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Residential environment quality and neighborhood attachment in open and gated communities

Abstract

Our study evaluated the residential environment quality among residents of both traditional open communities and gated communities (fenced), with the latter becoming increasingly popular in Poland. For this purpose the Perceived Evaluation of Residential Environment Quality and Place Attachment Questionnaire (Dębek, Janda-Dębek, 2015) was used, which is a Polish adaptation of Abbreviated Perceived Residential Environment Quality & Neighborhood Attachment Indicators (APREQ & NA, Bonaiuto, Bonnes, Fornara, 2010). Sixty residents of two Wrocław communities (open and gated) were examined. Our study revealed that residents of the open community evaluate their residential environment better and they are more attached to it than residents of the gated community.

Keywords

open and gated communities, evaluations of residential environment, quality neighborhood attachment

Streszczenie

Celem niniejszego badania było sprawdzenie czy istnieją różnice w ocenie jakości środowiska mieszkalnego wśród mieszkańców tradycyjnych osiedli otwartych oraz, cieszących się w Polsce rosnącą popularnością, osiedli zamkniętych (grodzonych). Wykorzystano do tego celu Kwestionariusz Spostrzeganej Oceny Jakości Zamieszkiwanego Środowiska i Przywiązania do Miejsca (Dębek, Janda-Dębek, 2015) będący polską adaptacją narzędzia Abbreviated Perceived Residential Environment Quality & Neighbourhood Attachment Indicators (APREQ & NA, Bonaiuto, Bonnes, Fornara, 2010). Przebadano sześćdziesięciu mieszkańców dwóch wrocławskich osiedli – otwartego i zamkniętego. Wyniki badania wykazały, że mieszkańcy osiedla otwartego oceniają swoje środowisko zamieszkania lepiej oraz są bardziej do niego przywiązani niż mieszkańcy osiedla zamkniętego.

Słowa kluczowe

otwarte i grodzone osiedla, ocena zamieszkiwanego środowiska, jakość przywiązania do sąsiedztwa

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Introduction

People's tendencies to settle down in a particular place are determined by their assessment of such a place. Some theories concerning preference in choosing the environment predict that people tend to settle down in places where, on the one hand the view of the area is wide, on the other – the place provides a safe hideaway. Preferences are evolutionary in character (e.g. Bańka, 2009; Lewicka, Bańka, 2010; Orians, Heerwagen, 1992). Other environmental considerations are those that allow for the possibility to implement other, more complex needs and to gain overall life satisfaction by settling down in a particular place (Dębek, Janda-Dębek, 2013). Thus, people want to establish themselves in areas, in their opinion, that provide them with the greatest wellbeing (Mellander, Florida and Stolarick, 2011). This phenomenon can be observed on both macro and micro scales. The former – as people migrate among countries, the latter – as preferences to settle down in particular districts or specific types of buildings. Therefore, the question arises: what concrete and measurable environmental features are important in people's opinion? In other words, which environment properties prove its quality?

Environmental quality is not a structure which easily undergoes operationalization. It is an interdisciplinary concept, difficult to be defined unambiguously (Dębek, Janda-Dębek, 2013). Different researchers specify various dimensions constituting environmental quality . Aielo, Ardone and Scopelliti (2010) indicate physical, social, functional and contextual dimensions. Gifford (2007) indicates mobility, affluence, distance from services and amenities, as well as satisfaction with the place of residence. Van Kamp, Leidelmeijer, Marsman and de Hollander (2003) specify threat of crime, access to natural resources, environmental pollution, urban design, mobility, and others which were divided into five categories: safety, natural environment, natural resources, built-up environment, and access to services. Environment, through overcrowding or isolation, is also related to another important dimension of life quality – namely social relations. Bonaiuto, Fornara and Bones (2003) paid attention to this – apart from spatial, functional, and contextual aspects they distinguished social aspect as criteria related to the assessment of a residential environment. As Dębek and Janda-Dębek (2013) indicate, objectifying environmental quality seems to be impossible due to the fact that it relates environmental conditions to the needs, objectives and observations of groups inhabiting this environment. Moreover, people differ in terms of their needs related to the environment, not to mention the very basic ones like hideaway or access to water. Thus, the same environment may be characterized as both high and low in quality, depending on which group it is evaluated by (Dębek and Janda-Dębek, 2013). It should also be noted that residential environment assessment is perceived subjectively by people, which does not have to be the same as objectively measuring its characteristics (Van Kamp, Leidelmeijer, Marsman and de Hollander, 2003).

Researchers involved in the assessment of environment quality attempted to investigate which environment is better and which is worse when evaluated by the locals. The results of these studies are often surprising. For instance, both studies conducted in Rome (Aielo, Ardon and Scopelliti, 2010) as well as in Paris (Moser, Robin, 2006) revealed that people inhabiting the city's central districts are more satisfied with their residences than inhabitants in the suburbs. Studies comparing the quality of village life and city inhabitants presented different results and did not answer clearly the question whether there is greater residential satisfaction in urban or rural areas. In turn, research concerning the relationship between environment aesthetics (Florida, Melandri, Stolárik, 2010) and green-area maintenance (Oktay, Marans, 2011; Duque, Panagopoulos, 2010) revealed that these aspects are significantly related to residential environment evaluations. An environmental aspect strongly associated with its evaluation is the perceived level of its safety. Fear decreases assessment, as well as inhibiting its exploration and establishing social bonds, which leads to a lower sense of life quality. Probably, the sense of security in the inhabited environment is one of the strongest and universal quality assessment predictors (Gifford, 2007). Another important aspect is access to services, shops, and recreational points. Among other things, this is the reason why central districts are evaluated better than suburbs. Residents care for convenient access to these conveniences, and to a large extent, this aspect determines overall environmental quality assessment (Aielo, Ardon and Scopelliti, 2010).

The aforementioned difficulties in clear conceptualization, hence in creating appropriate tools to measure environmental quality, make it difficult to conduct and compare studies carried out within this area. However, there are reliable and empirically verifiable measurement methods for certain areas of the relationship between human and the environment. Such a method is the Abbreviated Perceived Quality & Environment Residential Neighborhood Attachment Indicators questionnaire (APREQ & NA, Bonaiuto, Bonnes, Fornara, 2010). Also the Index, which is simply a shortened version of this same tool ((PREQ & NA, Aiello, Bonaiuto, Bonnes et al 1999)). Its first version comprises 126 statements constituting 11 scales, referring to certain environmental aspects: (1) architectural and urban planning; (2) organization of accessibility and roads; (3) green areas, (4) sociorelational features, (5) welfare services, (6) recreational services, (7) commercial services, (8) transport services, (9) peaceful life, (10) environmental health, and (11) upkeep. An additional twelfth scale included in the questionnaire is attachment to place (Bonaiuto, Bonnes, Fornara, 2003). The shortened version kept the separated scales and factors but reduced the number of claims to 66. The Bonaiuto et al. questionnaire (2010) is a tool characterized by satisfactory statistical properties and has been repeatedly used in studies. The questionnaire's Polish adaptation was made by Dębek and Janda-Dębek (2015). Qualitative research on the opinion of Poles about their residences (PL- APREQ&NA (Dębek, Janda-Dębek, 2015) revealed that environmental aspects, proposed and verified by the Italian version, are also important in Poland. Particular scales also showed satisfactory reliability, and can be useful in Polish studies concerning environmental psychology.

Our study examined the assessment of the environmental quality for two different urban residential environment types – open and gated communities. Gated communities have become a worldwide socio-urban phenomenon. This new type of buildings, initially widespread in the United States , can be currently met in many countries around the world. In some cities, such as Sao Paulo in Brazil, these buildings have become so widespread that they are called the cities of walls (Cladeira, 1996). In eastern and central Europe, where gated communities were not known before 1989, currently a massive increase in their number has been observed (Gądecki and Smigiel, 2009). Fenced communities have also become extremely popular in Poland; in 2007 in Warsaw there were already about 400 of them (Lewicka and Zaborska, 2007) while, for comparison, in Berlin there was only one such community (Michałowski, 2007). Their outstanding popularity in Poland is probably related to socio-economic changes that have taken place after 1989. Public space, including living space built during communist times, is associated with senility, decline, and negligence, whereas private space – with purity, order and exclusivity. Gated communities have become a sign of socio-economic status. In opposition to crowded living space and close neighborhood connections, which are identified with the old system, gated communities represent privacy and isolation from undesired contacts (Vergara Polanska, 2013). Fencing is probably associated with ongoing socio-economic polarization. As Lewicka and Zaborska claim (2007, quotation, page 139) *the greater social stratification, probably, the greater the need for separating ourselves from others.* This thesis is also confirmed by other researchers, mentioned earlier in connection with Sao Paulo – the city of walls, a city with one of the most unequal distributions of wealth in the world (Cladiera, 1996). On the other hand, Michałowski (2007), draws attention to the relationship between fencing specifics and the nobility-peasant tradition (connected with exceptionally strong socio-economic diversity) which is likely to prevail in contemporary Polish cities, as opposed to the bourgeois tradition, where tenements are located on the street (therefore close to strangers) and are the symbiosis of different social groups. For many people, gated communities have become the embodiment of dreams and socio-economic success, new aesthetics, stability and prosperity. They offer not only living space but a specific style of life and therefore are easily sold (Gądecki, 2007).

Due to the current popularity of gated communities in Poland, it may be assumed that their residents' environmental quality assessments should be higher than assessments by people living in „normal" open communities. People's tendency to settle down in gated communities should be related to their belief that this type will meet their needs to a greater extent, hence increase the general feeling of their life quality. Research using the Perceived Residential Environment Quality and Neighborhood Attachment Questionnaire, conducted by Dębek and Janda-Dębek (2015), showed a positive relationship between environmentally assessed quality and the price of real estate in a given area. This means that there is a link between subjective and objective assessments – which is housing prices. It seems that a similar relationship should occur between the high popularity of gated communities, where the indicator is, for example, their increasing numbers, and the quality assessment among their residents. The increasing presence of a specific type of settlement should be related to the fact that it meets residents' needs in the best way, so it is characterized by a higher quality level than other residential environment types.

Method

To measure how residential environmental quality is assessed, the previously described Perceived Evaluation of Residential Environment Quality and Place Attachment Questionnaire was used – PL-APREQ & NA (Dębek, Janda-Dębek, 2015) – a tool adapted from Abbreviated Perceived Residential Environment Quality & Neighborhood Attachment Indicators (PREQ & NA, Bonaiuto, Bonnes, Fornara, 2010). The questionnaire consists of 66 questions to which respondents referred on a seven-point Likert-type scale

(1 – definitely no, 2 – no, 3 – rather no, 4 – neither yes nor no,
5 – rather yes, 6 – yes, 7 – definitely yes).

The study was conducted among residents of two Wrocław neighborhoods, one being an open community, the other one gated. Both estates are located in the same Wrocław district (Fabryczna). The open community is located on Idzikowskiego Street, whereas the gated one on Zdrowa and Pochyła Streets. The estates consist of multi-storied and multiple dwelling buildings. The gated community is surrounded by a fence, monitored, guarded by a security company. On its territory there are premises in which security guards are stationed, incessantly watching the area. According to the typology of Polish gated communities (Gąsior-Niemiec et al., 2007) this estate belongs to the third, final group of gated communities – those which are most isolated and guarded because apart from the physical demarcation they are characterized by a developed security structure. The open community is not characterized by fencing or stationed guards. The estates were chosen mainly by the fact that both are new, built at roughly the same time and represent a high standard. Therefore, there was a greater probability that the examined residents would be similar to each other in terms of age, length of residence time and socio-economic status.

Studies were conducted in residents' homes using paper questionnaires. The study involved 60 people (30 from each housing estate). Among the gated community residents 13 women and 17 men, aged between 19 and 73 ($M=30.20$; $SD=10.99$), were examined. The majority of respondents (23 people) had higher education, seven had secondary education. Respondents' time of residence was four months (the shortest) up to seven years (the longest) ($M=30$ months; $SD= 22$ months). Average, subjective assessment of their financial situation amounted to 5.4 on a seven-point scale ($SD = 1$). Among the open community residents 16 women and 14 men, aged between 22 and 81 ($M=38.30$; $SD=14.08$) were examined. Twenty-seven had higher education and three had secondary education. Respondents' time of residence was five months (the shortest) up to 15 years (the longest) ($M=39$ months; $SD=37.68$ months). Average, subjective assessment of their financial situation amounted to 5.23 on a seven-point scale ($SD=1.04$).

The respondents' distributions concerning their residence length on the housing estate, education, age, and their own finances differed significantly from the normal distribution. The Mann-Whitney's U Test analysis did not show significant differences between the groups in terms of residence length on the housing estate ($Z=1.09$; $p>0.05$) and education ($Z=0.89$; $p>0.05$). The groups, however, differed significantly in their age. Open community residents were significantly older, on average, than those in the gated community ($Z=2.96$; $p<0.01$). However, it should be taken into account that age difference between the groups is not large, in both the open and gated communities the average age was over 30. The residents of both communities also did not differ in their own financial assessments ($Z=0.43$; $p>0.05$).

Results

Our study, using the Abbreviated Perceived Residential Environment Quality and Neighborhood Attachment Questionnaire (PL-APREQ&NA), showed high reliability (Cronbach's α): – 0.93. Variance between studied groups proved to be inhomogeneous.

Table 1.

Normality of distributions and homogeneity of variance.

	p $normality_{open}$	p $normality_{gated}$	p variances
PREQ	0.74	0.4	0.03*

***p<0.001; **p<0.01; *p<0.05

The Mann-Whitney U Test analysis showed that the average residential environment assessment among the open community residents (M_{open}=319.43; SD_{open}=26.06) is statistically significantly higher than the average residential environment assessment among the gated community residents (M_{gated}=279.97; SD_{gated}=39.18), Z=3.89; $p<0.01$.

The differences between open and gated community residents appeared in several dimensions of residential environment quality assessment:

1. Architectural and Urban Planning Space

Open community residents assessed *architectural and urban planning space* dimension higher (M_{open}= 43.83; SD_{open}=5.26 and M_{gated}=39.2; SD_{gated}=7.84) Z=2.35; $p<0.05$. Data about particular subscales of this dimension are presented in the table below.

Table 2.

Differences between groups in particular subscales of residential environment assessment – Architectural and Urban Planning Space.

subscale	M_{open}	SD_{open}	M_{gated}	SD_{gated}	Z	P
Building Aesthetics	15,87	1,68	12,6	3,55	3,71***	0,001
Building Density	11,6	3,35	11,97	3,94	0,53	0,59
Building Volume	16,37	2,3	14,63	3,22	2,13*	0,03

***p<0.001; **p<0.01; *p<0.05

2. Green Areas

Residents of the open community assessed *green areas* dimension higher (M_{open}=21.67; SD_{open}=3.39 and M_{gated}=16; SD_{gated}=5.5) Z=4.02; $p<0.01$.

3. Sociorelational Features

The open community residents assessed *sociorelational features* higher (M_{open}=41.57; SD_{open}=3.64 and M_{gated}=38.1; SD_{gated}=5.34) Z=2.55; $p<0.05$. Results of particular subscales of this dimension are presented in the table below.

Table 3.

Differences between groups in particular subscales of residential environment assessment – Sociorelational Features.

subscale	M_{open}	SD_{open}	M_{gated}	SD_{gated}	Z	P
Discretion and civility	14,50	2,01	14,90	2,35	0,64	0,52
Security and tolerance	13,9	2,29	11,63	3,38	2,71**	0,01
Sociability and cordiality	13,16	1,98	11,57	2,79	2,26*	0,02

***p<0.001; **p<0.01; *p<0.05

4. Recreational Services

Residents of the open community assessed *recreational services* higher (M_{open}=28.63; SD_{open}=4.58 and M_{gated}=21.97; SD_{gated}=7.31) Z=3.45; p<0.01. Data about particular subscales of this dimension are presented in the table below.

Table 4.

Differences between groups in particular subscales of residential environment assessment – Recreational Service.

subscale	M_{open}	SD_{open}	M_{gated}	SD_{gated}	U	p
Sport service	16,93	2,55	11,87	4,28	4,6***	0,001
Socio-cultural activities	11,7	2,97	10,1	3,92	1,61	0,1

***p<0.001; **p<0.01; *p<0.05

5. Commercial Services

Residents of the open community assessed *commercial services* higher (M_{open}=21.27; SD_{open}=3.40 and M_{gated}=15.83; SD_{gated}=5.68) Z=3.85; p<0.01.

6. Peaceful Life

Residents of the open community assessed *peaceful life* higher (M_{open}=28.23; SD_{open}=3.3 and M_{gated}=24.2; SD_{gated}=4.28) Z=3.53; p<0.01. Data about particular subscales of this dimension are presented in the table below.

Table 5.

Differences between groups in the particular subscales of residential environment assessment – Peaceful Life.

subscale	M_{open}	SD_{open}	M_{gated}	SD_{gated}	Z	p
Relaxing versus distressing	17,23	2,3	14,63	2,5	3,66***	0,001
Stimulating versus boring	11	2,22	9,57	2,93	2,2*	0,03

***p<0.001; **p<0.01; *p<0.05

7. Environmental Health

Residents of the open community also assessed *environmental health* higher (M_{open}=19.8; SD_{open}=2.93 and M_{gated}=17.37; SD_{gated}=3.45) Z= 2.71; p<0.05.

8. Neighborhood Attachment

Moreover, differences between open and gated community residents occurred in *neighborhood attachment*. Open community residents obtained higher results than gated community residents in the neighborhood attachment scale (M_{open}= 19.27; SD_{open}=3.71 and M_{gated}=14.17; SD_{gated}=5.4) Z= 3.82; p<0.01.

No differences between gated and open community residents were noted in the following dimensions: *Organization of Accessibility and Roads, Welfare Services, Transport Services, and Upkeep*.

Calculations of correlation between NA (Neighborhood Attachment) and other dimensions and PL-APREQ subscales have also been done. Correlations that varied between the communities have been observed. Among the open community residents, attachment to the place most strongly correlated with the assessment of residential environment as healthy, peaceful and relaxing. Concerning the gated community residents, the strongest correlation was observed between neighborhood attachment and perceiving life in this place as peaceful with access to recreational services. Lewicka (2012) obtained similar research results – it turned out that neighborhood (district) attachment more strongly correlates with perceiving it as relaxing, than exciting. As Lewicka (ibidem) writes, neighborhood attachment is determined by the extent to which it can be a source of relaxation, peace and rest. Other factors such as buildings aesthetics, access to socio-cultural activities and neighborly relations turned out to be neighborhood attachment covariates. The exact data concerning these relationships are presented in the following tables.

Table 6.

Open community: correlations between PREQ neighborhood attachment and other PL-APREQ dimensions and subscales.

Pearson's r	Neighborhood attachment
Overall result PL-APREQ	0.47
Environmental health (PL-A PREQ dimension)	0.63
Relaxing versus distressing (subscale, PL-APREQ dimension: peace of life)	0.51
Peace of life (PL-APREQ dimension)	0.5
Buildings aesthetics (subscale, PL-APREQ dimension: architectural and urban planning**)**	0.46

Significant values $p<0.05$

Table 7.

Gated community: correlations between PL-APREQ neighborhood attachment and other PL-APREQ subscales.

Pearson's r	Neighborhood attachment
Overall result PL-APREQ	0.68
Peace of life (PL-APREQ dimension)	0.58
Access to recreational services (PL-APREQ dimension)	0.53
Socio-cultural activities (subscale, PL-APREQ dimension: access to recreational services)	0.51
Stimulating versus boring (subscale, PL-A PREQ dimension: peace of life)	0.47
Relaxing versus distressing (subscale, PL-APREQ dimension: peaceful life)	0.44
Sociability and cordiality (subscale, PL-APREQ dimension: people and social relations)	0.43

Pearson's r	Neighborhood attachment
Buildings aesthetics (subscale, PL-APREQ dimension: architectural and urban planning)	0.43
Sport service (subscale, PL-APREQ dimension: access to recreational services)	0.42
Access to commercial services (PL-APREQ dimension)	0.39
Greenery (PL-APREQ dimension)	0.38

Significant values $p<0.05$

Discussion

As mentioned in our research aim, comparative quality assessments of two inhabited environment types – a gated community and an open community – have been done. To assess the residential environment quality and neighborhood attachment, a Polish adaptation of APREQ & NA (Bonaiuto, et al. 2010) has been used. The studies included previous postulates set by Lewicka (2012) aligning the residents' age with residence mean time in a particular place.

The analyses indicate that open community residents obtained significantly higher results in most PL-APREQ dimensions than gated community residents. Trying to understand the reasons for these differences, it should be taken into account that both communities were so-called modern buildings with high standards and quite similar architecture outside and inside. Both communities were located in close proximity to other residential units, as well as in comparable distances from the nearest main street. The open community was located slightly further away from the city center and had closer access to green areas, which may explain the assessment differences in some PL-APREQ dimensions; however, it is certainly not the only reason. It is also worth paying attention to gated communities disadvantages (indicated by architects and urbanists) which may contribute to downgrading their value assessment. Gated communities are often characterized by excessive building development intensity, insufficient road widths, and reduced access to services and recreational areas, which certainly result in their quality deterioration (Sylwestrzak, 2009).

