next stage of the study we checked the criterion validity of the method by analyzing the correlations between ways of spending free time and other variables that could be expected to correlate with leisure time because of the

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Table 4: Relations between Leisure Time Activity Preferences and Demographic Variables in Two Groups.

Leisure Time Scale subscales	Socializing with Friends	Using the Internet	Leisure Time Management	Winding Down
	Pearson's r	Pearson's r	Pearson's r	Pearson's r
N=575				
Sex	.01	-.06	.01	-.02
Age	-.32***	-.11	.16***	.18***
Place of residence	-.04	.01	.07	.07
Education	-.10**	-.14**	.03	-.03
N=120, high school students (the results from Przepiorka, Blachnio, & Meisner, 2014)				
Sex	-.23**	-.04	-.04	-.09
Average grade	-.15	.06	-.16	-.18*
Mother's education	.01	.12	-.08	-.21*
Father's education	-.14	.08	-.07	-.23**
*p<.05. **p<.01. ***p<.001				

Table 5: Means and Standard Deviations of Scores on Leisure Time Scale Subscales for Different Age Groups (N=575).

Leisure Time Scale subscales	15-19 years N=93		20-34 years N=255		35-50 years N=143		Over 50 years N=84		F df(6,568)	Effect size	RIR Tukey test
Groups	M	SD	M	SD	M	SD	M	SD			
Socializing with Friends	4.12	1.34	3.54	1.39	3.08	1.33	2.74	1.19	18.60***		1-2,3,4 2-3,4
Using the Internet	4.62	1.18	4.34	1.26	4.15	1.13	4.42	0.93	3.22*		1-3
Leisure Time Management	3.54	1.56	3.79	1.52	3.96	1.46	4.31	1.41	4.04**		1-4
Winding Down	3.17	1.11	3.27	1.18	3.38	1.07	3.88	0.89	6.88***		4-1,2,3
*p<.05. **p<.01. ***p<.001											

functions of free time. On the basis of the literature, certain personality variables were chosen and their relationships with leisure time were examined. **Table 7** presents correlations between leisure time activity and stimulation seeking, self-discipline, temperament, personality, time perspective, action control, and self-esteem.

The Socializing with Friends scale correlates positively with stimulation seeking, activity, endurance, extraversion, hedonistic present, and self-liking **(Table 7)**. Using the Internet correlates positively with stimulation seeking, activity, extraversion, and hedonistic present and positive past. The same factor correlates negatively with openness to experience and action-oriented decision-making. Leisure Time Management correlates positively with stimulation seeking, self-discipline, and hedonistic present. The Winding Down subscale correlates positively with self-discipline, future, and positive past.

Discussion

The analyses carried out provided data that confirmed the criterion validity of the method. Significant correlations were found between leisure time activities and temperamental,

personality, and volitional variables as well as time perspective and one of the self-esteem factors – self-liking.

General Discussion

The outcome of the study is the Leisure Time Activity Questionnaire (LTAQ), consisting of four subscales: Socializing with Friends, Using the Internet, Leisure Time Management, and Winding Down. Psychometric analyses demonstrated the high factor validity of the scale. The psychometric properties of the questionnaire are good. The criterion-related aspect of theoretical validity was determined based on the analysis of relations between leisure time activity and measures of variables that should theoretically correlate with the construct measured.

The Socializing with Friends scale correlates positively with stimulation seeking, activity and endurance. Social engagement was found to be an important factor in maintaining cognitive skills till old age [33]. People distinguished by these traits may search for new stimuli and new inspirations for action through being in a

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Table 6: Means and Standard Deviations of Scores on Leisure Time Scale Subscales for Groups with Different Education Levels (N=575).

Leisure Time Scale subscales		Socializing with Friends		Using the Internet		Leisure Time Management		Winding down	
Groups		*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
elementary / junior high	N=65	4.06	1.48	4.62	1.17	3.71	1.59	3.10	1.17
basic vocational	N=44	3.33	1.23	4.65	1.21	3.76	1.67	3.52	1.01
secondary	N=173	3.29	1.42	4.42	1.13	3.88	1.49	3.54	1.15
post-secondary / vocational college	N=89	3.38	1.50	4.21	1.25	3.88	1.51	3.32	1.17
incomplete higher	N=43	3.57	1.31	4.24	1.11	3.95	1.46	3.16	1.01
bachelor's degree	N=38	3.27	1.31	4.49	1.02	3.86	1.49	3.37	1.02
completed higher	N=123	3.26	1.32	4.07	1.20	3.90	1.48	3.27	1.09
Total	N=575	3.41	1.40	4.35	1.18	3.86	1.51	3.36	1.12

Table 7: Correlations between the Subscales of the LTAQ and Different Psychological Variables (N= 575).