Lower overall residential quality assessments among gated community residents may be explained by the fact that people residing in such communities have higher demands towards than people living in open communities, which entails stricter environmental assessment. Residents entering gated communities, which are commonly associated with greater luxury, exclusivity and (above all) security, notice their imperfections more easily, which results in lower assessment. The mere fact that some space is fenced from the rest of the neighborhood is a signal that this space is somewhat unique, in this case, better. This entails higher expectations from its potential residents.

One PL-APREQ&NA questionnaire dimension, in which some interesting differences between gated and open community residents appeared, is *sociorelational features*. Open community residents assessed the residential environment higher in *security* and *sociability and cordiality*. Thus, open community residents assessed their place of residence as safer and ensuring better social contacts than gated community residents. It could be carefully concluded that fencing a community does not increase the actual feeling of safety among its residents. However, it should be taken into account that if the community was not gated, the inhabitants' feeling of safety would be even lower. The examined open and gated communities were not adjacent to each other directly. The safety assessment could be a matter of wider area judgement, in which they are located, and not only in the particular complex of buildings. To check whether fencing actually affects the safety level, or even paradoxically reduces it, the residents should be examined before and after fencing a community, or else two directly adjacent communities (built at the same time, with similar standards) should be examined–one gated and the other open. Both research procedures are very difficult to conduct, hence a clear answer to the question about how residents feel concerning their actual safety increase when fenced in in is still missing.

Analyzing the respondents' *sociorelational features* further, it is also worth noticing that environmental safety assessment affects overall quality assessment (Gifford, 2007). Insecurity entails a reduction in the place assessment, as well as inhibiting its exploration and establishing neighborly relationships. This seems to be consistent with the results which indicate that open community residents obtained higher overall PL-APREQ&NA results. They assessed the safety level higher, as well as considering that their neighbors were more sociable and cordial than the residents of gated community.

A higher result of open community residents concerning *sociability and cordiality* may indicate closer neighborly relations than the case is with gated community residents. If we find our neighbors sociable and cordial, this means that we keep relatively close relationships and we like them. This result is consistent with previously reported theories about the relationships between open and gated community residents. Gated community residents may be more inclined to protect their privacy, which leads to less frequent and less intensive contacts with neighbors. In literature more features associated with isolation and mistrust of people are assigned to gated communities (Szatan, 2012). Contemporary researchers indicate that gated communities may be an example of „neighborhood without neighbors". Once, a neighbor was someone about whom we had extensive knowledge, we shared experience and considered him as a partner. Today physical closeness is often not coordinated with emotional-cognitive closeness (Furedi, 2006). Assuming that the mentioned properties characterize gated communities more, it may explain the lower assessment of social aspects associated with residence place among gated community residents.

Open community residents turned out to be more attached to their place of residence than gated community residents. It should be recalled that the average period of residence was similar in both communities; therefore this difference cannot be explained by referring to the growth of neighborhood attachment over time. This is an important factor that often impedes linking the strength of attachment to the place, or neighborly relationships with the type of community. For example, in Lewicka's studies (2012) a higher neighborhood attachment level and stronger neighborly relationships were observed in Warsaw's open communities than in gated ones. These differences, however, were leveled after taking into account residence time, which was longer in open communities. In our present study, where time is not significantly different, it may be concluded that there are direct relationships between fencing and the strength of neighborhood attachment. Also in Zaborska's research (Zabroska, 2010) conducted on three Wrocław housing estates, neighborly relations and trusting neighbors, which are an important neighborhood attachment predictors, were significantly higher among open community residents, as well as communities built in accordance with the assumptions of the *Secure by Design* program, than among gated community residents. Comparative studies between the residents of open and closed communities in Warsaw revealed that gated community residents were less associated with the city and more with their own apartment than open community residents (Owczarek, 2011). Trying to compare those results with the results of our study, it should be considered whether attachment to a community is closer to attachment to an apartment (private space) and therefore the results would be inconsistent with Owczarek's results, or it is closer to attachment to a city (public space) and these results would be consistent. As Owczarek writes, a strong attachment of gated community residents to their apartment reflects increasing privatization and separation from social, and even neighborhood life. Attachment to the community seems to be a kind of bond that goes beyond their own privacy, concerning space and community ownership. Therefore, it can be concluded that also these studies confirmed a stronger neighborhood attachment (community) among open community residents. To understand this difference, Owczarek's explanations can be used – indicating a stronger connection of gated community residents with what is private, and a weaker connection with what belongs to the community. Also a weaker level of neighborly bonds causes a decrease in neighborhood attachment. These results, repeated in many studies (both Polish and foreign), suggest that although gated communities, generating sharp boundaries between the areas inhabited by natives and strangers, may be perceived as a good way to create strong neighborly and emotional relationships with the place; in fact, they do not fulfil such a role and their residents are less connected with residential surroundings and local communities than the residents of traditional open communities.

Limitations

Our research results obviously have their limitations. Firstly, the sample used in the research is not numerous and it is not a representative sample. Secondly, the studies have been exceptionally arduous due to the large number of items in the PL-APREQ&NA questionnaire, which caused respondents to become impatient sometimes. Thus, the fundamental postulate that should be taken into consideration in future questionnaire studies, is to use the maximally shortened version. Although the original APREQ&NA questionnaire by Bonaiuto, Fornara and Bonnes is already a shortened version (compared to its first version), it is still difficult to use in the research field. Another requirement concerns deepening the respondents' characteristics. Although in our study the respondents' groups were homogeneous age wise, it is worth enriching the data with better – than our project did – socio-demographic group profiles. This would enable more detailed analysis and interpretation of results.

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Modification of Luyckx et al.'s Integrated Process Oriented Model of Identity Formation

Abstract

Our study attempts to assess the validity of a modification of the Luyckx, Schwartz, Berzonsky, Soenens, Vansteenkiste, Smits and Goossens' dual-cycle model of identity formation (2008). The model has been extended to include a six dimensions because it takes two types of ruminative exploration into account. Thus, the model consists of reflective exploration in breadth, ruminative exploration in breadth and commitment making, which form a commitment formation cycle, and reflective exploration in depth, ruminative exploration in depth and identification with commitment, which in turn form a commitment evaluation cycle. Six hundred and forty-two Caucasian Poles (including 51 early adolescents, 270 late adolescents, 272 emerging adults and 49 young adults; 66% women) participated in our study. Confirmatory factor analysis and correlation analysis between identity dimensions indicate that the proposed model has a satisfactory internal validity. Analysis of variance in groups with different educational-professional contexts and ages, as well as correlation analysis of the identity dimensions with adjustment indicators, and ruminative and reflective self-consciousness show a satisfactory external validity. In summary, the proposed modification may present an alternative to the original model, but its limitations will also be discussed.

Keywords

Identity, Exploration, Commitment, Rumination, Late adolescence, Emerging adulthood

Streszczenie

Celem prezentowanych badań jest weryfikacja trafności teoretycznej zmodyfikowanego modelu podwójnego cyklu formowania się tożsamości Luyckxa, Schwartza, Berzonskyego, Soenensa, Vansteenkiste, Smits i Goossensa (2008). Model został poszerzony o szósty wymiar powstały przez wydzielenie dwóch typów eksploracji ruminacyjnej, odpowiednio przyporządkowanych cyklom kształtowania się tożsamości. Obejmuje on zatem: refleksyjne poszukiwanie szerokie, ruminacyjne poszukiwanie szerokie i podejmowania zaangażowania tworzące cykl formowania zobowiązania oraz refleksyjne poszukiwanie głębokie, ruminacyjne poszukiwanie głębokie i identyfikację ze zobowiązaniem tworzące cykl ewaluacji zobowiązania. W badaniu wzięło udział 642 uczestników (51 wczesnych adolescentów, 270 późnych adolescentów, 272 osób w okresie wyłaniającej się dorosłości i 49 młodych dorosłych; w tym

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66% kobiet). Wyniki konfirmacyjnej analizy czynnikowej, analiza różnic w nasileniu wymiarów tożsamości między grupami różniącymi się kontekstem edukacyjno-zawodowym i wiekiem, a także analiza korelacji tychże wymiarów ze wskaźnikami przystosowania oraz z refleksyjną i ruminacyjną samoświadomością wskazują na zadawalającą trafność teoretyczną proponowanego modelu. Z kolei analiza korelacji pomiędzy wymiarami tożsamości wskazuje na zadawalającą trafność wewnętrzną. Podsumowując, proponowana modyfikacja może stanowić alternatywę dla modelu oryginalnego, jednak jej ograniczenia również zostaną przedyskutowane.

Słowa kluczowe

wymiary tożsamości, poszukiwanie, zobowiązanie, ruminacja, późna adolescencja, wyłaniająca się dorosłość

Identity Formation

Since Erikson's (1950, 1968) creation of the ego identity formation theory, researchers in developmental psychology have remained interested in developing a sense of identity. Although identity development is a lifelong process, it is particularly important during adolescence (Erikson, 1950, 1968; Marcia, 1966), and even in early adulthood, since emerging adulthood in Western societies has lengthened (Arnett, 2000, 2001; Côté, 1996, 1997; Côté & Levine, 2002; Jensen, Arnett, & McKenzie, 2011). Marcia's concept of identity statuses (1966) is underlies many empirical studies on identity development. Marcia describes four possible identity solutions that have been distinguished based on strength and direction of the two fundamental identity processes: exploration and commitment. Exploration is defined as a period of choosing, sorting through, rethinking, and trying out various roles and life plans, whereas commitment, as a degree of personal investment exhibited by an individual in a course of action or belief (Marcia, 1966, Kroger & Marcia, 2011). Definitions included in Marcia's concept are quite broad and consequently became an inspiration for other works with a different approach to the dimensions of exploration and commitment. As a result, concepts originating from the identity status theory have focused to varying degrees on particular aspects of identity development – from the approach focusing on commitment formation (Waterman, 1982), through an approach equally emphasizing commitment formation and evaluation (Grotevant, 1987), to concepts focusing on commitment evaluation (Bosma & Kunnen 2001; Crocetti, Rubini, & Meeus 2008; Kerpelman, Pittman, & Lamke, 1997; Kunnen, Sappa, van Geert & Bonica, 2008; Meeus, 1996; Meeus, Iedema, & Maassen, 2002; Stephen, Fraser, & Marcia, 1992). Consequently, exploration is referred to as consideration of a variety of options and in depth analysis of the identity choices. Whereas, commitment is analysed for making choices, as well as the degree of identification with decisions that have already been made (Luyckx, Goossens, Soenens, & Beyers, 2006b).

Luyckx et al.'s Integrated Oriented Process Model of Identity Formation

Assuming that both the formation and evaluation of commitments are important for identity formation, Luyckx, Goossens, Soenens, Beyers and Vansteenkiste (2005) developed a dual-cycle model of identity formation. In this model, they have not only taken into account the aspect of commitment formation and evaluation, but also precisely defined the processes of exploration and commitment, which play a key role in individual stages of identity shaping. The original version of the dual-cycle model of identity formation assumed that identity formation was carried out in two complementary cycles, comprising four processes. Identity formation begins with a commitment formation cycle consisting of exploration in breadth, associated with collecting information on various identity options (directions in defining self) and commitment making that refers to making choices in important identity issues. When a person makes such decisions, a commitment evaluation cycle begins and consists of exploration in depth, understood as gathering information on selected options, in order to assess their compliance with an individual's standards and capabilities, and identification with commitment, associated with a degree to which an individual perceives the decisions and courses of action as complying with a person's own aspirations and desires, as well as the certainty level that they are suitable for this individual. If, as a result of an exploration in depth, an individual finds that the chosen options do not meet personal standards, preferences or capabilities, we observe a return to the previous cycle and resumption of exploration in breadth, which then resembles the reconsideration of commitment included in the three-factor model by Crocetti, Rubini, and Meeus (2008). In order to compare this model with the concept of identity statuses, Luyckx et al. (2005) have identified five clusters that differed in terms of a configuration of identity processes, and represented equivalents of the identity statuses.

Although the four-factor model has been successfully verified empirically (Luyckx et al., 2005; Luyckx, Goossens, & Soenens, 2006a; Luyckx, Goossens, Soenens, & Beyers, 2006b; Luyckx, Soenens, & Goossens, 2006c), the authors give thought to conflicting results concerning the relationship of exploratory processes with a person's adjustment. On the one hand, it is associated with openness and curiosity, on the other hand with a higher severity of anxiety and depressive symptoms, and concerning exploration in breadth with neuroticism (Luyckx et al., 2006c). Trapnell and Campbell's concept (1999) introduces a distinction between reflective private self-attentiveness motivated by openness, and ruminative private self-attentiveness motivated by fear, and attempts to explain the self-absorption paradox that relates to the relationship of private self-consciousness with both wider self-consciousness, and a higher severity of psychological distress (Alloy & Abramson, 1979). Luyckx, Schwartz, Berzonsky, Soenens, Vansteenkiste, Smits, Goossens (2008) found that exploration also has a dark side and extended the model by adding a fifth dimension – ruminative exploration. The researchers assumed that current dimensions of exploration in breadth and exploration in depth have a reflective or, in other words, adaptive nature, and support identity formation, whereas ruminative exploration represents a maladaptive form of identity exploration. It is linked to a sense of coercion and experiencing intrusive distressing emotions, thus, it may hinder or even inhibit satisfactory identity formation. To evaluate the five identity dimensions in relation to the overall plans for the future, the authors have developed Dimensions of Identity Development Scale (DIDS). Studies conducted with this scale indicated a satisfactory theoretical validity of the model. Similarly to the model's first version, cluster analysis was also conducted and the identity process configurations that correspond with the six solutions of identity (statuses) were determined (Luyckx, Schwartz, Berzonsky, Soenens, Vansteenkiste, Smits, & Goossens, 2008; Luyckx, Schwartz, Goossens, Beyers, & Missotten, 2011).

Current Study

The Proposed Model

Luyckx et al.'s (2008) integrated process oriented model of identity formation represents an interesting and complex proposition for identity shaping, which is very popular also in Poland. Dimensions forming a commitment formation cycle and dimensions creating the commitment evaluation cycle included in the model's first version allow one to comprehensively capture the identity formation issue. This model is used for early and middle adolescence, which is more involved in activities related to handling various alternatives of identity, for late adolescence and emerging adulthood where persons have already made commitments and face the tasks associated with assessing the choices they have made, as well as for those at later stages of adulthood, who, for various reasons, have abandoned their existing commitments or are forced to change them. Enriching the model with ruminative exploration, and therefore, including both adaptive and non-adaptive forms of exploration, allows one to more deeply and with more differentiation analyse the relationship between identity processes and well-being. However, introducing ruminative exploration also disrupted the original classification of commitment formation and commitment evaluation cycles, because in the extended model, this process is beyond these cycles. Therefore, the authors themselves admit the possibility that a similar distinction, as in the reflective types of exploration (exploration in breadth and in depth), may also apply to a ruminative exploration and suggest the need for further study of this issue (Luyckx et al., 2008).

According to these suggestions, in our study we decided to verify the validity of the model, which involves two types of processes: reflective and ruminative, for both exploration in breadth and in depth. In the original model, while defining exploration in breadth and in depth, the authors did not emphasize enough the reflective nature of these processes and their relationship with openness and general curiosity, and therefore, they did not take it into account in measurement of their model (Luyckx et al., 2008). In the modified six-factor model, definitions of exploration processes take into consideration their reflective and ruminative character. Thus, reflective exploration in breadth refers to seeking information with openness and cognitive curiosity and considering different identity possibilities in which an individual is involved before making a commitment. Ruminative exploration in breadth also refers to a search for information and consideration of various identity options; however, this process involves experiencing uncertainty, anxiety and persistent preoccupation. Thus, an individual's exploratory activity is defined in the same manner as exploration in breadth in the original model, but in particular definitions, reflectivity (openness) and ruminativity (doubt, anxiety) components were also included. It is analogous, in the case of reflective exploration in depth and ruminative exploration in depth, which refer to a search and analysis of information on selected options and assessment of commitments undertaken earlier. However, reflective exploration in depth is an active process that is associated with openness and self-satisfaction, and ruminative exploration in depth is a persistent preoccupation associated with recurring doubts, experiencing anxiety and uncertainty.

In addition, we decided to introduce a change in the method for defining commitment making. In validation studies of the Polish version of the DIDS, the correlation coefficient between the dimensions of commitment was .79 (Brzezińska & Piotrowski, 2010b). In subsequent studies, correlations of these dimensions were even stronger. For example, in the study presented by Cieciuch at the XIX Polish Developmental Psychology Conference (2010) this correlation was .81, and in the study presented by Wysota, Pilarska and Adamczyk at the XXII Polish Developmental Psychology Conference (2013) it was .84. In the studies using the Dutch version of DIDS, these correlations were lower, but also significant at .62 in the high school sample and .67 in the university sample (Luyckx et al., 2008). However, in previous studies, Luyckx and colleagues substantiated theoretically and verified empirically the validity of both commitment dimensions (Luyckx et al., 2006b). Both commitment making and identification with commitment are essential elements of the model. Commitment making represents a culmination of the commitment formation cycle and is a necessary condition for beginning an exploration in depth, and thus entering a cycle of obligation evaluation, which is closed by identification with commitment. This cycle ends, at least temporarily, the process of identity formation. We assumed that the reasons for such a high covariance should be considered. We accepted the possibility that Polish respondents (but not only them) find it difficult to distinguish between commitment making and identification with commitments, especially since the method has a declarative nature and relates to general objectives.

It may be particularly difficult for adolescents, because they tend to manifest youthful radicalism and idealism (Obuchowska, 2009). When entering adulthood, both the quality and strength of commitment undergo change (Grotevant, 1987; Marcia, 1966; Waterman, 1982), as a result of a more thorough analysis of the initial commitments (Bosma & Kunnen, 2001). Many available possibilities plus social pressure to make important decisions for the future could cause young people to know that their commitments can be changed when the chosen path does not suit them, or if other options prove to be more attractive (Arnett, 2000, 2001; Bańka 2007, 2009; Szafraniec 2011). Therefore, we decided that it is appropriate to define commitment making as an initial choice making regarding important identity issues, and as a temporary decision to engage in activities that are associated with them. We believe that this will increase this process's measurement accuracy through facilitation of the differentiation between commitment making and identification with commitment, which, as in the original model, refers to the degree of internalization of commitment that has already been made and a sense of confidence that those commitments were right. Moreover, this approach to commitment making seems to be more useful in the model which is more closely oriented on differentiating adaptive and maladaptive identity processes as it allows one to consider persons who, for various reasons, temporarily or permanently do not make strong identity decisions (Bańka, 2009; Breakwell, 1986; Frost & Shows, 1993; Fuqua, Newman & Seaworth, 1998; Tokar, Withrow, Hall & Moradi, 2003; Wolfe & Betz, 2004).

In sum, proposed modification of Luyckx and colleagues' model presupposes the existence of six identity dimensions: reflective exploration in breadth, ruminative exploration in breadth and commitment making that form a commitment formation cycle, and reflective exploration in depth, ruminative exploration in depth and personal identification with commitment that form a commitment evaluation cycle. Figure 1 presents a diagram of the modified model.

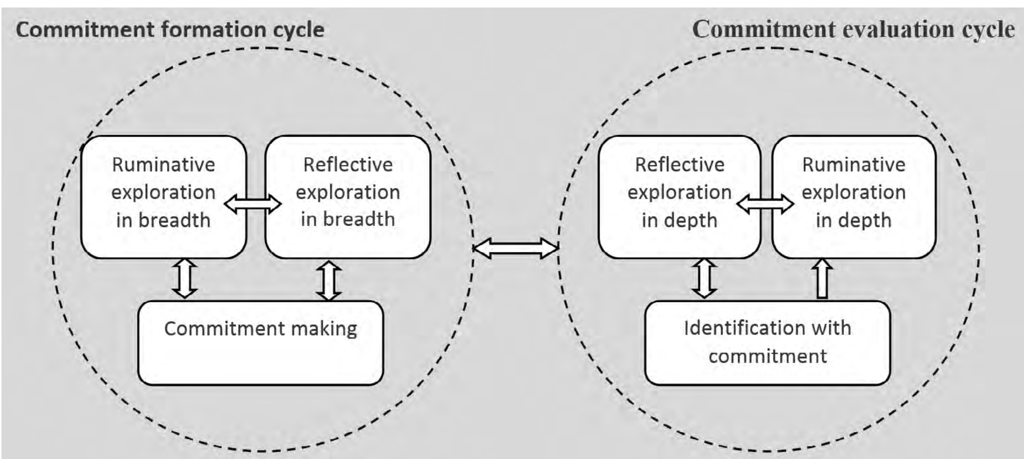

Fig. 1. Diagram of the proposed model.

Aims of the Current Study

Our main objective in this study is to verify the proposed model's internal and external theoretical validity. Elements in our study mainly relate to the research plan applied by Luyckx and colleagues in verifying their five-factor model (Luyckx et al., 2008). However, at this stage, we abandoned attempts to isolate identity types or statuses, characterized by a specific configuration of individual identity dimensions. Our paper will also present current activities related to constructing a questionnaire to assess the six identity dimensions. However, it should be noted that the constructed tool is a prototype and is mainly used to verify the proposed model's validity[2].

Factorial validity. Factorial validity of the modified dual-cycle model of identity formation was tested using confirmatory factor analysis (CFA). We expected all fit measures to reach satisfactory values. The proposed model was then compared with alternative models, created by factors analogously similar to those included in the original models: (1) the four-factor model, constructed with the following dimensions: exploration in breadth, commitment making, exploration in depth and identification with commitment (Luyckx et al., 2005), where the dimensions of exploration in breadth and in depth were created by adding up the results related to reflective and ruminative types of particular explorations and (2) the five-factor model with its following dimensions: exploration in breadth, commitment making, exploration in depth, identification with commitment and ruminative exploration (Luyckx et al., 2008), where the ruminative exploration dimension equals the sum of the ruminative exploration in both breadth and depth.

Associations among the identity dimensions. In order to examine the internal validity, hypotheses on a correlation between the dimensions of the model were verified. Hypotheses were based on the results obtained during the internal validity testing of previous versions of the model (cf. Luyckx et al., 2005, 2008) with changes considered the specificity of the six-factor model. We anticipate that the reflective dimensions of exploration in breadth and in depth, as well as the ruminative dimensions of exploration in breadth and in depth, will maintain a positive relationship with each other, because they share a reflection or rumination component. If reflective and ruminative exploration processes are separate identity processes, we anticipate that the dimensions of reflective and ruminative exploration in breadth, as well as dimensions of reflective and ruminative exploration in depth, will not be linked with one another. Subsequently, we hypothesized that ruminative exploratory processes, which inhibit or even block the formation of mature commitments, remain in a negative relation to the identification with commitment. At the same time, we do not expect a correlation between

[2] Current model measurement is The Identity Processes Questionnaire [Słowińska, A. & Oleszkowicz, A. (2015). The Identity Processes Questionnaire (IPQ) – measure validation. *Studia Psychologiczne* (*Psychological Studies*), *53*(3), 9-18.]

ruminative processes and commitment making which, because of its preliminary nature, can be both suppressed and amplified by ruminative explorations. Consequently, we expect that reflective explorations will correlate positively with the two dimensions of commitment, because they support both commitment making and identification with commitments. We also expect the relationship between the two commitment dimensions, however, to be much less than in those models emphasizing a weaker preliminary nature of a made commitment. We expect the correlation to be at a moderate level, at the most.

Mean ranks differences in the identity dimensions by life context and gender. To examine theoretical validity, as in the study by Luyckx and colleagues (2008), we decided to verify the hypothesis of mean differences in identity dimensions by an educational-professional context (or age) and gender. We expect that by including the four samples that differ in terms of educational-professional context (or age), we are able to capture the significant differences in the intensity of identity processes between groups. We expect that with changes in context, both reflective exploration in breadth (cf. Luyckx et al., 2008) and ruminative exploration in depth decreases. Furthermore, we anticipate that the intensity of reflective exploration in depth is the highest in a university sample, because emerging adulthood is a period of intense identity exploration, in a situation, when some identity choices have been made (Arnett, 2000, 2001). We also hypothesized that identification with commitment would significantly increase with age and change in an educational-professional context. Referring to the results of previous studies (cf. Luyckx et al., 2008), we do not expect significant differences in the identity processes across gender, as well as interactive effect of gender and the educational-professional context.

Associations of the identity dimensions with adjustment and private self-consciousness. While testing the model's external construct validity, association with adjustment, self-reflection and self-rumination were also being verified. Adjustment was recognized both as well-being indicated by self-esteem and positive affect, as well as distress indicated by negative affect. Most hypotheses about the relationships between variables are based on the five-factor model verification (cf. Luyckx et al., 2008), with the exception reflective exploration in depth and commitment making, because these definitions (which we have introduced) differ significantly from the original definitions. According to current definitions, reflective exploration in breadth is associated with openness and cognitive curiosity, similarly to reflective exploration in depth, but this process is also linked with self-satisfaction. Therefore, we hypothesized that there is a positive relationship between a reflective exploration in depth and well-being, whereas reflective exploration is independent of the well-being determinants. Ruminative exploration is associated with persistent preoccupation and experiencing unpleasant emotions, therefore, we expect that both ruminative exploration in breadth and ruminative exploration in depth are positively associated with distress and negatively with well-being. Moreover, we expect that reflective exploration dimensions demonstrate a positive relationship with self-reflection, and ruminative dimensions with self-rumination. Furthermore, according to the previous research results on the relationship of the identity dimensions with adjustment (cf. Luyckx et al., 2006b), it has been hypothesized, that identification with commitments is associated with adjustment, positively with well-being and negatively with distress. However, given preliminary nature of commitment making, we expected the lack of its relationship with adjustment indicators. Thus, by correlating identity dimensions with external variables, it is possible to examine both convergent and divergent validity.

In order to capture the different predictive powers of the two introduced ruminative dimensions, we went to further regression analysis to predict the adjustment level (self-esteem, positive effect and negative effect) from the identity dimension. High school students are confronted with a need to make important decisions about their further education or career paths, which often require reorganizing their current life and even changing their residence. Whereas, for university students, this period of life is already behind them and due to their educational status, they represent a sample of emerging adults that are less affected by a prolonged exploration in breadth, which results in poorer adjustment (Schwartz, Zamboanga, Weisskirch, & Rodriguez, 2009). Therefore, we hypothesized that in older adolescents, ruminative exploration in breadth is a predictor of poorer adjustment, and thus is associated with a lower self-esteem, lower intensity of positive effect and higher intensity of negative emotions. Whereas in a group of university students, such relationships do not exist. For ruminative exploration in depth, we do not anticipate any association with adjustment because as we indicated earlier, older adolescents are absorbed to a greater extent by analysing various options than by deepening them. Also, among university students, we expect no association between ruminative in depth exploration and adjustment. On the one hand, precisely due to their continuation of education at the university, they are in an advantageous position and reflective exploration in depth should be more strongly associated with their adjustment. On the other hand, their personality is more formed, and as a result, both their self-esteem and emotionality should be less dependent on the actual identity processes.

Methods

Participants and Procedure

The research was carried out in western Poland. Participation in the study was voluntary, anonymous and free of charge. Data were collected during individual and group sessions. The study involved 725 Caucasian Poles, of which 642 persons with no missing data were included in the analyses. Part of the respondents filled out only identity process measure, and some a complete set of tools. The way samples were selected allowed for differentiating the respondents in terms of both educational-professional context on one hand, as well as their development phase at that moment on the other. There were 425 women (66%) and 217 men (34%) among the respondents. The average age was 20 years and four months (*SD* = 4.41). The subjects were recruited from different sized cities: 58% came from cities with over 200,000 inhabitants, 29% from towns with less than 200,000 inhabitants, and 13% from rural areas.

Sample 1 consisted of 51 early adolescents attending secondary schools. The average age was 14 years and three months (*SD* = .31). Sample 2 consisted of 270 late adolescents, students of three high schools with different learning profiles, of which 162 respondents completed a full set of tools. The average age in this group was 18 years and one month (*SD* = .46). Sample 3 consisted of 272 emerging adults, of which 178 filled out all the tools. Respondents were recruited from the students of six universities in Wrocław; however, psychology students were not invited to participate. The average age of the students was 21 years and nine months (*SD = 2.26*). Sample 4 consisted of 49 professionally active early adults. The average age in the sample was 32 years and four months (*SD = 2.0*).

Additional research to establish identity domains was conducted before constructing a tool to measure identity processes. Participants and the procedure followed will be discussed separately in the next section.

Measures

Identity dimensions. Due to the lack of a tool to differentiate dimensions of ruminative exploration in breadth and ruminative exploration in depth, we decided to create a measurement prototype for identity dimensions. We assumed that the questionnaire should assess processes that were important for young Poles identity domains.

Identifying important identity-relevant domains. Empirical reports indicate that identity formation can be different, depending on the area in which it occurs (e.g. Bartoszuk & Pittman, 2010), as well as the commitment in particular identity domains differs when taking into account such variables as socioeconomic and sociocultural group characteristics (e.g. Alberts, Mbalo & Ackermann, 2003). Measures based on Marcia's concept of identity statuses allow one to assess identity formation in a number of general and specific areas (Adams, 1998; Balistreri, Busch-Rossnagel, & Geisinger, 1995; Bosma, 1985, as cited in Kunnen, Sappa, van Geert, & Bonica, 2008; Crocetti, Rubini, & Meeus, 2008). However, empirical data is lacking regarding which of these areas are actual identity domains.

To answer the question which areas are important to young Poles in terms of exploration and identity choices, we conducted additional research. The sample consisted of 202 participants, including 69 (34%) high school students and 133 (66%) students of humanities and engineering universities. The average age was 20 years and one month (*SD* = 2.18). Women accounted for 64% of the sample. The study was voluntary, anonymous and free. Data were collected during individual and group sessions conducted in schools located in western Poland. We used the Polish language version of Twenty Statements Test (TST; Baumann, Mitchell Jr, & Persell, 1989). Participants were asked to fill in 20 empty lines by giving different answers to the question "Who am I?". This choice of tool allowed the participants an easy expression and was not limited by specific questions, while at the same time allowing for structured data collection and analysis.

Collected data were evaluated by three competent independent judges. Their task was to analyse all responses and determine to which identity domain each self-description was referring (occupation, religion, politics, philosophical life-style, friendship, dating & intimate relationship, sex roles, recreation & leisure, and others). To avoid distortions arising from defining these areas, the judges were given the items from the Objective Measure of Ego Identity Status (EOMEIS-2; Adams, 1998) grouped into particular domains instead of definitions. The choice of this method was dictated by two reasons. First, it clearly differentiates areas that are defined at a similar level of generality, and second, it contains up to eight statements about each identity domain associated with individual identity statuses, which gives the judges many examples and allows for a qualification of the subject's responses into particular categories. The response was considered to be associated with a domain when the evaluations by all the judges were consistent.

The percentage of respondents who at least once spontaneously responded to the question "Who am I?" by referring to the respective domain are presented in Table 1. The results concerning the sphere traditionally known as interpersonal were consistent with previously considered identity domains, and over half of respondents referred to this area (from 55% for dating and intimate relationships to 85.6% for occupation). However, in the respondents' description of themselves, the results regarding the ideological sphere did not overlap with the existing thesis. Traditionally, politics and religion were considered to be the areas of particular importance in identity formation. Erikson (1968) has already argued that young individuals have a need to build their relationship with society by identifying themselves with political and religious views. However, the results indicated that only 23.8% of respondents addressed religious issues and merely 4.5% political issues. Since the end of World War II until 1989, due to the political system prevailing in Poland, there was only one dominant political party. Since the system transformation, which started in 1989, the political situation in Poland has been characterized by high dynamics and unclear political divisions (e.g. Czubiński, 2003). These facts may explain the low level in which young Poles include political issues in identity identification. More difficult to explain is the very low level of reference to religion, as in Polish society religious issues are widely exposed. Although, according to data from the Central Statistical Office in Poland, at the end of 2008, there were 179 churches and denominations, and 88% of Poles declared themselves to be Roman Catholics (Dmochowska, 2011). It is possible that due to this small religious diversity, some respondents could decide not to address the area of religion, considering their religion to be obvious.

Table 1

The number of respondents who at least once reacted spontaneously to different areas of functioning, by answering the question "Who am I?"

		Identity Domain							
		Occupation	Religion	Politics	Philosophical Life-Style	Friendship	Dating & intimate relationships	Sex Roles	Recreation & Leisure
High school *n* = 69	*N*	52	9	3	48	52	37	42	63
	%	75.4	13.0	4.3	69.6	75.4	53.6	60.9	91.3
University *n* = 133	*N*	121	39	5	105	69	74	120	80
	%	91.0	29.3	3.8	78.9	51.9	55.6	90.2	60.2
Total *N* = 202	*N*	173	48	9	153	122	111	162	143
	%	85.6	23.8	4.5	75.7	60.4	55.0	80.2	70.8

Considering the results, we decided to include the following areas in the questionnaire: friendship, intimate relationships, and sex roles in the interpersonal sphere; and occupation, leisure & recreation, and philosophy of life-style in the ideological-exercise sphere. The philosophy of life-style has been defined so broadly that it included religious issues and practiced values. Leisure & recreation were sometimes incorporated into the interpersonal sphere, but there is evidence that leisure activities are closely linked with the development of professional identity during the period of educational activity (Alberts et al., 2003; Vondracek & Skorikov. 1997).

Questionnaire construction. Sixty initial items were created after considering six dimensions of identity (reflective exploration in breadth, ruminative exploration in breadth, commitment making, reflective exploration in depth, ruminative exploration in depth, and identification with commitment) and six identity domains (friendship, intimate relationships, sex roles, occupation, leisure & recreation, and philosophy of life-style). All dimensions of exploration were operationalized in reference to both cognitive and behavioral activity. We assumed that there might be differences in the intensity of cognitive and behavioral exploratory actions, depending on the area to which they related. Moreover, we also assumed that the reference to more expressive behavioral actions would be easier for the youngest respondents in Sample 1. Forms of activity were not included in the dimensions of commitment, recognizing that according to a definition of the process, commitment making applies to decision-making, thus, it occurs mainly in a cognitive area while identification with commitment is based on a cognitive-behavioral component.

Content validity of the questions was evaluated by seven competent judges (second year doctoral students of psychology) familiarized with both the original and the modified model of dual-cycle identity formation. The test material was a questionnaire made up of items arranged in random order. The judges were asked to: (1) complete the questionnaire following the instructions for respondents, (2) assign each question to one of the dimensions, (3) assess the language readability of each question on a four-point Lickert type scale, and (4) note any comments and suggestions. We decided that the criterion of content validity would be met by those positions classified to a particular dimension by four or more judges, and linguistic clarity by those items for which the average grade was at least 3, and the median coefficient of variation was less than 0.2.

Fifty-one items met the criteria for content validity. According to earlier doubts, the dimension of commitment making was often mistakenly recognized, and only two items were correctly identified by more than half the judges. Fifty-six items met linguistic clarity criteria. Forty-eight items that met all criteria were included in the pilot version of the questionnaire in their unchanged form. The remaining items were discussed, and then reformulated. Despite the ambiguity of the commitment making dimension, we decided to keep it in the model, but phrasing that clearly emphasizes its preliminary nature has been introduced.

Identity Process Questionnaire. The Identity Process Questionnaire pilot version (IPQ-P) comprised 60 items – six for each commitment dimension (one question for each domain) and 12 for the distinguished exploration dimensions (6 domains X 2 questions: one about cognitive exploration and one about behavioral exploration). Sample test items are presented in Table 2. Respondents' goal is to determine the extent to which each statement described them and their beliefs. Answers were given on a four-point Likert-type scale, ranging from 1 (*definitely does not describe me*) to 4 (*definitely describes me*).

Table 2

Sample items the IPQ-P

Reflective exploration in breadth / Leisure & Recreation / Behavioral activity Example: *I can determine what I like to do the most, due to the fact that I spend my free time in many different ways.*
Ruminative exploration in breadth / Intimate relationships / Cognitive activity Example: *I worry that I will not be able to build a relationship that will meet my expectations.*
Commitment making / Occupation Example: *I have already decided what profession I would like to have; however, my career plans may still change.*

Reflective exploration in depth / Friendship / Cognitive activity Example: *By analysing my relationships with people who are close to me, I gain a clearer vision of friendship.*
Ruminative exploration in depth / Sex roles / Behavioral activity Example: *Although I do what I think a man or a woman should be doing, this role does not fulfill me.*
Identification with commitment / Philosophy of life-style Example: *I am sure that my lifestyle, beliefs and values, that I live by are completely mine and are agreeing with me.*

Cronbach's alpha values for Sample 2, Sample 3, and for Sample 2 and 3 together, are shown in Table 3. Most scales had good reliability (Cronbach's alpha ≥ .70); only in the university sample, estimated Cronbach's alpha for the identification with commitment scale is only .61, suggesting a multidimensional nature of identification with commitment in emerging adulthood. However, all the coefficients still remained at an acceptable level and reached a similar or greater value than the reliability indicators of other measures used to assess identity elements, which relate to different functioning areas (Adams, 1998; Balistreri et al., 1995).

Table 3

Cronbach's Alpras for the scales of IPQ-P

	Cronbach's Alpha		
	Sample 2 + Sample 3 *n* = 340	Sample 2 *n* = 162	Sample 3 *n* = 178
Reflective exploration in breadth	.78	.78	.78
Ruminative exploration in breadth	.82	.82	.82
Commitment making	.70	.70	.71
Reflective exploration in depth	.80	.81	.77
Ruminative exploration in depth	.82	.82	.82
Identification with commitment	.70	.74	.61

Verifying the modified model's construct validity, which was our primary objective in conducting the research, served also to verify the IPQ-P validity. Results regarding validity of the questionnaire and the model are described and discussed together in the subsequent paragraphs.

Adjustment. Selecting adjustment measures was dictated by the desire to capture both well-being and distress; these variables were used in the research plan for testing the external validity of the five-dimensional model (Luyckx et al. 2008). However, when assessing distress, we decided not to use psychopathological phenomena measures, such as symptoms of depression and anxiety, but to use negative affect, which remained in a strong relationship with them (Watson, 2005). Self-esteem and positive affect were treated as correlates of well-being.

Self-esteem was measured using the Self-Esteem Scale (SES; Rosenberg, 1965). The Polish adaptation was created by Dzwonkowska, Lachowicz-Tabaczek, and Łaguna (2008). SES is a one-dimensional tool that allows researchers to rank participants based on their self-esteem. It comprises ten statements relating to a general level of self-esteem, understood as the attitude towards Self. Respondents answer questions regarding their beliefs about themselves using a four-point Likert-type scale, ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). Cronbach's alpha in the present study was .84 in Sample 2, and .88 in Sample 3.

Positive and negative affect was measured using the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988, 1998) in the Brzezinski's Polish adaptation (2010). Version of the scale that was used, consists of a list of ten positive and ten negative adjectives that relate to emotional states experienced by respondents, its intensity is assessed on a five-point scales, ranging from 1 (*slightly or not at all*) to 5 (*very strongly*). Modified instructions, accepted by the authors (Brzeziński 2010; Watson & Clark, 1994) were used and according to them subjects rated their experienced intensities of particular emotions during the last few weeks. The original version is used to test long-term emotional dispositions (*How do you usually feel?*) or short-term emotional states (*How do you feel at the moment?*). The instructions regarding the last few weeks made it possible to collect data on relatively stable emotional states, which could then be interpreted as an indication of symptoms of both anxiety and fear (Watson, 2005), as well as a person's adjustment level (Brzezinski, 2010; McDowell, 2006). Correspondingly, for the positive affect scale and the negative affect scale, Cronbach's alphas in the presented study equaled .87 and .89 in Sample 2, and .89 and .88 in Sample 3.

Self-reflection and self-rumination. As in the original studies (Luycks et al. 2008), Trapnell and Campbell's Rumination-Reflection Questionnaire (RRQ; 1999) was used to measure self-reflection and self-rumination. Each of the two scales consists of 12 statements that describe ruminative and reflective activities. For each statement, respondents specify a level of their agreement or disagreement, using a five-point Likert-type scale, ranging from 1 (*Strongly disagree*) to 5 (*Strongly agree).* Cronbach's alphas in the current study equaled .87 and .87 in Sample 2, and .88 and .87 in Sample 3, for the self-rumination scale and the self-reflection scale, respectively.

Results

Factorial Validity

Due to the model's high complexity and high number of observed variables in relation to the number of latent variables, during the factorial validity test we applied Confirmatory Factor Analysis (CFA) with parceling. We used random parceling – three groups of four items were created for each exploration dimension, and two groups of three items for each commitment dimension. CFA was performed using SPSS Amos 20. The fit measures are presented in Table 4. The fit indices show that the proposed six-factor model fits the data adequately, χ^2 = 296.16, *df* = 89, RMSEA = .07, GFI = .94, AGFI = .90, CFI = .94. Standardized pattern coefficients for the parcels on their respective factors ranged between .69 and .83. Moreover, the CFA indicates the modified model fits better than does the five-factor model containing one ruminative exploration dimension, χ^2 = 414.13, *df* = 94, RMSEA = .08, GFI = .91, AGFI = .87, CFI = .91, and better than in the four-factor model that does not differentiate reflective and ruminative exploration forms, which does not meet the criteria of a good fit, χ^2 = 1540.50, *df* = 98, *RMSEA* = .17, *GFI* = .65, *AGFI* = .51, *CFI* = .61.

Table 4

Fit measures of the tested models in the CFA in Sample 2 and 3 (n = 542)

Model	χ^2	df	χ^2/df	RMSEA	GFI	AGFI	CFI
six-factor model	296.16	89	3.33	.066	.94	.90	.94
five-factor model (RuEB + RuED)	414.13	94	4.41	.079	.91	.87	.91
four-factor model (ReEB+RuEB, ReED+RuED)	1540.50	98	15.72	.165	.65	.51	.61

Note: ReEB, Reflective exploration in breadth; RuEB, Ruminative exploration in breadth; ReED, Reflective exploration in depth; RuED, Ruminative exploration in depth; df, degrees of freedom, $\chi2$, maximum likelihood chi-square; RMSEA, root mean square error of approximation; GFI, goodness of fit index; AGFI, adjusted goodness of fit index; CFI, comparative fit index. In the reduced models + connecting the dimensions means that they were combined into a single dimension.