Variables and methods of measurement	Socializing with Friends	Using the Internet	Leisure Time Management	Winding Down
Stimulation Seeking	.09*	.25**	.09*	-.01
Self-discipline	-.02	-.06	.19**	.16**
Briskness	.16	.08	.05	.06
Perseveration	.16	.02	-.08	-.05
Sensory Sensitivity	-.13	-.01	.01	.11
Emotional Reactivity	.03	-.01	.04	-.10
Endurance	.18*	-.02	-.09	-.09
Activity	.50***	.20**	.01	.14
Neuroticism	-.01	.07	.08	.04
Extraversion	.21**	.29**	.10	.08
Openness to Experience	-.06	-.20**	.11	.02
Agreeableness	.01	.01	-.06	-.03
Conscientiousness	-.01	-.12	.01	.14
Negative Past	-.07	-.02	.07	.11
Hedonistic Present	.26**	.23**	.20**	.14
Future	.13	-.12	-.04	.43***
Positive Past	.14	.19*	-.01	.21**
Fatalistic Present	-.01	.12	.09	-.03
AOF	.08	-.07	-.02	-.05
AOD	-.04	-.26***	-.14	.01
AOP	.04	.04	.07	.02
Self-competence	.05	-.04	-.10	.08
Self-liking	.20**	.08	.07	.05

*p<.05. **p<.01. ***p<.001

group. This scale also shows positive correlation with extraversion, which is consistent with the profile of individuals whose natural need is to be in a group and maintain numerous social relations [34]. Extraversion has an inherent social component. The LTAQ scale positively correlates with hedonistic present, which may indicate that individuals who score high on this subscale focus on the here and now, are oriented towards fun and pleasure, and enjoy the presence of other people [35,36]. Individuals with hedonistic attitudes seek novelty, have large resources of energy, and take on numerous tasks. These characteristics coincide with the content of LTAQ factor items. The LTAQ scale also correlates with a subscale of self-esteem, namely, with self-liking. As research shows [37], people with high self-esteem are more extravert, who confirms the correlation obtained in the presented study. To sum up, people who prefer to socialize with friends in their leisure time are active individuals, like themselves and other people, and are able to enjoy life and what the present time brings.

Using the Internet correlates positively with activeness, extroversion, hedonistic present, and positive past, while it was observed to correlate negatively with openness to experience and with action-orientation. Kraut and collaborators [38] demonstrated that using the Internet and social commitment were positively correlated with extraversion and negatively with introversion. As Polish studies by Batorski [39-41] demonstrate, extraverts establish contacts via the Internet more often than introverts do. Other studies show that using the Internet serves extraverts better than it serves introverts and that it is the former that function better on the Web [38,42]. Moreover, the less open to experience people are the more often they spend time on the Internet. The Internet satisfies their small needs of experience seeking; they feel safe there. The less action-oriented people are in a situation of planning and decision making, the more often they use the Internet. This means that people who use the Internet more often in their free time are state-oriented, unable to begin a planned task and create an appropriate plan of action; they are people who have difficulty motivating themselves to any kind of action. Using the Internet satisfies them because this activity does not require initiative, planning, and action on their part. The lack of correlation between reactivity and leisure time activities may be due to the fact that the study was performed on students, who are young people, only entering their life, and – as shown by Klonowicz [17] – reactivity does not determine leisure time activities at that age. By using the Internet, especially through membership in social networking websites, people can stay in touch with friends met 'in the good old times,' which may stem precisely from the positive judgment of the past and the need to return to memories [35].

Leisure Time Management correlates positively with stimulation seeking, self-discipline, and hedonistic present. Active individuals, who take on more duties in their lives, have to manage their time in order to face up to these duties. As research shows [36], self-discipline is related to greater achievements and may also translate into greater control of time as well as its more efficient use. The emergence of this factor is in line with the current pressure to be effective and to treat time as a resource [37].

The Winding Down subscale correlates positively with self-discipline, future, and positive past. By distancing themselves from reality, people can rest and gather new energy for action. They need to look at their life from a new perspective, rethink their tasks and goals, get away from daily routine for a moment and focus on undemanding work such as reading the papers or gardening. Positive Past may also translate into a desire to maintain tradition and contact with nature [35].

Limitations and Strengths of the Study

A few limitations to the presented study must be mentioned. There has been no convergent validity check of the measure – that is, no comparison with other measures referring to forms of spending leisure time. This can be mentioned as the next stage in the project. Besides, Using the Internet factor will generally concern younger people to a greater extent than older ones. The reason why this factor was isolated is that the first item selection was performed on a group of young people, who used the Internet on a daily basis. This may affect the universality of the measure. The study should have been carried out on a group more diversified in terms of age, as it subsequently was in Study 2. One of the strengths of the study was standardized assessment instruments that enabled reliable measure of the psychological constructs. What is more, we used various measures that allowed assessment of multi-dimensional aspects of the subject of free time and gave better insight into this research topic. More research is also needed to provide a better understanding of the motives and determinants of leisure. In future research, this broader approach including measurements of family structure, social status, occupation, and work hours should be considered. Furthermore, it would be interesting to examine in a longitudinal study how leisure changes over lifetime. As this study concentrated on empirical evidence from Poland, a comparative study with other countries could be a recommended direction of further analyses. An interesting direction for future research on leisure time is the investigation of cultural differences [42]. Not only cross-cultural but also cross-discipline approach in research would increase our knowledge on leisure [43,44].

Conclusion

Based on published study reports, a considerable interest in the subject of leisure time can be observed. The presented study is part of this trend. The outcome of the study is the Leisure Time Activity Questionnaire (LTAQ). Research has shown the presented method to be a reliable measure with confirmed theoretical validity. The

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Research

scale will be used for further explorations in the subject of leisure time, including the investigation of relations between spending free time and the quality of life as well as coping in life.

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