Associations among the Identity Dimensions

Correlation between the model's dimensions were verified using SPSS Statistics 20. The results are shown in Table 5. In most cases, correlations were consistent with the hypothesis and the direction of the correlation was the same in both samples. Both reflective explorations and ruminative explorations positively correlated with each other, although the strength of correlation between ruminative explorations was higher than expected, $r = .67$, $p < .001$ in Sample 2, and $r = .71$, $p < .001$ in Sample 3. Ruminative exploration dimensions negatively correlated with identification with commitment and this association was significantly stronger among high school students, $r = -.27$, p < .001; r = −.25, $p < .001$ for ruminative exploration in breadth and ruminative exploration in depth, respectively, than for university students, $r = -.60$, $p < .001$; $r = -.60$, $p < .001$; $z = 5.01$, $p < .001$. Both dimensions of ruminative exploration did not correlate with commitment making. Commitment dimensions positively correlated with reflective types of exploration, with one exception – in the emerging adults' group, identification with commitment was uncorrelated with reflective exploration in breadth, $r = .11$, $p = .08$. In the older group, according to the hypothesis, there was also no connection between commitment making and identification with commitment, which was observed in the younger group.

Significant differences between groups differing in the educational-professional context were also observed in the correlation between reflective exploration in breadth and ruminative exploration in breadth. In the older group, these dimensions had no common variance; however, in the younger group, they are positively correlated, $r = .33$, $p < .001$; $r = .08$, $p < .018$ for Sample 2 and for Sample 3, respectively; $z = 3.04$; $p = .001$. Concerning the correlation of reflective exploration in depth and ruminative exploration in depth, in the younger group association did not exist, whereas in the older group these dimensions correlated negatively, $r = −.03$, $p < .58$; $r = −.37$, $p < .001$ for Sample 2 and for Sample 3, respectively; $z = 4.15$; $p < .001$. We consider these differences to be very interesting and theoretically justified.

Table 5

Correlations between the dimensions of the model, in Sample 2 (n = 270) and Sample 3 (n = 272)

	1.	2.	3.	4.	5.	6.
1. ReEB		.33**	.31**	.43**	.26**	.24**
2. RuEB	.08		.03	−.06	.67**	−.27**
3. CM	.17**	−.04		.50**	.12	.25**
4. ReED	.34**	−.42**	.26**		−.03	.59**
5. RuED	.04	.71**	.07	−.37**		−.25**
6. IC	.11	−.60**	.08	.52**	−.60**	

Note: ReEB, Reflective exploration in breadth; RuEB, Ruminative exploration in breadth; CM, Commitment making; ReED, Reflective exploration in depth; RuED, Ruminative exploration in depth; IC, Identification with commitment. Sample 2 correlations above the diagonal; Sample 3 correlations below the diagonal.

** p < .01.

Mean Differences in the Identity Dimensions by Life Context and Gender

In order to determine the differences between groups, we used multivariate analysis of variance following by Duncan's multiple range test and the Kruskal-Wallis analysis of variance with post-hoc comparisons of mean ranks (all showed p-values refers to the two-sided significance levels with a Bonferroni adjustment). Analyses were performed using STATISTICA 10. Results of multivariate analysis of variance of all six identity dimensions for the educational-professional context and gender, performed on the data of Sample 2 ($n = 168$) and Sample 3 ($n = 178$) were consistent with our hypotheses. There was no significant main effect for gender, $F(6,331) = .90$, $p = .49$, $\eta^2 = .02$, nor an interactive effect of gender and educational-professional context, $F(6,331) = 1.48$, $p = .19$, $\eta^2 = .03$, $\lambda_{\text{Wilks}} = .97$. However, we captured a significant main effect of educational-professional context, $F(6,331) = .90$, $p <.001$, $\eta^2 = .08$.

Results of a non-parametric analysis of variance for the educational-professional context (or age) conducted on data from all samples (i.e., lower secondary schools/early adolescence, secondary school/late adolescence, higher education/emerging adulthood, professional work/early adulthood) were mostly consistent with our hypotheses. Differences in mean ranks are presented on Figures 2. There was significant effect of context on reflective exploration in breadth, $\chi^2(3, N = 440) = 13.06$, $p = .005$. Young adults had a significantly lower scores in this dimension than those of the younger group, z-score were from 2.73 to 3.47, significance levels from .003 to .04. Similarly, we observed significant differences in ruminative exploration in breadth, $\chi^2(3, N = 440) = 20.86$, $p < .001$. Early adolescents achieved higher scores on this dimension than the representatives of older groups (z-score were from 3.39 to 4.29, significance levels from .0001 to .004). Differences in average scores in reflective exploration in depth were significant as well, $\chi^2(3, N = 440) = 19.73$, $p < .001$. Emerging adults achieved higher scores than early adolescents, $z = 2.81$, $p = .03$, and late adolescents, $z = 3.96$, $p < .001$, however, there was no significant difference between them and young adults, $z = 0.36$, $p = 1.00$. The intensity of identification with commitment in particular groups also significantly differed, $\chi^2(3, N = 440) = 32.51$, $p < .001$. Young adults and emerging adults achieve higher scores than both group of adolescents, z-score were from 3.29 to 4.43, significance levels less than .005, but didn't differ, in terms of this variable, from each other, $z = 0.78$, $p = 1.00$.

Thus, with one exception, the results of the analysis of variance were consistent with the hypotheses. Only the hypothesis of the strongest intensity of ruminative exploration in depth in emerging adulthood was not confirmed – the intensity was higher than in younger groups, but young working adults explored in depth in the same extent as studying emerging adults.

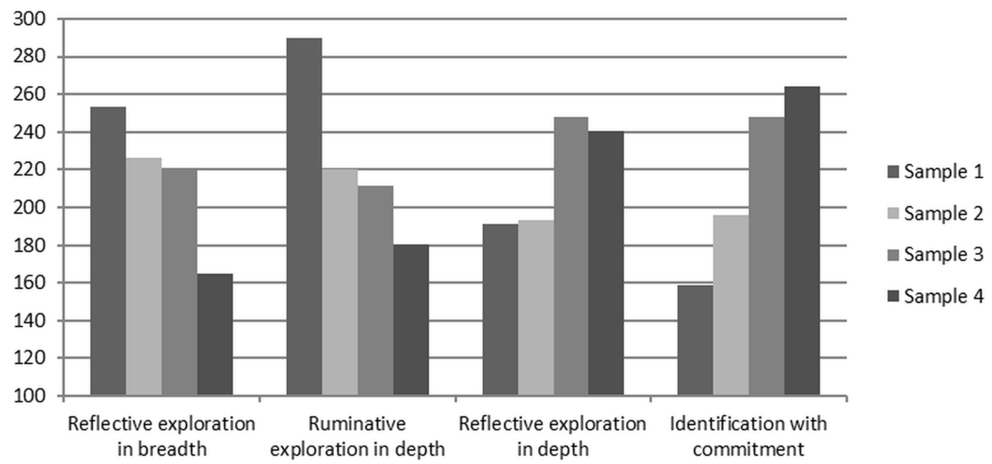

Fig. 2. Mean ranks in groups with different educational-professional context (or age) (Sample 1, $n = 51$; Sample 2; $n = 162$, Sample 3; $n = 178$; Sample 4, $n = 49$).

Associations of the identity dimensions with adjustment and private self-consciousness

Regression analysis and correlation analysis between the variables included in the model and external variables were performed using SPSS Statistics 20. Table 6 shows correlations between all identity dimensions and variables of adjustment and reflective and ruminative self-awareness in Sample 2 and Sample 3. With one exception, the results were consistent with our hypothesis. Reflecting exploration in depth positively correlated with indicators of well-being, while reflective exploration in breadth was not related to well-being. Both types of reflective exploration positively correlated with self-reflection. Both types of ruminative exploration negatively correlated with well-being and positively with distress and self-rumination. Higher identification with commitment was associated with higher level of well-being and lower distress. We assumed that commitment making was not related to indicators of adjustment, and indeed, in most cases it was true, however, in a group of emerging adults there was a weak positive correlation of this dimension with self-esteem. In conclusion, the results of the correlation analysis indicated satisfactory convergent and divergent accuracy of the model.

Table 6

Correlation coefficients between the identity dimensions and external variables in Sample 2 (n = 162) and Sample 3 (n = 178)

	ReEB	RuEB	CM	ReED	RuED	IC
Self-reflection	.41** / .26**	.28** / −.13*	.24** / .02	.36** / .31**	.12 / −.07	06 / 12
Self-rumination	.14* / .25**	.46** / .26**	.11 / .09	.03 / −.05	.42** / .29**	−.11 / −.17*
Self-esteem	.08 / −.01	−.36** / −.34**	.10 / .15*	.29** / .29**	−.31** / −.31**	.21** / .33**
Positive affect	.06 / .02	−.27** / −.40**	.08 / .07	.20** / .45**	−.20** / −.41**	.20** / .37**
Negative affect	.10 / .03	.48** / .29**	−.05 / .03	−.08 / −.21**	.33** / .29**	−.16* / −.17*

Note: ReEB, Reflective exploration in breadth; RuEB, Ruminative exploration in breadth; CM, Commitment making; ReED, Reflective exploration in depth; RuED, Ruminative exploration in depth; IC, Identification with commitment. In each cell, the first coefficient relates to Sample 2, and the second to Sample 3.

* p < .05; ** p < .01.

Regression analysis was performed for models predicted well-being and distress from all the identity dimension. The standardized regression coefficients and coefficients of determination for each indicator of adjustment are presented in Table 7. As expected, we captured a unique relationship of ruminative exploration in breadth with adjustment. In the high school sample, ruminative exploration in breadth had significant predictive power for self-esteem, $\beta = -0.34$; $t = -3.69$; $p < 0.001$, positive affect, $\beta = -0.26$, $t = -2.59$, $p = 0.01$, and negative affect, $\beta = -0.46$; $t = 4.91$; $p < 0.001$, whereas in the university sample, this type of dependency did not occur. Ruminative exploration in depth was not related to the indicators of adjustment in both samples. Results of regression analysis support the hypothesis that there are two types of ruminative exploration, ruminative exploration in breadth and ruminative exploration in depth.

Table 7

Standardized regression coefficients for indicators of adjustment on identity dimensions and adjusted coefficients of determination in Sample 2 (n = 162) and Sample 3 (n = 178)

	Standarized Betas						Adjusted R-squared
	ReEB	RuEB	CM	ReED	RuED	IC	
Self-esteem	.10 / −.08	−.34*** / −.12	−.08/ .14	.40*** / .14	-,16 / −.11	−.16/ −.12	.23 / .15
Positive affect	.07 / −.08	−.26**/ −.12	−.03 / .03	.19 / .34***	−.06 / −.18	−.01 / .04	.09 / .26
Negative affect	−.02 / .04	.46*** / .18	−.01 / .04	−.10 / −.16	.06 / .16	.03 / .10	.22 / .09

Note: ReEB, Reflective exploration in breadth; RuEB, Ruminative exploration in breadth; CM, Commitment making; ReED, Reflective exploration in depth; RuED, Ruminative exploration in depth; IC, Identification with commitment. In each cell, the first coefficient relates to Sample 2, and the other one to Sample 3.

** $p < .01$; *** $p < .001$.

Discussion

Our research was designed to verify the theoretical validity of the modified version of Luyckx et al.'s dual-cycle model of identity formation that take into account the two forms of ruminative exploration – ruminative exploration in breadth and ruminative exploration in depth. The original model and the modified model also differ in their definition of commitment making, which currently refers to making an initial decision relevant to identity issues. The results indicate that the model has a satisfactory validity.

Results of Confirmatory Factor Analysis indicate that the proposed model has satisfactory factorial validity. Its comparison with alternative models based on previous dual-cycle model versions has shown that the six-factor solution fits the data better than others. Most associations between the identity dimension were in line with expectations, indicating satisfactory internal validity. There were, however, some deviations from the hypotheses in groups differing in the educational-professional context (or age).

As predicted, in the university sample (emerging adults), reflective exploration in breadth and ruminative exploration in breadth were independent. Whereas, in the high school sample (older adolescents), both explorations in breadth had a common part of the variance. This may indicate that considering numerous options by an individual at an earlier age is associated with both openness and experiencing doubt and unpleasant emotions, while during emerging adulthood these processes are independent. Adolescents are under stronger pressure from the social environment and from conflicting influences and expectations by different groups (parents, peers, friends, media, etc.). They may have a problem with autonomously selecting different options and with making autonomous choices, due to still rapidly expanding cognitive processes, processes of emotional control, moral judgment, and even the development of the frontal lobes of the brain (Giedd, Blumenthal, Jeffries, Castellanos, Liu, Zijdenbos, Paus, & Rapoport, 1999). While in emerging adulthood, both biological and cognitive, emotional and moral maturity are attained at a much greater degree. Thus, differences in the correlations of reflective and ruminative exploration in breadth may be justified by many developmental changes specific to adolescents, while in later developmental stages it becomes more individualized. In research that took only one type of ruminative exploration into account, both in high school students, as well as university students, exploration in breadth was positively associated with ruminative exploration (Luyckx et al., 2008).

The second difference relates to the association between reflective and ruminative exploration in depth. As predicted, in adolescents, these dimensions were independent, while in the emerging adults a higher level of one of these dimensions is associated with a lower level of the other. We may search for its explanation by referring to studies on the relationships of private self-consciousness with personality traits (Trapnell & Campbell, 1999). Perhaps, there is a correlation between personality traits, particularly between neuroticism and openness to experience, and exploration in depth, which occurs simultaneously with the development and stabilization of personality at the age of a university student (McCrae & Costa, 1990). Thus, in this relationship, we pay attention to individual differences which could explain the negative relationship between explorations in depth in a group of university students.

Differences in associating the two dimensions of commitment between adolescents and emerging adults were also sighted. As expected, in the younger sample these dimensions correlated, but in the older sample they were independent. This independence may indicate that during the period of university studies people chose one clear strategy regardless of the identity activities – they either identify themselves with their commitments, or for various reasons, make interim choices. This group has more experience with commitment making. They have already passed through a period of radical support for chosen options, and may also have a greater insight into themselves and higher self-awareness. Thus, a better differentiation in commitment making and identification with commitments may result from an individual's awareness of necessarily having to revise life plans (Arnett, 2000), from the need to further crystallize self-image or obtain further information on the possible versions of the future (Bańka, 2007), from the fear of full commitment (Wolfe & Betz, 2004), or it may manifest a permanent disposition, i.e. indecisiveness (Osipow, 1999). These three results, although inconsistent with our hypotheses, point to the usefulness of the proposed distinction between ruminative exploration in breadth and ruminative exploration in depth and a redefinition of commitment making, allowing us to obtain more precise information on identity development.

We observed expected differences in the identity processes between the groups differing with an educational-professional context (or age). Changing the context reduces the intensity of both reflective and ruminative exploration in breadth and increases the degree of identification with commitment. However, there was no significant difference in the intensity of identification with commitment between students and professionally active individuals. The last result may present an argument in the ongoing debate about the status of emerging adulthood (e.g. Arnett, 2000, 2001; Zagórska, Jelińska, Surma, & Lipska, 2012), indicating that in some features and identity processes, emerging adults are similar to young adults. For example, in reflective exploration in depth, it shows an increase in its intensity until the period of university studies; however, there are no differences in this respect between the two oldest groups. Similar results were also obtained in studies conducted in other parts of Poland, where studies were based on the five-factor model, and data were collected using DIDS (Brzezińska & Piotrowski, 2010a; Piotrowski, 2010).

As part of verifying the external validity, we confirmed the relationship between the identity dimensions and reflective and ruminative self-awareness, and the adjustment. There was one exception: in the emerging adult group a weak association of commitment making with self-esteem was observed. We also captured a varied effect of separate ruminative exploration dimensions on the individual's adjustment – only in high school sample ruminative exploration in breadth had an influence on lowering self-esteem, increasing negative emotions and reducing the intensity of positive emotions, but we did not see a relationship between ruminative exploration in depth and adjustment.

Summarizing, the proposed modification of the model may be an alternative to the original model which takes only one dimension of ruminative exploration into account (Luyckx et al., 2008). The advantage of our approach lies in restoring a dual-cycle sequential approach to identity formation, present in the model's first version (Luyckx et al., 2005), which introduces a logical order and facilitates analyses of both intensive development of identity in adolescence and early adulthood, as well as its changes later in life. Moreover, the distinction between two ruminative dimensions and a preliminary character of commitment making may facilitate further research on adaptive and maladaptive aspects of identity processes. Although many questions have already been asked, the proposed model may help to more fully answer some of them. For example, what impact on a person's functioning does a persistent exploration of a range of possible alternatives have? And what is the impact of a constant in depth analysis of decisions that have already been made? In which situations does the sole presence of an initial commitment have a normative, adaptive significance, and in which is this significance non-adaptive or even pathological? Which dispositional and situational variables improve non-adaptive identity processes, and which protect against them? And of course, how do these associations proceed in different life stages?

We should also take notice of any doubts, limitations and suggestions. First, even though the existence of two ruminative dimensions of exploration has been justified empirically, due to their high intercorrelation, a less complex original model may present a more appropriate theoretical base for analysing a phenomenon which is to a lesser extent related to the non-adaptive aspect of identity processes. Secondly, we found that only ruminative exploration in breadth affected adjustment and this dependence is present only in the high school sample. However, we should remember that, in our study, only three adjustment indicators were used and the emerging adult group included only university students. We believe that it is worthwhile to continue the research on the proposed model by using a more complex operationalization of adjustment, taking into account groups that differ in age and educational-professional status because it may provide us with a more precise understanding of the maladaptive aspects of identity formation. At this stage, possible types or statuses of identity have not yet been investigated, and it is the configuration of the dimensions can significantly determine how an individual functions (Kroger & Marcia, 2011; Marcia, 1966; Marcia, 2002, Stephen, Fraser, & Marcia, 1992); therefore it would be appropriate to define, in future studies, which types of identity can be established based on the six-factor model. And finally, we should be aware of the limitation that generalizing results has. It is associated with the research procedure itself – our study had a cross-sectional character, only self-report measures were used, extreme age groups were not very numerous, and the samples included only Caucasian Poles. Thus, although the results seem to be promising, research should be continued basing on a longitudinal plan, on data from more numerous and diverse subject groups, and on different measuring tools which will allow for collecting more objective data.

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The role of the happiness philosophy and core self-evaluations in defining job satisfaction as seen by the self and the significant other

Abstract

Our paper analyses sources of job satisfaction. A cross-sectional study in two variants: an online questionnaire (*n*=642) and its paper version (*n*=635), were used to measure the impact of core self-evaluations, hedonism and eudaimonism on job satisfaction. To strengthen the dependent variable (job satisfaction) measurement, two sources for this data were used: the target person's self-assessment and his or her significant other's evaluation. The results show that the significant other's assessment can be a valuable source of information on the target person's job satisfaction. On top of that, hierarchical regression has shown that both happiness philosophies: eudaimonism and hedonism have predictive power over the assessment of job satisfaction based on core self-evaluations.

Keywords

job satisfaction, core self-evaluations, hedonism, eudaimonism, single source bias

Streszczenie

Bieżący artykuł bada źródła satysfakcji z pracy. Wieloźródłowe badanie zostało przeprowadzone w dwóch formach: jako kwestionariusz online (*n*=642) i jako kwestionariusz papierowy (*n*=635). Żeby ujednoznacznić pomiar zmiennej zależnej (zadowolenie z pracy), wykorzystano dwa źródła jej pomiaru: samoocena badanej osoby oraz ocena przez ważną inną osobę. Wyniki pokazują, iż ocena przez bliską osobę może być wartościowym źródłem informacji o samoocenie badanej osoby. Dodatkowo w ramach hierarchicznej analizy regresji wykazano, iż obie formy filozofii szczęścia: eudaimonizm i hedonizm pozwalają na przewidywanie satysfakcji z pracy ponad przewidywanie oparte o podstawowe samowartościowanie.

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Słowa kluczowe
zadowolenie z pracy, podstawowe samowartościowanie, hedonizm, eudajmonizm, problem jednoźródłowości danych.

Introduction

Looking at the positive side of human behavior becomes increasingly important among psychologists (Ryff, 1989; Czapiński, 2004; Lyubomirsky, 2014). The same tendency can be observed in applied aspects of psychology, namely in work psychology (Judge, Bono, & Locke, 2000; Srivastava, Locke, Judge, & Adams, 2010). Our paper is in line with this tendency, focusing on the positive side of work. Although one might argue that focusing on job satisfaction is not new (see for example Locke, 1976; Spector, 1997) it has been drawing less attention until recently. Our main focus lies in the positive side as captured by job satisfaction. This construct describes the general evaluation a person has about his or her job (Brayfield & Rothe, 1951). There are many ways in which job satisfaction can be viewed. Zalewska (2003) indicates two major distinctions in satisfaction measurement: component-based and holistic job evaluations. The first type consists of evaluations of different specific work areas (like coworkers, workplace, wages etc.). Satisfaction for such domains is measured separately. It is afterwards added up to receive a general score. The problem with such an approach, according to Zalewska (2003), is that the average satisfaction with specific areas may not give the same result as the general, or holistic, evaluation (see also Scarpello & Campbell, 1983). Therefore, we rely on a holistic approach to job satisfaction.

It can be argued that the only source for data on satisfaction can be the self-report. Since the pioneering Wundt studies, psychology has relied on introspection, especially for the measurement of internal states and processes. Besides this method's many positive aspects, like direct access to a subject's thoughts and feelings, it also has some drawbacks. The biggest one is its dependence on many ostensibly unimportant factors, like weather for example (see Schwarz & Clore, 1983). To resolve this issue, we proposed a compensatory measurement approach to job satisfaction. Relying on the assumption that the job situation is strongly related to the home situation (Kinnunen, Feldt, Mauno, & Rantanen, 2010; Allen et al., 2012), which in turn usually involves communication about one's work (Green, Bull Schaefer, MacDermid, & Weiss, 2011; Wayne, Casper, Matthews, & Allen, 2013; Hahn & Dormann, 2013), we adapted a measure of individual job satisfaction. The idea is that the same set of questions is answered by both the target person and his or her significant other. In this way we wanted to see to what extent the self-reports on job satisfaction can be confirmed by an interpersonally close, yet external source. The comparison of both sources of job satisfaction measurement will be presented in the results section.

Even if we are able to measure job satisfaction correctly, we are not sure yet what the source of it is. Some researchers claim that work environment design is the key factor (Herzberg, 1973; Hackman & Oldham, 1980; Oldham & Hackman, 2010). Although those theories have gathered support over the years (see for example Fried & Ferris, 1987; Oldham & Hackman, 2010), they do not take into account individual differences. To put it simply, such environmental theories, called *situational theories*, state that no matter who you are any job can be improved to suit you. Although this promise sounds nice, it relies on the notion that every person desires a perfect job in which he or she can excel, which is called *high growth need* (Hackman & Oldham, 1980). It means that each person should want to grow from their work, to actually benefit from an enriched work environment. But then the question appears to which extent it is applicable to any given person. An interesting approach to solve this problem can be found within the interpersonal differences paradigm. For example, Judge and his colleagues (Judge, Locke, Durham, & Kluger, 1998) suggest that the four core psychological variables, namely self-esteem, (internal) locus of control, positive emotionality and generalized self-efficacy, can be the individual variables which are prerequisites for job satisfaction. People with high levels of those traits are supposed to be able to better utilize their assets within their work environments, thus being able to grow. Such a group of traits (called *Core Self-Evaluations*; Judge & Bono, 2001) seems to be a good predictor of job satisfaction, being to a great extent independent of environmental work-related factors (but see Srivastava et al., 2010; McNall, Masuda, Shanock, & Nicklin, 2011; Wu & Griffin, 2012).

If we rely on the notion that core self-evaluations do allow for job satisfaction prediction (Srivastava et al., 2010; Walczak, 2014), an important question arises: What could be the sources of different levels of this meta-trait among individuals? A promising explanation lies within the recently reappearing discussion on two distinct happiness sources – hedonistic and eudaimonic (Ryan & Deci, 2001; Huta & Ryan, 2010). The first one relates to happiness derived from pleasurable activities, whereas the second one is more concentrated on happiness derived from realizing ambitious goals. Despite the fact that both areas can be interlinked (Dolan, 2014), they offer different paths to job satisfaction. A person preferring pursuit of pleasure – that is, of a more hedonistic inclination, will rather minimize the amount of time and effort spent on work, decreasing work related dissatisfaction, and maximizing pleasures from off-work activity. On the other hand, a person preferring the eudaimonic path to happiness will maximize the effort and time spent at work (as it is a purposeful activity) to be able to reach more ambitious goals (also at work). Such activities will increase the general happiness eudaemonists derive from work. Of course there can be some contradictory examples to the aforementioned situations. Some people may simply enjoy their work (in a purely pleasurable way – pro golfers for example), which would allow them to spend more time at work while following the hedonist's path. On the other hand, some eudaemonists may not see their work as meaningful enough, forcing them to search for ambitious goals outside of work. Such cases may be rare, however, and would probably not undermine the general assumption that a greater belief in the Eudaimonic philosophy jointly with higher core self-evaluations would be positively related to job satisfaction. In the same way, people considering themselves hedonists would probably not derive satisfaction from work and would also not be so high in core self-evaluation, which translates to a negative relation – the more a person seeks pleasures in life, the less he or she would be happy with a typical job.

To summarize, we propose the following set of assumptions.

> H_1: The job satisfaction reports provided by significant others will be highly consistent with self-reported job satisfaction.
> H_2: People with higher levels of Core Self-Evaluations will be more satisfied with their job.
> H_3: The higher the level of purpose seeking (understood as a preference for Eudaimonism), the greater the satisfaction with one's job.
> H_4: The higher the level of pleasure seeking (understood as a preference for Hedonism), the lower the satisfaction with one's job.
> H_5: Core Self-Evaluations as a higher-order variable will have greater predictive power for Job Satisfaction, compared to Happiness Philosophy.

Materials and Methods

To measure the mutual impact of the happiness philosophy and core self-evaluations on job satisfaction, both judged individually and by a significant other, we designed a multi-source cross-sectional study.

Participants

Working people were invited to fill in an online questionnaire (n=642) or were handed a paper version of that questionnaire (n=635) by multiple confederates, for a total sample of N=1277. There were n=718 women in the study, n=549 men, and n=10 people did not indicate their gender. A large portion (57%) of respondents had a higher education diploma. The age of respondents ranged from 18 to 70 years (M = 33.3, Sd = 10.2), and the average length of employment was *M* = 11.4 years (*Sd* = 10.23). Average length of employment in the current organization was *M* = 7.0; *Sd* = 7.8 years.

Measures

Job satisfaction in the project is understood as the cognitive measure of general positive job evaluation. It was measured by a short scale proposed by Judge and others (Judge, Erez, Bono, & Thoresen, 2003), which is, in turn, an adaptation of Brayfield & Rothe's scale (1951). The measure comprises five items, similar to *I feel fairly well satisfied with my present job.* The scale was adapted to Polish for two purposes: a direct adaptation was the primary measure for the dependent variable. An additional modification was made to use the scale with the target persons' significant others. Questions were adjusted for this purpose – specific phrasing is presented in Table 1.

Table 1

Items phrasing in the adaptations of Brief Job Satisfaction Scale (Judge et al., 2003). (R) indicates reverse-coded questions.

Original	Polish version	Questions for important other
I feel fairly well satisfied with my present job.	Czuję się dość zadowolony/a z mojej obecnej pracy.	Czy czuje się dość zadowolony/a z obecnej pracy?
Most days I am enthusiastic about my work.	Przez większość dni jestem entuzjastycznie nastawiony/a do mojej pracy.	Czy przez większość dni jest entuzjastycznie nastawiony/a do pracy?
Each day of work seems like it will never end. (R)	Każdy dzień w pracy wydaje się nie mieć końca. (R)	Czy wszystkie dni w pracy wydają się z jego/jej relacji strasznie dłużyć? (R)
I find real enjoyment in my work.	Moja praca sprawia mi prawdziwą przyjemność.	Czy jego/jej praca sprawia mu/jej prawdziwą przyjemność?
I consider my job rather unpleasant. (R)	Uważam, że moja praca jest raczej nieprzyjemna. (R)	Czy uważa, że jego/jej praca jest raczej nieprzyjemna? (R)

Each item was scored using a five-point Likert-type scale ranging from strongly agree to strongly disagree. The scales have a high level of internal consistency, both in the direct phrasing (Cronbach's $\alpha = 0.88$), and in the significant other version (Cronbach's $\alpha = 0.83$).

Happiness Philosophy was measured with the HEMA scale (Huta & Ryan, 2010), in the Polish adaptation by Bujacz et al. (Bujacz, Vittersø, Huta, & Kaczmarek, 2014).

The Core Self-Evaluations scale was measured using CSE-scale (Judge et al., 2003), in the Polish adaptation by Walczak (2014).

Procedure

Participants received a link, either from the author, or from the author's confederate, by means of e-mail or a social network portal. After clicking on the link they were directed to a webpage (on Google Docs platform) where they responded to the survey questions.

A subset of participants (particularly those with limited Internet access) received a paper questionnaire at work to be filled in at their convenience, and returned it to the person from whom they had received it. Afterwards, all data was input to statistical software and analyzed.

Results

In the first step both versions (pen & paper and online) were compared. For both versions of the dependent variable and for the CSE-scale, there were no significant differences (Mann-Whitney's U-Test; $p>0.05$). There appeared, however, differences in the HEMA measure, where both Hedonism and Eudaimonism were evaluated higher in the Internet sample (Mann-Whitney's U-Test; $p<0.01$). This required using the questionnaire form as a controlled variable in the subsequent analyses.

A major problem in organizational research is the reliance on single source data – mostly self-reports. We presented a partial solution to this problem. To see to which extent the self-evaluation of job satisfaction can be evaluated by a significant other (H_1), a correlation analysis of self and other satisfaction measure was conducted. Results are presented in the Table below.

Table 2

Correlations between self-assessed job satisfaction and job-satisfaction assessed by significant other

Significant other	Sample(n)	Correlation with one's own job satisfaction evaluation (R)
Partner	645	0.7828
Sibling	95	0.6836
Parent	105	0.7512
Friend	320	0.7668

The above results show high coherence between the self and the significant other's job satisfaction evaluation, which confirms H_1.

To assess the happiness philosophy's predictive power over core self-evaluation on job satisfaction (H_2-H_5), after taking into account a significant other's evaluation, we performed a hierarchical regression analysis. As a consequence of possible differences between the questionnaire forms, the sample was divided into two groups, according to the filling-in way (online and pen & paper). Then, as the first step, the Significant Other measure of job satisfaction was put into the model, then Core Self-Evaluations (CSES), and lastly, the Eudaimonism and the Hedonism measures (Hema_e and Hema_h). Results are presented in the Tables below.

Table 3

Hierarchical regression models

Form	Model	R	R^2	Corr. R^2	Std. error	Change statistics				
						R^2change	F	df1	df2	F sig.
Pen & Paper	1 [a]	.765	.585	.585	2.16	.585	848.189	1	601	.000
	2 [b]	.790	.625	.623	2.06	.039	62.829	1	600	.000
	3 [c]	.793	.629	.627	2.05	.004	7.184	1	599	.008
	4 [d]	.793	.629	.627	2.05	.000	.584	1	598	.445
Online	1 [a]	.792	.627	.627	2.62	.627	1076.838	1	640	.000
	2 [b]	.797	.635	.634	2.60	.008	13.772	1	639	.000
	3 [c]	.799	.638	.636	2.59	.003	4.548	1	638	.033
	4 [d]	.800	.640	.638	2.58	.003	4.726	1	637	.030

a. Predictors: Job Satisfaction by Significant Other

b. Predictors: Job Satisfaction by Significant Other, CSES

c. Predictors: Job Satisfaction by Significant Other, CSES, HEMA_e

d. Predictors: Job Satisfaction by Significant Other, CSES, HEMA_e, HEMA_h

It is to be noted from the regression analysis that Core Self-Evaluations and Eudaimonism significantly increase the model's predictive capabilities over job satisfaction as perceived by a significant other. On top of that, in the online sample Hedonism also additionally affects job satisfaction prediction.

Table 4

Regression coeficients

Dependent variable		Non std		Std	t	Sign.	Correlations		
		β	Std. error	β			Zero-order	Partial	Semi-partial
Pen &Paper	(Constant)	1.733	.650		2.665	.008			
	JobSatisf.-Other	.608	.028	.639	21.883	.000	.765	.667	.545
	CSES	.097	.015	.195	6.391	.000	.538	.253	.159
	HEMA_e	.117	.043	.089	2.737	.006	.418	.111	.068
	HEMA_h	−.019	.025	−.022	−.764	.445	.081	−.031	−.019
Online	(Constant)	1.839	.724		2.541	.011			
	JobSatsif.-Other	.742	.029	.724	25.549	.000	.792	.711	.607
	CSES	.049	.017	.081	2.781	.006	.486	.110	.066
	HEMA_e	.138	.047	.093	2.951	.003	.372	.116	.070
	HEMA_h	−.060	.027	−.061	−2.174	.030	.118	−.086	−.052

The above Table suggests that all parameters (with the exception of the Hedonism measure) are significant and positive. Hedonism has a negative relation to Job Satisfaction, but only in the online sample is this relation significant. The result is even more important in that the analysis was made for self-assessed job satisfaction on top of satisfaction as assessed by a significant other.

To better capture the explanatory power of individual variables, we performed a second regression analysis, without subtracting the other-assessed satisfaction.

Table 5

Unadjusted regression models

Form	Model	R	R^2	Corr. R^2	Std. error	Change statistics				
						R^2chng	F	df1	df2	F sig.
Pen & Paper	1 [a]	.535	.286	.285	2.83	.286	245.514	1	613	.000
	2 [b]	.562	.316	.314	2.77	.030	27.087	1	612	.000
	3 [c]	.571	.325	.322	2.76	.009	8.371	1	611	.004
Online	1 [a]	.486	.236	.235	3.76	.236	197.532	1	640	.000
	2 [b]	.516	.267	.264	3.68	.031	26.777	1	639	.000
	3 [c]	.521	.272	.268	3.67	.005	4.560	1	638	.033

a. Predictors: CSES

b. Predictors: CSES, HEMA_e

c. Predictors: CSES, HEMA_e, HEMA_h

The second regression analysis shows that Core Self-Evaluations can explain between 24 and 29 percent of Job Satisfaction. Additionally, the Happiness Philosophy – Eudaimonism, as measured by HEMA_e, can explain an additional 3% of variance. Hedonism (HEMA_h) adds between 0.5 and one percent of explanatory power on top.

Discussion

Our study's most important notion is that there is a close significant relation between self-reported and a significant other-reported job satisfaction. Regardless of the person reporting about his or her close one, we find a high match between those two parallel indicators. It can therefore be helpful for some studies, especially for those with single source data, to use the other-reported job satisfaction evaluation as a replacement for the self-reported indicator. It seems especially helpful when a study has multiple self-reported measures, because the risk of single-source bias is the highest then. Using the Other-reported Job Satisfaction measure would help to mitigate this risk.

Additionally, the results show clearly that both the Core Self-Evaluations and Happiness Philosophy – Eudaimonia are important Job Satisfaction predictors.. This seems especially meaningful when considering that both indicators provide explanatory power above that of Other-reported Job Satisfaction. This additional explanatory power can be understood as directly accessing the internal satisfaction sources, namely those that are not reflected in daily direct person-to-person communication.

Having this in mind, it is important to note the relatively greater predictive power of Core Self-Evaluations as compared with Happiness Philosophy. The main reason for this may be the broader CSE scope. By design they encompass Self-Esteem, Locus of Control, Positive Affectivity, and Generalized Self-Efficacy. As such, this construct is bound to relate to both job and life satisfaction, as many studies show (Judge et al., 1998; Judge, Bono, Erez, & Locke, 2005). Life philosophy is a different type of construct. Especially in the form proposed by Huta & Ryan (2010), where it relates more to preferred activities types, rather than to essential personal traits. It may be based on the same roots, but from a different side. Therefore, although less powerful, it remains a significant predictor of job satisfaction.

An interesting finding is the difference in observed explanatory power of different happiness philosophies between Internet-based and offline samples. When analysed as an on-top impact, the Hedonist Philosophy seems to have the hypothesized impact in the online sample only. One possible reason for this may be the difference of age between the samples (Mann-Whitney's U-test; Z=10.8; p<0.01). The Internet sample is generally younger (M=30.6 year versus M=36.2 in the offline sample) and therefore may be pleasure seeking to a greater extent than their older colleagues. This appears to be in fact the case – an ad hoc regression analysis with the dependent variable *hedonism* (as measured with the HEMA-h subscale) and predictor variable *age* yields a significant result. F (1/1235)=28.6; p<0.01; Corrected R^2= 0.022; Standardized β=-0.15. For the whole sample it means that the higher the age, the less people seek pleasures in their life. All in all, the Eudaemonist Philosophy relates stronger to the perceived job satisfaction, despite the fact that it is not about pleasure per se.

To sum up – Our study proved all the assumed hypotheses. Job satisfaction can be successfully assessed by significant others, which may be helpful in future single-source studies. On top of that both Core Self-Evaluations and Happiness Philosophy (especially Eudaimonist) allow for the prediction of Job Satisfaction.

Limitations

Our study's biggest limitation is its cross-sectional design. As the main aim of the study was to find the individual differences' relation to job satisfaction, the company type and position in hierarchy effects were not controlled. This resulted with greater variance of variables on one hand, but may also have covered the impact of company policies.

An additional bias is the relatively young population studied. As it was shown in the discussion, age plays a role at least in the hedonism philosophy endorsement. A more representative sample could still diminish this variable's impact.

The last important limitation, which is only partially addressed, is the single-source measurement of most variables in the study (with the sole exception being the dependent variable). It might have led to an inflated correlation between the variables, related to the common method bias. Although the Harman's Single Factor test proved to be negative, one must not exclude that the results might have been inflated.

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Whose shopping malls and whose shopping streets? Person-environment fit in retail environments

Abstract

Shopping malls and shopping streets are environments frequented by millions of people daily. Malls are purposively built and strictly managed, whereas streets are evolving more spontaneously. Are these different but popular retail environments, out there to meet human needs, a like fit for all of us? Do all of us perceive them in the same way? Do we all feel just as good in them? Use them just as often and enthusiastically? We have set our research in a theoretical frame using one of the key concepts – describing the person-environment fit (P-EF) understood as a mental state giving rise to subsequent positive or negative states or behaviors. We assumed that the possible correlates of P-EF would be the person's personality, temperament, and their system of values. Our cross-sectional correlational study involved 122 people aged 18 to 40. We found the match with retail environments to be influenced by subject traits, among them: consumption style, social affiliation need and openness to experience. Interestingly, it also turned out that the fit with retail environments is but ambiguously connected with hedonism co-variance, and that shopping streets can make for a fit no worse than malls.

Keywords

shopping malls, shopping streets, personal values, compulsive consumption, personality, environmental psychology, consumer satisfaction, consumer studies.

Streszczenie

Galerie i ulice handlowe to środowiska przyciągające na całym świecie, codziennie, miliony konsumentów i spacerowiczów. Czy ewoluująca spontaniczność ulic handlowych jest tak samo atrakcyjna jak „inteligentne projekty" galerii handlowych? Czy dla wszystkich ludzi? Czy wszyscy, bez względu na cechy podmiotowe, spostrzegamy te środowiska jako jednakowo przyciągające? Czy jednakowo dobrze się w nich czujemy? Czy równie często i chętnie z nich korzystamy? Nasz projekt badawczy osadziliśmy w ramach teoretycznych opisujących jedną z kluczowych koncepcji: dopasowanie człowiek-środowisko, rozumiane jako stan mentalny, z którego wynikają kolejne pozytywne lub negatywne stany albo zachowania. W przekrojowych badaniach korelacyjnych wzięły udział 122 osoby w wieku od 18 do 40 lat. Dowiedliśmy, że z dopasowaniem do środowisk handlu i usług mają związek cechy podmiotowe. Istotne w kontekście dopasowania okazały się: styl konsumpcji, potrzeba afiliacji

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społecznej oraz osobowościowa otwartość na doświadczenie. Wyjątkowo ciekawie okazało się też, że w dopasowaniu do środowisk handlu niepewna jest współzmienność hedonizmu, a także, że ulice handlowe mogą być dopasowane do ludzi nie gorzej, niż galerie handlowe.

Słowa kluczowe
galerie handlowe, ulice handlowe, wartości osobiste, kompulsywna konsumpcja, zakupoholizm, psychologia środowiskowa, satysfakcja konsumenta, psychologia konsumenta

Introduction

Judging by the immense popularity and expansiveness of shopping malls, not only in Poland but globally, these places allow contemporary people to entirely satisfy their needs. Many not only accept shopping malls but most probably especially like them – for at least three decades there has not been a year without thousands of square meters of this type of objects sprawling the world over. This constant growth has resulted in over seven thousand malls in Europe alone by 2014. This amounted to 154 million square meters of environments designed for millions of people – visiting, shopping, and for employees and other service staff. And so since the 1950s, in other words, since the creation of the noted Southdale Centre in Minnesota, the shopping mall concept is still being perfected by mall owners and managers. Malls are purposely and consciously designed, modified, transformed and perfected by those who run them and try to work out the best environmental fit for their potential (as great as possible) masses of customers.

Shopping streets have been with humans since they settled to a sedentary way of life. Today's shopping streets, in the form we know from their golden age – 18th to 19th-century metamorphoses into elite boulevards (Kotus, 2012; Lane, 2010) – evolved from the older locales and commercial or aristocratic routes (e.g. Dębek, 2014a; Paquet, 2003). This evolution consisted in constantly adjusting the general environment of the shopping street (especially its trade-service offer) to its users. Shopping street significance is illustrated not only by the fact that they are frequented by huge masses every day, but also by the prices there – main shopping streets are the most popular and at the same time priciest human environments (Cushman & Wakefield, 2013, January). Regardless of the fact that under market economic features – lack of central management, planned merchant selection, coordinated promotion etc. (e.g. Teller, Reutterer, & Schnedlitz, 2008) – they can land in occasional crises and lose to shopping malls (e.g. Lane, 2010; Southworth, 2005; Witek, Grzesiuk & Karwowski, 2008).

Despite fundamental differences in origins and development principles , the expansion and popularity of malls and the significance and value of shopping streets are not accidental. The immense and still growing features shopping malls and the great importance of shopping streets must be a reflection of human needs and preferences. For this reason it is interesting to understand both malls and shopping streets as environments well-adjusted, but also constantly being adjusted (or evolving), to meet the needs of their users and simultaneously shaping those needs. It is telling to inquire into the relations between people and those environments and to research if all people perceive them in the same way, feel equally well inside them, and if they use the environments equally often and enthusiastically. In a word – if malls and shopping streets are equally well suited to people regardless of their specific features.

Although the environments of shopping malls and streets are among the most common in human functioning, and people all over the world spend much time in them daily, the relations mentioned in the paragraph above have so far been given little attention in academia, and especially little in psychology. Save for a few mentions of retail environmental psychology in Glifford's (2007) handbook, a review work by Ng (2003), and Dębek's (2015) article summarizing shopping mall perceptions, psychology has been silent about the relations of millions of people with retail shopping centers. At the same time, as environmental psychologists have shown repeatedly, people-environment relations matter (e.g. Bańka, 2002; Bell, Greene, Fisher, & Baum, 2004; Dębek, 2014b; Gifford, 2007). These relations can at least co-shape people's various mental states, such as sense of life quality, general well-being, satisfaction, exhaustion, and tension, as well as particular behavior.

Given the general disinterest in the topic, especially little is known about the relations between the mall and shopping street experiences and the individual differences and different characteristics of their visitors. Lack of knowledge and suggestion of research in this area was signaled over a decade ago by Ng (2003) in the prestigious *Journal of Environmental Psychology*. Ng held that co-variance of subject traits, personality or temperament, with human well-being in shopping environments and human behavior regarding those environments, required especial research. Despite over a hundred citations (Harzing, 2015) of Ng's (2003) paper, and despite the fact that co-variance of the above mentioned elements seems uncontroversial (np. Dębek, 2014), the research challenge issued by Ng has not been taken up, at least not in the West. The last well-known Western efforts were published about 20 years ago (Roy, 1994; Shim & Eastlick, 1998; Swinyard, 1998). The remaining research, known around the world and at the same time the most recent, come from China, India, and Thailand (Cai & Shannon, 2012a, 2012b, 2012b; Khare, 2011; Kuruvilla & Joshi, 2010), or from the cultural borderland that is Turkey (Telci, 2013). In turn, in Europe, where shopping centers are still being developed and new ones being built (Cushman & Wakefield Research, 2014), and shopping streets are mired by various crises (Kotus, 2012; Lane, 2010), there has been no fruitful research on the relations between people and these specific environments (at least no such research has been popularized).

In order to fill this void, we undertook perhaps the first attempt at research on the European front in the proposal by Ng in 2003. We intended to establish if there exist relations between subject traits and perceptions and use of shopping malls and streets. Our research plan included temperament (not researched before) and personality traits in the full Big Five model, up to that point limited in research (Cai & Shannon, 2012a, 2012b) to analysis of openness to experience as correlate of perception and use of shopping malls. Our subsequent research goal was to verify earlier reports on the relation between shopping malls and personal value perceptions, published *inter alia* by Shim and Eastlick (1998), Swinyard (1998), Khare (2011), as well as Cai and Shannon (2012a; 2012b). We also wanted to assess the relation, postulated by Telci (2013), between perception and visiting shopping malls and compulsive consumption.

The theoretical frame for our research is constituted by: the eclectic model of relations of people with the surrounding environments by Bell et al. (2004); the conceptual framework for understanding the shopper–environment fit by Ng (2003); and Dębek's person-environment integrative-transactional framework (2014b), dealing with the relation of people and environments in general. Person-environment fit is a key term, whose indicators we sought in the research presented below.

Theoretical and conceptual frame

The theoretical approaches of Bell et al. (2004), Ng (2003) and Dębek (2014), though they framed the person-environment relation differently, shared two features. First, they all assumed that mental characteristics bear significance to environment perception. Second, the approaches assumed either directly or indirectly that the subject-perceived degree of match between his/her current or relatively unchanging needs (need fulfillment) and the environment is key in environment perception.

With Bell et al. (2004), two concepts were central. First was project (environment) perception, which can include two fundamental states: Does the project fulfill or not fulfill user needs? If the environment is perceived as need-fulfilling, satisfaction ensues as the psychological consequence. If it is perceived as unfulfilling, the consequence consists in coping as Bell et al.'s other key term. According to Bell et al. (2004), people can cope with environments unsuited for fulfilling their needs successfully or unsuccessfully. Successful coping leads to the person's adaptation or adjustment and to creating positive psychological states, while unsuccessful coping results in arousal or stress and negative states.

With Ng (2003), the person's interaction in a given situation with a commercial environment of a specific nature was key. The interaction transpires on an interactive level of multidimensional individual needs (cognitive, physiological, social) with various specific retail environment features (formal, social and strictly commercial). The result of this interaction can be a match (positive mental state) or mismatch (negative mental state) of the consumer and their environment. It is worth mentioning that in this conception human needs towards the environment are not universal; they result from a task or hedonistic orientation. These types of orientation in turn stem from personal traits in collision (here personality-related and demographical) with situational factors (time pressure, company, place etc.).

Dębek (2014) distinguished four mutually related elements of the person-environment relation. First, the individual's given personality, temperament, personal value system, motivation, needs, lifestyle, and so on. Second, the environment with its specific physical, functional and symbolic qualities. Third, the person's mental states, co-variables of the person-environment interaction, with emotional and cognitive components and behavioral intention as theoretical constituents. Fourth, the person's behavior, simultaneously a result and a cause of his aforementioned mental states and the characteristics of the individual and environment. As with Ng (2003), with Dębek (2014) one of these states, *the person-environment fit*, is crucial when considering the person-environment relation and the accompanying mental states.

The explanation runs as follows: If the environment allows one to realize one's needs (that is, the person-environment fit occurs and is perceived), their psychological state will be positive and so, probably, will be their behavior. Thus *person-environment fit* (P-EF) is the key we use henceforth in this paper. In our case this means a fit between person and commerce and service environment. We have based the operational definition of P-EF on a few ideas. One such idea is Stokols's (1979) classic concept of environmental *congruence* for a specific person, that is, the perceived optimal level relation of individual need fulfillment to their actual fulfillment in a given situation. We fine a similar take on P-EF in more recent psychology studies (e.g. Edwards, 2008; Horelli, 2006). The second pillar of our operational P-EF came from Wallenius (1999), according to whom P-EF consists in realized perceived possibilities of personal projects in given behavioral settings. Even though nowadays P-EF is taken to be a process where individuals and environments co-shape one another to find a match, and not as a definitive state (Su, Murdock, & Rounds, 2015) – which in a way corresponds with Bell et al.'s (2004) idea – in our research we took P-EF to be a mental state and not a process.

In the end we defined P-EF as a specific mental state related to the perceived congruence between the situational or relatively stable needs of the individual and recognized affordances (Gibson, 1979) in the particular environment. Direct observation of P-EF is obviously impossible. It can be indexed indirectly, with quantitative or qualitative measurements of people's general well-being in specific environments (e.g. Edwards, 2008) or their attitudes towards specific concrete environmental features (np. Bonaiuto, Aiello, Perugini, Bonnes & Ercolani, 1999; Dębek & Janda-Dębek, 2015; Fornara, Bonaiuto & Bonnes, 2010). Actually, P-EF can be diagnosed in two ways: with surveys (interviews/questionnaires) or observationally. P-EF can be indexed by: 1) people's opinions on a given environment, 2) declarations regarding past and future behavior in that environment, 3) people's actual behavior, and 4) accompanying physiological-emotional reactions, such as irritation, aversion, disgust, suffering, boredom, calm, astonishment, and admiration.

In our research we have used P-EF indicators that have already been used in research or retail environments, albeit not necessarily explicitly in a P-EF context: 1) general appreciation of a shopping environment and 2) frequency of visits in a shopping environment (Roy, 1994; Shim & Eastlick, 1998; Swinyard, 1998).

Research question, literature review, and hypotheses

Let us recall that our research question is: Are malls and shopping streets universally preferred environments and enjoyed by people with given subject traits and needs? Given that our theoretical axis is P-EF, understood as a mental state originating with the person-environment relation, the question reformulated in closer proximity to the P-EF concept is as follows: Do shopping mall and shopping street environments match all people regardless of their psychological characteristics?

Nothing is known about shopping streets in this context. This is why we put forth our directional hypotheses regarding the already-researched shopping malls, and regarding shopping streets we formulated zero hypotheses.

Shopping malls are not mere shops or "commercial-service facilities." They are retail-entertainment centers of social interaction and fun (e.g. Michon, Yu, Smith, & Chebat, 2008; Uzzell, 1995). It seems obvious, then, that they are better suited to entertainment-oriented people (to hedonists) than to goal-oriented and practical people. But empirical support for this hypothesis has so far been thin, mostly in dated research from Roy (1994) and Swinyard (1998), and indirectly in Arnold and Reynolds (2003). More recent studies by Teller, Reutterer, & Schnedlitz (2008) show that hedonists frequented malls in larger numbers than they did shopping streets. The latest studies are inconclusive. Kuruvilla and Joshi (2010) show that people seeking enjoyment and entertainment through immediate gratification rated shopping malls higher than others and visited them more often. On the other hand Khare (2011) has demonstrated there is no connection between hedonism-utilitarianism, understood as personal values, and attitudes towards malls. Which led us to state the following hypotheses:

H1A: shopping malls suit people equally well whatever their level of hedonism.
H1B: shopping streets suit people equally well whatever their level of hedonism.

Shopping malls are places of social interaction, spaces inviting and – in imitating actual public spaces – that present relatively egalitarian environments. According to more dated studies by Shim and Eastlick (1998) as well as Swinyard (1998), shopping malls were liked by people who especially needed social affiliation – the feeling of belonging to a community. So we formulated this hypotheses:

H2A: shopping malls better suit people who strongly value social affiliation than others.
H2B: shopping streets suit people equally well no matter what their needs are for social affiliation.

Shopping malls are not only environments usually teeming with social life but also highly stimulating places. Most often they are crowded and filled with music of different kinds (every boutique creates a distinct atmosphere among other ways through its musical background) and various other loud noises – e.g. employee communication, and audio commercials. A person visiting a mall can undertake various activities – shopping, cultural, physical – in dozens of various kinds of commercial-service outlets. This is why malls probably better suit people who are lively, active, persistent, open to experience, and stimulation-seeking (or at least tolerant of strong sensory stimulation). In recent studies Cai and Shannon (2012a; 2012b) demonstrated that among the Chinese and the Thai attitudes towards shopping malls were positively correlated to the need for self-transcendence, self-enhancement and openness to change. It would be interesting to replicate such research in the West.

Since the above characteristics describe shopping malls as highly stimulating environments, we assumed the spaces were not to well-suited for neurotics, introverts, calm people, people with low activity levels or endurance, or those sensorially sensitive and emotionally reactive. Meanwhile, to the best of our knowledge, no research results have been reported that employ established psychometric tools such as NEO-FFI (McCrae & Costa, 2010) or the Sensation Seeking Scale (Zuckerman, 1994) to study the fit between shopping malls and people in the context of their temperament or personality. As we noted above, this was a gap in research found over a decade ago during studies done on those environments (Fan Ng, 2003). This is why we formulated a range of hypotheses on temperament and personality in the context of fit with shopping mall environments:

H3A: shopping malls are better suited to sensation seekers than to others.
H3B: shopping streets are equally well suited to sensation seekers and others.
H4A: shopping malls are better suited to people resistant to stimulation than to others.
H4B: shopping streets are suited equally well to people whatever their resistance to stimulation.
H5A: shopping malls are better suited to generally resilient people than to others.
H5B: shopping streets are suited equally well to people despite their resilience.
H6A: shopping malls are better suited to active and brisk people than to others.
H6B: shopping streets are suited equally well to people whatever their activity and briskness.
H7A: shopping malls are suited better to people who are highly open to new experiences than to others.
H7B: shopping malls are suited equally well to people despite their openness to new experiences.
H8A: shopping malls are better suited to people low on neuroticism than to neurotics.
H8B: shopping streets are suited equally well to people despite their level of neuroticism.
H9A: shopping malls are better suited to extroverts than to introverts.
H9B: shopping streets are suited equally well to people no matter their level of extraversion.

All other characteristics notwithstanding, shopping malls are environments conducive to all sorts of consumption. The latest study from Telci (2013) reveals, among other things, a positive correlation between materialism and compulsive consumption on the one hand, and on the other the frequency of visits to shopping malls perceived as successful by mall-goers. We verified these findings on Western cultural territory. Hence the following hypotheses:

H10A: shopping malls are better suited to materialistic shoppers than to others.
H10B: shopping streets are suited equally well to materialistic and other people.
H11A: shopping malls are better suited to compulsive buyers than to others.
H11B: shopping streets are suited equally well to people whatever their level of compulsiveness in shopping.

It seems, in connection with the consumerist foundations of shopping malls, that the wealthier the people, at least in the sense that in their own perception they can be bigger spenders, the better these environments are suited to them. This is why we formulated an additional hypothesis related to materialism:

> **H12A:** shopping malls are suited to people positively in relation to their self-assessed financial status.
> **H12B:** shopping streets are suited equally to people whatever their self-assessed financial status.

The next hypothesis has to do with predictability and physical and psychological security granted by shopping mall environments. Malls are fully controlled environments (np. Uzzell, 1995), designed for a sense of full security, so that nothing interferes with consumption (e.g. Makowski, 2004). Furthermore, malls are similar in design, often originating with the same designers and investors, despite being built in different countries and on different continents. Further still, many of the same shopping brands operate within their confines, no matter the geographical locale.

Thus, security seekers – those for whom security, calm and world predictability are especially valuable – probably highly value the fit that mall environments make with their needs. Swinyard (1998) has shown that security as a personal value is positively correlated with the frequency of visits to shopping malls. To our knowledge, no reports have yet confirmed these findings. So our next hypotheses states:

> **H13A:** shopping malls are better suited to people who strongly value security than to others.
> **H13B:** shopping streets are suited equally well to people no matter their valuation of security.

The last assumption we made stems not from subject literature review but from our observation of controversies surrounding international shopping malls as objects eradicating local objects and shopping environments (np. Bartoszewicz, 2004; Witek et al., 2008). We wanted to see that since shopping malls are owned almost exclusively by international holdings and financial institutions if this global network has any bearing on people's perception who are highly patriotic-nationalistic or high on consumerist ethnocentrism. We assumed that people who value patriotism and nationalism would rate shopping malls lower and would visit them more seldom than others. We then formulated the following hypotheses:

> **H14A:** shopping malls are better suited to people low on patriotism-nationalism than others.
> **H14B:** shopping streets are suited equally well to people no matter their patriotism-nationalism.

Methods

In Wrocław we conducted a cross-sectional correlational study from November 2014 to April 2015 intended to verify the hypotheses.

We used two authored questionnaires for the study: 1) Assessment of Commercial Environments (ACE), created for this very research project, and 2) Consumer Behavior & Values Survey (CBVS). Detailed information on these tools can be found in appendices A and B. We also used five commonly known questionnaires from other authors: 1) List of Values LOV (Kahle, 1983) in our translation, (2) Compulsive Buying Index – CBI (Ridgway, Kukar-Kinney & Monroe, 2008) in our translation, (3) a temperament questionnaire – Formal Behavior Characteristic (Formalna Charakterystyka Zachowania FCZ-KT) (Strelau & Zawadzki, 1997), (4) NEO-FFI (McCrae & Costa, 2010) in the certified Polish edition by Zawadzki, Strelau, Szczepaniak, and Śliwińska (1998) to diagnose personality, (5) Sensation Seeking Scale (SSS) based on Zuckerman's (1994) idea and Zuckerman's related questionnaire translated into Polish by Oleszkiewicz-Zsurzs (1985).

Assessment of the commercial environments – measures of P-EF fit

The ACE questionnaire comprised two sections, each assessing one type of retail environment: shopping malls and shopping streets. In each section participants were asked to answer five questions: one about frequency of visiting a particular type of retail environment (five-point ordinal scale, from "never or hardly ever" to "once a week or more"), one about the name of the most frequently visited venue (open question), and three about their attitudes toward that type of environment (seven-item Likert-type positions); the latter three questions formed a reliable Shopping Environment Appreciation Index (SEAI). SEAI, along with frequency of visits, were assumed to be indicators of P-EF for the particular environment. The complete list of items used in the questionnaire, as well as detailed statistics of indexes, are given in appendix A.

To avoid a possible bias emerging from assessment sequence, two variants of this questionnaire were applied, differing in their order of environments to be assessed. Every participant had the same chance to draw a questionnaire starting with the assessment of shopping malls or shopping streets. The questionnaire also included six questions about a respondent's particulars including gender, age and domicile, as well as his or her self-assessed financial situation.

Consumer Behavior & Values Survey

In our opinion the generally acclaimed tools also used in this research project to measure personal values, such as LOV or CBI, while validated and reliable, were not perfectly tailored to our goals. They were either too brief – therefore not including values highly relevant to consumer research, for example, consumer ethnocentrism or materialism

(LOV) – or too focused (CBI). Therefore in one of the trials we decided to combine items most relevant to our goals from a few different tools. This led to the development of the Consumer Behavior & Values Survey (CBVS).

The tool comprised 17 Likert-type items, where participants agree or disagree with particular statements on six point Likert-type positions (anchored by "not agree at all" and "agree completely"). These items were intended to diagnose five general concepts: compulsiveness in buying, hedonistic materialism, patriotism-nationalism, and sense of belonging. The complete description of the tool, including its theoretical grounds, the list of items used in the questionnaire, as well as detailed statistics of indexes, are shown in appendix B.

The measurement of values, personality, compulsive buying, and temperament

List of Values – LOV (Kahle, 1983), Compulsive Buying Index – CBI (Ridgway et al., 2008), and NEO-FFI (McCrae & Costa, 2010) used in this study are universally known tools; therefore there is no need to discuss them in detail. The LOV and CBI were translated into Polish by three translators and then back-translated by another three to check validity. Because of our cultural background and our stated hypothesis, we augmented the original LOV by personal values related to patriotism.

The diagnosis of temperament was performed with the Polish temperament questionnaire FCZ-KT (Strelau & Zawadzki, 1997), a tool certified by the Polish Psychological Association. This questionnaire comprises 120 statements describing oneself as agreeing or disagreeing (a participant can answer "yes" or "no"); the temperament is then broken down into six indexes: briskness, perseverance, sensorial sensitivity, reactivity, resilience and activity. Sensation seekers and impulsive individuals (those whom we targeted for this research) are simultaneously high on activity, briskness, resilience, and low on reactivity. In Polish psychological parlance these people are classified as low-activated individuals.

Participants and sampling

One hundred and twenty-seven people (117 women and 10 men) took part in the study, aged 18 to 44 (M = 21, SD = 3.73). They constituted a sample of convenience, comprised by full-time, evening, and weekend students from the Faculty of Historical and Pedagogical Sciences at the University of Wrocław.

Procedure

The study was conducted in lecture rooms at the University. Participation was entirely voluntary. No physical incentives were used. Due to a significant research burden, in order to ensure response validity the survey was carried out in two groups having similar demographic characteristics. All the participants filled out an ACE for shopping malls and streets, while group A (77 people) also filled out an FCZ-KT, LOV, NEO-FFI, as well as CBI (in sequence), and group B (50 people) a CBVS and SSS. The procedure lasted nine weeks in group A and six in group B; the participants filled out one questionnaire every two weeks. Each stage lasted 5 to 40 minutes, depending on the tool used.

The hypothetical correlates

We assumed that the subject traits would remain in hypothetical relation to the ACE for shopping malls and streets, including frequency of visits and SEAI.

Results

We discovered weak and vague relationships between some of the hypothesized correlates. The only significant correlations are shown in Tables 1 and 2.

Group A

Table 1

Correlations between CBI,FCZ-KT, NEO-FFI, LOV and both SEAI and frequency of visits for particular environments

	Shopping malls		Shopping streets	
	FRQ	SEAI	FRQ	SEAI
Compulsive buying	*ns*	.25**	.34**	.22**
Temperamental Activity	.20*	*ns*	.24*	*ns*
Openness to experience	*ns*	−.24**	*ns*	*ns*
Pursuit of social-affiliation	.19*	*ns*	*ns*	*ns*
Financial situation	*ns*	*ns*	.19*	*ns*

Note. N = 77. Intercorrelations of indexes (Spearman's Rho's) are presented in the table.
CBI = Compulsive Buying Index; FCZ-KT = temperament; FRQ = Frequency of visits, NEO-FFI = Big Five, LOV = List of Values; SEAI = Shopping Environment Appreciation Index.
Only the significant correlations are shown to improve readability.
** $p \leq .01$, * $p \leq .05$

Hypothesis H1A and H1B came across as plausible. We did not find evidence for a relation between hedonism and fit of people with malls or shopping streets. The validity of H2A was also established as plausible. People seeking social belonging rated malls slightly higher than others did; shopping malls seemed a special environment in this regard – a relation between the need for social belonging and a higher environment rating was not observed for shopping streets. H11A turned out to be plausible as well – compulsive consumption correlated positively with SEAI for shopping malls. One should not forget, however, that it also correlated with the entire environment fit (i.e. SEAI and visit frequency) for shopping streets (the falsified H11B). This trait seems especially significant, then, for the fit between people and retail environments.

We found no support for H13A on the relation between security as a fit between people and retail environments (H13B plausible). No link was evidenced for the fit between those environments and people relative to patriotism-nationalism; H14A was falsified (making H14B plausible).

We found no support for a link between temperament in H3A (malls suit sensation seekers better) – no relation was observed between resistance to stimulation, resilience, or liveliness as a fit with either malls or shopping streets (H3B plausible). Temperamental activity correlated positively with the rating of both malls and streets. Thus temperament seems to have a bearing on the fit to retail environments and it can be a universal relation to the person-environment interaction for both shopping malls and streets.

Hypotheses H7A, H8A and H9A, relating to personality traits, were falsified for shopping malls; H7B, H8B, H9B were plausible for shopping streets. Moreover, the verification of H7A bore results opposite to theoretical assumptions – personality-based openness to experience correlated negatively with the shopping mall fit.

H12A was not plausible for shopping malls: self-assessment of participant financial situations had no bearing on the fit with malls. It is worth pointing out, however, that material standing is probably somehow related to the fit with retail environments – in observing a significant positive relation of this trait for visiting shopping streets, we falsified H12B.

Group B

Table 2

Correlations between CBVS, SSS, SEAI and frequency of visits to shopping environments

	Shopping malls		Shopping streets	
	FRQ	SEAI	FRQ	SEAI
Compulsive buying	.36*	*ns*	.39*	*ns*
Sense of belonging	.32*	*ns*	.41**	*ns*

Note. N = 50. Inter-correlations of indexes (Spearman’s Rho’s) are presented.
FRQ = Frequency of visits, SEAI = Shopping Environment Appreciation Index
Only the significant correlations are shown to improve readability.
** $p \leq .01$, * $p \leq .05$

We observed results that supported three hypotheses. As in group A, H1A and H1B came out as plausible – so it turned out that hedonism had no bearing on fit with shopping environments; H2A, on the relation between need for social belonging and shopping environment fit was also plausible. This time, however, it turned out that the need for social belonging mattered also to shopping streets (H2B falsified). As in group A, hypotheses H11A was plausible and H11B was falsified, both relating to the link between compulsive consumption and fit with shopping galleries and shopping streets.

No empirical support was found for the plausibility of the remaining directional hypotheses related to shopping malls. Specifically, we found no evidence for the plausibility of H3 (temperament), H12 (financial self-assessment), or H15 (nationalism). At the same time we found the other zero hypotheses regarding shopping streets to be plausible.

Conclusions

In our research project we broadly intended to verify if subject traits are related to P-EF. We defined the fit as a sense of potential or actual realization of individual needs in a given environment. Results indicate clearly that subject traits indeed matter to P-EF, at least for shopping and service environments. The relations, though, in the cases we verified for shopping malls and streets, are not as numerous as we had assumed. Still, in light of the results, the theoretical approaches from Bell et al. (2004), Ng (2003) and Dębek (2014b), which assumed a link between subject traits and perception of environment and its functioning in it, seem reasonable and promising.

More specifically, our goal consisted in answering the question: Are shopping mall and shopping street environments suited to people in general, regardless of their psychological characteristics? Our study suggests that they probably are not. While we falsified a significant proportion of directional hypotheses on the relation between temperament and personality on the one hand, and environment fit on the other (to name just a few most important ones from a psychologist's viewpoint), consumption style and the need for social affiliation and personality-based openness to experience seem significant to fit with shopping malls.

These relations seemed immensely interesting. It appeared there could be no environment better suited to people who shop compulsively than a shopping mall, built intentionally and in its entirety for consumption. However, it turned out that – despite the relation between compulsive consumption and shopping gallery fit being evident – the consumption model is slightly more strongly co-variable with the fit between people and shopping streets. If, then, the literature sheds negative light on shopping malls, pointing to their sacralization of consumption – or at least provoking excessive shopping (np. Makowski, 2004) – it bears pointing out that shopping streets, immanent to modern-era human settlements, can be equally provocative and consumption-sacrilizing. This is especially so given that, regardless of the participants' subject traits , in a P-EF sense streets seem to be suited to people no worse than malls – in group B the difference on evaluation of malls and streets was not even statistically relevant.

The relevance of personality-based openness to experience, correlated negatively with fit with essentially uniform shopping malls, indicates that malls are environments better suited for those who tolerate stability and predictability well, and who are perhaps cognitively undemanding. Those curious about the world, valuing their things peculiar and varied, though not necessarily seeking stimulation in the sense of experiencing strong psychophysical impressions (the hypothesis on the relation between stimulation seeking and mall fit was falsified) feel worse in malls. In our opinion the problem is well worth further study within retail environmental psychology.

The results regarding hedonism and retail environments are also interesting. Though hedonism would seem to be straightforwardly linked to material-hedonistic needs realized by people in shopping malls, in our study it did not come across as a clear correlate of people's fit with retail environments. This ambiguity of hedonism with regard to shopping preferences and behaviors, already apparent in earlier studies, seems to be a fact.

Larger implications

Our research has both theoretical and practical significance. From the basic research standpoint we have empirically enriched the existing theories concerning people and their environments; especially with retail environments seldom-studied by psychologists and at the same time those which are more commonplace in people's lives. From an applied research viewpoint our results suggest that shopping streets do not have to be less attractive than malls. The potential to draw people to traditional streets seems significant; their attractiveness and fit with human needs may not differ from analogous indicators for shopping malls – at least when we concern ourselves with concepts and not specific facilities and spaces. This knowledge can be used by planners and managers of contemporary urban spaces.

Limitations

Our study conducted has obvious limitations. First, the samples used were not representative. We do think, however, that, in correlational studies aiming to establish the co-variability of personality or temperament traits with other phenomena, it is not a problem of especial importance; among the participants we observed normal variability ranges for the mentioned traits, so establishing the in/significance of their relations is meaningful; even if one cannot extrapolate these relations strictly to other populations. Another limitation is general in nature – the questionnaire methods used to diagnose subject traits have their own obvious imperfections, especially when connected with the participants' limited possibilities or willingness for introspection. Third, the methods used required from the participants to remember both impressions and experiences related to the environments studied, as well as in estimating the frequency of their visits there, which additionally burdens the essentially imperfect introspection-reliant methods.

Future research

Two notions are worth taking up in future studies. First, it is worth inquiring if the above regularities occur also for specific facilities (objects) and spaces. As is known from the Construal Level Theory (Trope & Liberman, 2010), psychological distance to the object is co-variable with perceived concreteness or abstractness of that object. This distance and abstraction level can in turn be related to the rating/assessment of the object. Concerning the research discussed in this paper, this means that the fit level of a real person to shopping galleries in the abstract could be different from their fit with a concrete, named shopping gallery which they actually know. As was recently shown (Dębek & Janda-Dębek, 2013), these relations may occur also in architectural objects. Likewise interesting would be research into how P-EF is shaped for people of given traits with specific retail environments if one were to pose more detailed questions about those environments' various dimensions , for example, about the atmosphere, the perceived social setting, crowding, noise, or retail offer. Of course it would be good to conduct these studies on at least quota-level samples from different communities, including those besides Poland.

Appendix A. Methodological details: the questionnaire of retail environments' assessment

Table A1

Shopping Environment Appreciation Index (SEAI); group A.

	R_{CC}	
1 malls [streets] are generally cool places	.66 [.83]	
2 malls [streets] are places for people like me	.83 [.83]	
3 malls [streets] are positive elements of the modern world	.72 [.79]	
Cronbach's α		.85 [.90]

Note. Valid N=77;
Rcc – corrected item-total correlation (item-rest correlations)

Table A2

Key statistics of Shopping Environment Appreciation Index (SEAI); group A.

	Environment	Min	Max	M	SD	Sk	Ku	K-S	K-Sp	α
1	Shopping malls	3	18	11.44	3.49	−.43	−.14	.93	.34	.85
2	Shopping streets*	0	18	10.38	3.91	−.81	.83	1.55	.01	.90

Note. Valid N=77; * non-normal distributed data;
Min = minimum, Max = maximum, M = mean, Sk = skewness, Ku = kurtosis,
K-S = Kolmogorov-Simirnov Z, K-S*p* where H0 states that the distribution is normal; α = Cronbach's α

Table A3

Shopping Environment Appreciation Index (SEAI); group B.

	R_{CC}	
1 malls [streets] are generally cool places	.82 [.74]	
2 malls [streets] are places for people like me	.81 [.77]	
3 malls [streets] are positive elements of the modern world	.74 [.61]	
Cronbach's α for malls [streets]		.89 [.84]

Note. Valid N=47[46]; Rcc – corrected item-total correlation (item-rest correlations);
K-S = Kolmogorov-Simirnov Z, K-S*p* = *p* statistics where H0 states that the distribution is normal

Table A4

Key statistics of Shopping Environment Appreciation Index (SEAI); group B.

	Site	Min	Max	M	SD	Sk	Ku	K-S	K-Sp	α
1	Shopping malls	1.33	5.33	3.87	.97	−.60	.44	.81	.51	.89
2	Shopping streets	1.33	5.33	3.70	.95	−.45	.03	.95	.30	.84

Note. Valid N=47[46];
Min = minimum, Max = maximum, M = mean, Sk = skewness, Ku = kurtosis, K-S = Kolmogorov-Simirnov Z, K-Sp where H0 states that the distribution is normal; α = Cronbach's α

Appendix B. Methodological details: the Consumer Behavior & Values Survey

Below we present the theoretical basis and logic of design behind the CBVS along with the most important statistics describing the tool, derived from the study discussed in this paper.

Compulsiveness in buying was defined after Ridgway et al. (2008) as "a consumer's tendency to be preoccupied with buying that is revealed through repetitive buying and a lack of impulse control over buying" (2008, p. 622). We used three items from the widely known measurement of the concept – a six-item compulsive-buying index (CBI) by Ridgway et al. (2008). The internal consistency of such a simplified index was good (α = 75, see tab. B1 and B2, versus α = 83 in the six-itemed version).

We defined materialism after Richins (1987, p. 352) as "the idea that goods are a means to happiness; that satisfaction in life is not achieved by religious contemplation or social interaction, or a simple life, but by possession and interaction with goods." In this view, materialism is a force significantly determining an individual's life. We include three indicators of materialism in our CBVS, deriving from the simplified version of the Material Values Scale (Richins, 2004).

We constructed the hedonism indicators based on the philosophical approach by Onfray (2015), who concluded that hedonism is an attitude manifested in seeking pleasure for oneself and giving pleasure to others, at the same time excluding harming oneself or others. Nonetheless, the results of pilot studies indicated that the indicators of hedonism oriented toward self-satisfaction (e.g. in the answer "Comfort and ease are the goals of many of my actions") correlated but minimally with the hedonistic levels oriented towards others (e.g. "I often think about how to make other people feel good"). Furthermore, it turned out that materialism indicators strongly correlate with hedonism indicators. This is why ultimately we decided to use a single index of materialistic hedonism in CBVS (tab. B1).

We defined nationalism after Giddens (2005, p. 726) as "a range of convictions and symbols expressive of a sense of identity with a given national community." We took nationalism indicators from nationalism and patriotism scales by Skarżyńska (2005). In the end CBVS included three mentions of these issues (tab. B1)

Religiosity was measured using items found in the centrality of religiosity scale by Zarzycka (2007). In the first stage we chose one item of the greatest discrimination power from each of the five subscales: interest in religious matters, religious conviction, prayer, religious experience, and participation in mass. Next we transformed the content of the items to make them compatible with the Likert response format. Following pilot studies, we decided not to include the – redundant, as it turned out – religious conviction subscale. Thus we arrived at a four-item, reliable general religiosity index (tab B1).

As regards social affiliation as a personal value we were inspired by the Sense of Belonging Instrument (SOBI) by Hagerty, Bonnie M. K. & Patusky (1995). The authors defined belonging as an experience of the individual's commitment in a system or environment that offers her/him a sense of belonging to that system or environment. SOBI includes two subscales, SOBI-P, measuring the perceived degree of belonging, and SOBI-A, measuring the need to belong as a personal value. In CBVS we relied on items from SOBI-A and adapted them to our measurement system (tab. B1).

Table B1

Final indexes in Consumer Behavior & Values Survey

Index	Items	α	R_{CC}
1 Compulsive buying		.75	
	I purchase things impulsively		.52
	I sometimes buy things I don't really need		.65
	I often do shopping I didn't plan for		.56
2 Hedonistic materialism		.76	
	I usually do much to feel satisfied quickly		.43
	Comfort and ease are the goals of many of my actions		.57
	I admire people who own expensive apartments, cars, and clothing		.54
	I value glamor and luxury in life		.58
	I would be happier if I could afford more things		.59
3 Nationalism		.74	
	I am proud of being Polish		.62
	I think a Pole should respect national symbols: our flag, crest, and anthem in any situation		.58
	I think other countries could learn much from Poland		.49
4 Religiosity		.86	
	I seek out information on religious matters		.51
	I often pray		.84
	I go to church regularly and attend mass		.74
	There are situations in which I feel the presence of God		.78
5 Sense of belonging		.72	
	I want to be accepted by others – that is very important to me		.56
	I work to fit in with the surrounding world and the people who live in it		.56

Note. α = Cronbach's α; Rcc – corrected item-total correlation (item-rest correlations);

Table B2

Key statistics of indexes in Consumer Behavior & Values Survey

	Index	№	Min	Max	M	SD	Sk	Ku	K-S	K-Sp	α
1	Compulsive buying	3	1.33	6.00	3.20	.98	.42	.14	.75	.61	.75
2	Hedonistic materialism	5	1.33	5.20	3.48	.83	.28	−.22	.50	.96	.76
3	Nationalism	3	1.67	5.67	4.18	.80	−.86	1.04	1.04	.22	.74
4	Religiosity	4	1.00	5.50	2.69	1.36	.62	−.90	1.21	.10	.86
5	Sense of belonging	2	1.50	6.00	3.79	.99	−.07	.00	.89	.39	.72

Note. N=44
№ = number of items
Min = minimum, Max = maximum, M = mean, Sk = skewness, Ku = kurtosis, K-S = Kolmogorov-Simirnov Z, K-Sp = H0 states that the distribution is normal
α = Cronbach's α

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Development and Validation of the Influence Regulation and Deinfluentization Scale (DEI-beh)

Abstract

Our article presents work on the development and validation of *Influence Regulation and Deinfluentization Scale (DEI-beh)*. Reviewing concepts regarding its influence constitutes an introduction to the original deinfluentization concept coined by Barbara Kożusznik. The author's theory has provided the basis for creating a diagnostic tool. The elaborated *DEI-beh* method consists in evaluating conditions which determine managerial effectiveness and shape reciprocal influences among team members. Our article describes this tool's creation and its validation procedure. Positive relationships between DEI-beh's individual dimensions and temperament characteristics, defined in Pavlov's concept (1952), and selected personality traits, proposed in the Five-Factor Model Personality by Costa and McCrae (1992), confirm the tool's external validity.

Keywords

Influence Regulation Scale, psychometric properties, deinfluentization, DEI

Streszczenie

Artykuł prezentuje efekt prac nad *Kwestionariuszem do pomiaru regulacji wpływu oraz deinfluentyzacji (DEI-beh*). Przegląd koncepcji dotyczących wpływu w organizacji, stanowi wprowadzenie do autorskiej koncepcji deinfluentyzacji Barbary Kożusznik. Bazując na proponowanej przez autorkę teorii, utworzono narzędzie diagnostyczne. Opracowana metoda *DEI-beh* opiera się na pomiarze warunków, od których zależy skuteczność zachowań kierowniczych i które kształtują układ wzajemnego wpływu w zespole. Artykuł zawiera opis tworzenia narzędzia oraz przebiegu i efektów jego procedury walidacyjnej. Pozytywne związki między poszczególnymi wymiarami DEI-beh a właściwościami temperamentu, ujętymi w koncepcji Pawłowa (1952) oraz wybranymi cechami osobowości, proponowanymi w Pięcioczynnikowym Modelu Osobowości Costy i McCrae (1992). potwierdzają trafność zewnętrzną tego narzędzia.

Słowa kluczowe

Skala Regulacji Wpływu, właściwości psychometryczne, deinfluentyzacja, DEI

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Introduction

To remain competitive and survive in a complex, volatile and unpredictable environment it is requisite that organizations push constant changes and innovations. The competencies that will be most valuable to a future leader are the following: adaptability, creativity, self-awareness, collaboration (Hackman, 2002; Goleman, 1997; Pink, 2005; Bass, 2008; Cropley, Cropley, 2010; Yukl, Mahsud, 2010). Also the most important is if organizations are comfortable with ambiguity and think strategically for optimizing performance, meet expectations and compete effectively (Mumford, Friedrich, Caughron, & Byrne, 2007). This means that contemporary organizations demand innovativeness from themselves and their workers. Devising conditions for creativity and innovations requires a climate of co-operation, particularly in industrial relations. Psychological knowledge and skills to realize this climate are necessary to develop (Cropley, Cropley, 2010; Denning, 2004; Drucker, 1985). There is a body of research indicating that a number of psychological barriers exist that stall innovativeness in social dialogue due to poor collaboration and lack of trust between employers, managers, workers' representatives and employees (Munduate, Euwema, & Elgoibar, 2012; Euwema, Munduate, Elgoibar, Pender, & Belén García, 2015; Kożusznik, Polak, 2015). A growing uncertainty and a declining sense of security cause an upsurge in defensive and competitive behavior which understandably leads to erosion and atrophy of trust and finally results in poor cooperation and weak economical results (Edelman Trust Barometer, 2015). The accompanying phenomenon is leadership over-use by managers and groups that try to control and abuse their influence. As a consequence, teamwork and cooperation at work appears to be an ongoing necessity.

Many managers and researchers agree that globalization processes and technological innovation in numerous countries require a completely new management model: a shift focus from leadership realized by a person or a role to leadership perceived as a process (Goleman, 2004, Hackman, 2002; Kaiser, Lindberg & Craig, 2007). A key distinction in the new model is that leadership can be enacted by anyone; it is not tied to a position of authority in the hierarchy. Who is the leader becomes less important than what is needed in the system and how we can produce it. In other words, it is a shift from individual power exertion towards more participative and autonomous systems of influence.

There is still a problem in Poland with the forceful leadership style overuse by managers. Polish managers concentrate rather on interpersonal relations and try to make the impression of taking into account workers' opinions. Transformational changes in Poland have not influenced managerial behavior, which remains autocratic (Kożusznik, 1995; Adamiec & Kożusznik, 2000; Nosal, 2010). Research by the 'Hay Group' indicates that Polish leaders differ from leaders abroad in respect to flexibility interpreted by workers in a workplace as being limited (Hay Group report, 2008). It has been established that numerous Polish leaders use only one chosen style.

How does one change managerial behavior, as well as our own behavior, so as not to cling to one style when there is still a question of the role of traditional "forceful" managerial styles which seem to be effective in some situations? Forceful influenced behavior is aimed at blocking non-compliance behavior, or making such behavior too unattractive for it to be performed (Emans, Munduate, Klaver, Van de Vliert, 2003). These authors argue that forceful influence styles play a constructive part when used together with other styles playing a significant catalyst role, shifting the impact of non-forcing behavior favorably.

Two essential ways to build a sense of security in social relations, that is, through control and through trust, often remain in conflict with each other. Parties primarily focusing on control and using unilateral power do not create a base for trust among social partners. More importantly, this hinders creativity in problem solving and generating new ideas.

The question arises why should and how can managers as well as employees reduce their influence and control?

Concept of deinfluentization

The answer is *deinfluentization,* a concept coined by Kożusznik (2005, 2006) as a phenomenon to consciously regulate and reduce influence by a leader, a whole group or each individual employee to make it possible to use effectively each element within the organization and to accomplish its main tasks. We assume that behaviors and social techniques revealed, in cooperation, as reducing one's own importance and making space available for others are skills which can be trained and coached (Kożusznik, 2005). It is contradictory to typical managerial habits, where managers understand such reduction as proof that they are weak. That is why we think it is necessary to refer to an ethical reservoir which gives rise to individual readiness to sacrifice one's comfort and interests. Partners' behavior in a dialogue remains ethical as long as they are able to perceive organizational purposes in a broad perspective and incorporate their core values, being called spiritual ones by us, into a dialogue process. Our conclusion is that diminishing one's influence is not only a behavioral technique but also is grounded in virtue.

Deinfluentization means that you do not have to change your tactics from cooperation or participation to pressure or coercion but first just stop it, reduce it, withdraw from it. It concurs with Schein (1988) that for most managers it is psychologically almost impossible to be so flexible – that in one situation you are "hard and macho", and in another you are rational, soft and feminine. This seems to be especially difficult for managers in Poland.

Deinfluentization involves conscious withdrawal of influence by a leader to generate the individuals' influence and power and the team as the whole so that appropriate team processes are facilitated (Kożusznik 1996, 2002, 2004). It also allows the team to be more productive. Deinfluentization means suppressing one's will to force someone to do something; it means stopping attempts to persuade someone to do something, being silent and waiting for others to talk, not being angry and disruptive during discussions, reducing one's influence when someone else's influence is more appropriate, and helping others to participate in work processes. According to Lewin's ideas (1952), the creation of external circumstances as described above is based on the *power game* which takes place in workplaces. This is a common phenomenon accompanying changes in organizational situations and is a characteristic struggle for influence among three main elements of the workplace: the leader, each individual worker and the group of workers as a whole.

Deinfluentization is when a leader consciously withdraws influence, a withdrawal which is appropriate to situational demands. It plays a fundamental role in leadership behavior, in participation processes and in promoting the full use of human capital in an organization giving free space to use workers' competences and abilities. As mentioned above, deinfluentization refers first of all to the leader who has the formal insignia of authority to become also the *influence regulator*. It can be understood on the basis of two different dimensions:

– reducing one's own influence – suppressing one's will to force someone to do something; it means stopping attempts to persuade someone to do something, being silent and waiting for others to talk, not be angry by being disruptive during discussion, reducing one's own influence when someone else's influence is more appropriate.
– making space available for others. There are some active forms of behavior which give space for others to talk, to force into the open someone else's idea: looking after people who talk, offering a place to talk, taking care of private distance, active listening, stopping, the ability to draw persons out so that all members participate, the ability to tolerate pauses, protect individuals so that other group members might attack verbally, prevent talkative individuals from dominating without rejecting them.

On the basis of Kożusznik's (2005, 2006) previous research, we have come to the conclusion that the DEI managers (both men and women) achieved the highest results in positive factors – social competencies, emotional acceptance of a managerial role, developmental potential and effectiveness (in their supervisors' opinion). That is why we can apply the term *leadership positive behavior* to the managers consciously withdrawing influence. The DEI managers seem to be rather strong and resilient – with evidence of good stress tolerance in work situations (Kożusznik, 2002). The problem of reducing one's behavioral impact or consciously withdrawing one's influence seems to be very important in making managerial work more effective.

Item Pool Development

A starting point for constructing the *Influence Regulation and Deinfluentization Scale (DEI-beh* in short*)* was to presuppose that people vary in terms of their skill in regulating their own influence, that is, the degree to which they allow others to exert influence in a given situation since they consider their own influence as inadequate to requirements. In the first place, a tool was prepared for evaluating behavioral reactions, comprising a deinfluentization notion, of a respondent as a self-reporter (an agent version), and then a further version was developed where a test result stems from evaluating persons collaborating with a respondent (a target version).

The construction of the questionnaire consisted in collecting opinions on behavior of the persons who regulate their influence and strive to exercise maximum influence on all group members and on an interlocutor. The opinions were formulated by the persons working in various professions and workplaces. The statements referred only to actual behaviors which occur when a person states that in a given situation the influence is attributed to someone else (an individual or a group), and that their own influence is ineffective and unacceptable, or their own repertoire of available influence tactics has been exhausted. Consequently, they wish to cooperate with a given individual or a group as long as possible and in an effective manner at the expense of weakening their own influence.

The collected definitions and descriptions were subject to linguistic analysis and two dimensions have been identified: the one aimed at reducing the individual's own importance, and the other relating to making space at work available to others. A list of 35 statements was obtained which described behaviors of those persons characterized by highly reduced influence and importance and deinfluentization. The list was evaluated regarding a given statement and its significance. As a result, 20 statements remained which were recognized by competent arbiters as the most characteristic phenomenon of deinfluentization. The arbiters originated from a group of academics from higher education institutions dealing with work issues and the organizational psychology of both management and managers in medium and large companies.

It comprises three scales: reducing one's own importance and influence (RI), making space available to others (MSA), and a scale measuring social approval (SA) which constitutes the scale of lies. The former two include ten statements each and the latter contains four items.

The respondents' task was to mark which behaviors they found vitally characteristic or only slightly characteristic of themselves (DEI-beh agent version). The higher the general result, the greater the individual's willingness to deinfluentisize and the better their developed skill to regulate their own and others' influence. The regulating process consists in the reduction, weakening and complete deprivation of one's own influence. DEI-beh may be employed to examine whether one's own importance in a given situation is reduced or whether space is made available to other people. The result obtained on the RI, which comprises statements by people consciously regulating their influence, informs about a level of this regulation based on presented communication behaviors. And/Or they focus on an interlocutor's non-verbal confirmations of acceptance and facilitation of a mutual role transfer between an addresser and addressee. A significant evaluative aspect is the perceived efforts undertaken to improve an interlocutor's emotional well-being and their thoughts sensed during a meeting, while the part representing the persons making space available to others (MSA scale) depicts the intensity of behaviors aimed at improving communication conditions and functioning. In this part a person indicates activities which determine that a desired result is achieved. Tables 1 and 2 below show the statements falling under the categories: reduction of importance (RI) and making space available (MSA).

Table 1

Statements describing behaviors of persons consciously reducing their own importance

No.	Statement number	Statement content
1.	1	Is able to remain silent although they could take part in a conversation.
2.	2	Is able to wait through a break in a conversation.
3.	4	Is able to abstain from commenting.
4.	6	Can diminish one's own importance in a conversation.
5.	7	Can lower one's gaze not to cause embarrassment to an interlocutor.
6.	8	Is able to change a conversation topic without causing embarrassment to an interlocutor.
7.	9	Keeps calm when their talk is interrupted.
9.	10	Is able to acknowledge their mistakes.
10.	16	Can backtrack.
11.	20	Keeps a serene facial expression despite a difficult situation.

Note: Own elaboration.

Table 2

Statements describing behaviors of persons making space available to others

No.	Statement number	Statement content
1.	3	Is able to encourage others to express their opinions.
2	5	Cares about maintaining proper space in contacts with others.
3.	11	Tries to respect private, intimate space between persons (e.g. restrains from involuntary touching others during a conversation).
4.	12	Can move over to make room for someone.
5.	13	Keeps eye contact with an interlocutor.
6.	14	Arranges space to make it comfortable for participants in a conversation.
7.	15	Approves of other people's ideas.
8.	17	Calms down noise and talking that make it impossible for others to express their opinions.
9.	18	Waits until others finish their utterance.
10.	19	Cares about appropriate and convenient distance between people.

Note: Own elaboration.

Factorial validity and reliability of the DEI scale

The next step was to conduct confirmatory factor analysis in order to determine whether one-factor and three-factor models would be supported by empirical data (Konarski, 2009). The fit evaluation was based on the mean square error of approximation or root-mean-square error RMSEA. The fit evaluation was based on the following indices values: Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), Standardized Root Mean Square Residual (SRMR) and Normed Fit Index (NFI) (Schermelleh-Engel, Moosbrugger, Müller, 2003).

The models were tested with correlated latent variables which used a covariance matrix of 24 items obtained in examinations of 512 managers. This sample was divided randomly by the Statistica 12.0 software package into two smaller subsamples in which the first group included 265 persons and the other 247 persons. The first subsample data were subject to analysis to compare the fit of the one-factor model and the three-factor model, which comprised the following dimensions: Reduction of importance (RI), Making space available (MSA), and Social approval (SA) (measured by the lie scale). Both MLE (*Maximum Likelihood Estimation*) and RML (*Robust Maximum Likelihood*) were employed. The RML estimation is fault-tolerant statistics in respect to errors arising from non-conformity of empirical distribution with normal distribution. Statistics choice was determined by the fact that the distribution of some items diverged from the normal distribution. The findings are presented in Tables 3 and 4. The results in the Tables below show that three models were analyzed with equivalent factors. The worst fit with the data was achieved by the one-factor model. The best fit was demonstrated by the three-factor model. The CFI value was approximately or higher than 0.90. The SRMR and RMSEA values are slightly above or below the 0.08 critical value. The χ^2/df measures reached the value below the critical 3. It indicates a reasonably satisfactory fit of the three-factor model to the data.

Table 3

Results of confirmatory factor analysis: comparison of fit to alternative factor models DEI N = 265 (ML estimation)

Model	χ^2(df)	χ^2/df	RMSEA	CFI	NFI	SRMR	$\Delta\chi^2$
1-factor	803.52 (252)***	3.19	0.091	0.86	0.80	0.080	191.36***
3-factor	659.68 (249)***	2.65	0.083	0.88	0.82	0.077	–

$^{***}p < 0.001$

Table 4

Results of confirmatory factor analysis: comparison of fit to alternative factor models DEI N = 265 (RML estimation)

Model	SB-χ^2	χ^2/df	RMSEA	CFI	NFI	SRMR	$\Delta\chi^2$
1-factor	691.93 (252)***	2.74	0.081	0.87	0.81	0.080	166.48***
3-factor	604.26 (249)***	2.43	0.074	0.90	0.83	0.077	–

$^{***}p < 0.001$

SB-χ^2 – Satorra-Bentler Scaled Chi-Square

The next confirmatory analysis was conducted on data collected from the other group. The 3-factor model fit to covariation of 24 items was verified. The following fit factors were obtained: $\chi^2(df)$ = 588.77 (249); χ^2/df=2.36; *RMSEA*=0.074; *CFI*=0.90; *NFI*=0.83; *SRMR*=0.079 (ML); $\chi^2(df)$ = 503.71 (249); χ^2/df=2.02; *RMSEA*=0.064; *CFI*=0.91; *NFI*=0.85; *SRMR*=0.079 (RML), which indicates that a satisfactory fit was achieved. Table 5 presents completely standardized factor loadings (lambda λ-X, *Completely Standardized Solution*). Except for item 17, all the coefficients proved to be statistically very significant at a level of $p < 0.001$. Item 17 has a very low loading while the other items achieved loadings equal to or above 0.27 (item 20), and all the remaining items, apart from 15 and 20 have loadings equal to or above 0.30. The removal of item 17 insignificantly improves fit measure values (CFI assumes a value above 0.9).

Table 5

Confirmatory factor analysis model. Factor loadings (Completely Standardized Solution lambda – X, λ-X) of individual questionnaire items DEI. (N = 247)

Factors:	Reduction of importance	Making space available	Social approval
Items	λ-X	λ-X	λ-X
1	0.52	–	–
2	0.46	–	–
3	–	0.37	–
4	0.46	–	–
5	–	0.64	–
6	0.42	–	–
7	–	–	0.62
8	0.64	–	–
9	–	–	0.63
10	0.41	–	–
11	0.51	–	–
12	0.43	–	–
13	–	0.53	–
14	–	0.60	–
15	–	–	0.28
16	–	0.49	–
17	–	–	0.05
18	–	0.59	–
19	–	0.50	–
20	0.27	–	–
21	–	0.45	–
22	0.45	–	–
23	–	0.69	–
24	0.44	–	–

Table 6

Confirmatory factor analysis model. Correlation of latent variables (N = 247)

	Reduction of importance	Making space available	Social approval
Reduction of independence	–	–	–
Making space available	0.60	–	–
Social approval	0.97	0.73	–

Table 6 above shows the correlation of latent variables. It is noticeable that reducing importance (RI) and social approval (AS) correlate quite significantly.

To sum up, the conforming factor analysis showed that the 3-factor model fit reasonably satisfactory the data obtained by means of the 24-item questionnaire, which demonstrates the DEI questionnaire's factorial validity. Using the questionnaire is most effective when as a tool it includes two scales. It is important to add that the conforming factor analysis carried out on the item pool scales of reduction of importance and making space available allows one to use the DEI as a one-dimensional method. The fit measure, whose value is a one-dimension indicator, that is, an RMR (Song, Singh, Singer, 1994), and to be precise in its standardized SRMR form, assumes the value below 0.08 (0.074).

The confirmatory analyses conducted on the item pool scales of reduction of importance and availability brought similar results, and the fit measures reached a reasonably satisfactory level like the ones presented above [The first sample: $\chi^2(df)$=449.72 (169); χ^2/df=2.66; *RMSEA*=0.079; *CFI*=0.90; *NFI*=0.84; *SRMR*=0.073 (ML); $\chi^2(df)$=381.04 (169); χ^2/df=2.25; *RMSEA*=0.069; *CFI*=0.92; *NFI*=0.86; *SRMR*=0.073 (RML). The second sample: $\chi^2(df)$=390.62 (169); χ^2/df=2.31; *RMSEA*=0.073; *CFI*=0.91; *NFI*=0.84; *SRMR*=0.081 (ML); $\chi^2(df)$=337.27 (169); χ^2/df=2.00; *RMSEA*=0.064; *CFI*=0.92; *NFI*=0.85; *SRMR*=0.081 (RML)].

Table 7

Cronbach's alpha reliability coefficients (N = 512)

Scale	α Cronbach
Reduction of importance	0.76
Making space available	0.76
Social approval	0.49 after removal of items 15 and 17: 0.62

Table 7 shows Cronbach's alpha reliability coefficients measured for the whole sample. The reduction and availability scales are characterized by a satisfactory reliability level. They may be considered as internally consistent scales. The social approval scale achieves a low value, which proves poor reliability. Removing poor items 15 and 17 increases reliability to a moderate level. A set of items on the scales of regulation and availability (their sum) is characterized by high reliability (α = 0.83).

Summing up, both confirmatory factor analysis and reliability analysis indicated that the DEI questionnaire is pertinent and reliable, and its best application is when it is made up of two scales comprising regulation and availability. However, the lie scale results should be viewed with caution since its items may be treated as buffer values, and the result itself should be measured as a sum of items seven and nine.

Item-item correlation

The analysis of correlation between individual test items forming the questionnaire was conducted in order to verify the cohesion of the DEI-beh scales. The results are presented in Tables 8 and 9.

Table 8

Correlation coefficients between test items in the Reduction of importance (RI)

	1R Agent	2R Agent	4R Agent	6R Agent	8R Agent	10R Agent	11R Agent	12R Agent	20R Agent	22R Agent	24R Agent
1R Agent	–										
2R Agent	0.48	–									
4R Agent	0.42	0.32	–								
6R Agent	0.32	0.25	0.33	–							
8R Agent	0.27	0.27	0.20	0.30	–						
10R Agent	0.18	0.18	0.13	0.14	0.39	–					
11R Agent	0.26	0.28	0.22	0.24	0.30	0.15	–				
12R Agent	0.13	0.15	0.11	0.15	0.17	0.16	0.30	–			
20R Agent	0.25	0.17	0.17	0.25	0.24	0.19	0.12	0.17	–		
22R Agent	0.15	0.22	0.17	0.12	0.20	0.12	0.24	0.30	0.09	–	
24R Agent	0.18	0.13	0.13	0.10	0.24	0.17	0.22	0.18	0.08	0.28	–

Table 8 shows the correlation coefficient values between test items included in the Reduction of Importance scale. The values of coefficients enable one to draw conclusions regarding the cohesion scale.

Table 9

Correlation coefficients between test items in the Reduction of importance (Making Space Available) (MSA)

	3R Agent	5R Agent	13R Agent	14R Agent	16R Agent	18R Agent	19R Agent	21R Agent	23R Agent
3R Agent	–								
5R Agent	0.18	–							
13R Agent	0.01	0.41	–						
14R Agent	0.15	0.32	0.42	–					
16R Agent	0.23	0.25	0.25	0.30	–				
18R Agent	0.28	0.33	0.18	0.28	0.23	–			
19R Agent	0.17	0.23	0.18	0.28	0.13	0.34	–		
21R Agent	0.22	0.19	0.12	0.20	0.19	0.33	0.21	–	
23R Agent	0.15	0.42	0.40	0.36	0.28	0.40	0.30	0.29	–

Table 9 presents the values of correlation coefficients between test items included in the Making Space Available scale. The results obtained enable one to confirm the scale cohesion.

Criterion validity

Taking into account the definition of deinfluentization proposed by Kożusznik (1996, 2005, 2006), we decided to verify the tool's external validity with the temperament characteristics defined by Pavlov (1952) and selected personality traits proposed in the Five-Factor Model Personality by Costa and McCrae (1992).

Having analyzed a skill of influence regulated at both behavioral levels – convictions and cognitive abilities as well as emotions – it seemed purposeful to consider an individual's biologically motivated tendencies (including temperament), and a structure of personality developed in the socialization and education process, as the foundations enabling implementation of the individual dimensions of deinfluentization.

The tool's validity test was conducted by applying the PTS temperament questionnaire created by Strelau and Zawadzki (1998). That questionnaire is based on a typology of temperamental features, relying on the principle of nervism (Pavlov, 1952), which expresses the conviction that behavior results from individual differences in the central nervous system and in the conditioning processes that are its consequence.

The nervous system types conceived by Pavlov (1952; Strelau, Zawadzki, 1998) are created by various nervous system configurations, such as its excitatory strength, inhibitory strength, and nervous mobility.

Table 10

Criterion validity. Correlation coefficients between DEI and temperament features

	Strength of excitatory process	Strength of inhibitory process	Mobility of nervous processes
Deinfluentization	0.08	0.31**	0.26*

$^{*}p < 0.05$; $^{**}p < 0.01$; $^{***}p < 0.001$

Tool validity was verified by determining a correlation coefficient between the general result and the results in the individual scales questionnaire, and the values achieved in individual aspects of temperament, hypothesizing that positive relations should occur between deinfluentization and the strength of the excitatory and nervous mobility processes.

Table 11

Criterion validity. Correlation coefficients between dimensions of DEI and temperament features

	Strength of excitatory process	Strength of inhibitory process	Mobility of nervous processes
Reduction of Importance	0.01	0.27**	0.17
Available	0.14	0.30**	0.34*

$^{*}p < 0.05$; $^{**}p < 0.01$; $^{***}p < 0.001$

The underlying reason for regulating the influence both with regard to reducing one's own importance and making space available to others is the strength of the inhibitory process. It manifests itself among people as the ability to interrupt one's own behaviors, defer them and to undertake adequate actions corresponding to situational conditions, as well as refraining from behaviors and reactions (Strelau, Zawadzki, 1998). This strength is recognized as the ability to maintain a conditioned inhibition seen as extinction, delay, differentiation and conditioned inhibition viewed in its narrow sense (Pavlov, 1952), whereas its measure is the ease in evoking and maintaining such a condition for a possible time by the central nervous system. A significant correlation in this regard indicates biological predispositions to refrain from acting or exerting an impact in response to present situational conditions. A special deinfluentization relationship with nervous mobility was expected in making space available. Since nervous mobility is the ability of the nervous system and the resulting individual's ability to quickly change behavior adequate to changing situational conditions, it may be assumed that the existing relationship confirms the adequateness hypothesis for making smaller or bigger space available to employees' activities depending upon the task or its significance for organization effectiveness.

The *NEO-FFI Questionnaire* conceived by Costa and McCrae, in the Polish adaptation made by Zawadzki, Strelau, Szczepaniak and Śliwińska (1998), was used to measure DEI-beh validity. The Five-Factor Personality Model postulated by Costa and McCrae deals with personality as a structure of the most essential dimensions able to impact traits, verified both in natural languages and also in psychological questionnaires (Costa & McCrae, 1992). It distinguishes five basic dimensions: neuroticism, extraversion, openness to experience, agreeableness and conscientiousness.

Table 12

Criterion validity. Correlation coefficients between deinfluentization and personality traits

	Neuroticism	Extraversion	Openness to experience	Agreeableness	Conscientiousness
Deinfluentization	–0.06	0.23**	0.18*	0.36***	0.24**

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

Table 13

Criterion validity. Correlation coefficients between dimensions of deinfluentization and personality traits

	Neuroticism	Extraversion	Openness to experience	Agreeableness	Conscientiousness
Reduction of Importance	0.09	0.14	0.12	0.24**	0.11
Available	–0.24**	0.29***	0.21**	0.44***	0.36**

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

It has been assumed that the fundament for skill in making space available to others will be moderate relationships with all five personality traits, with emphasis being put on a negative relationship at the same level as that neuroticism. This system would justify the ability to undertake actions aimed at offering space for others to act and express themselves, while appreciating their possible contribution to tasks that are to be performed, and demonstrating consideration for interpersonal relations. Regarding the neuroticism dimension, which refers to an individual's emotional stability (Zawadzki at al., 1998), and the ease with which one may fall into experiencing states and emotions considered as negative and the tendency to persevere in them, it has been assumed that a negative relationship may be understood as confirming interpersonal significance in making space available. The remaining factors are related to authenticity and cordiality, that is, being considerate towards others and demonstrating openness to them – thus, positive relationships were found advisable. This hypothesis was borne out through correlation analysis between making space available and individual personality traits in the Big Five model.

Besides determining a skill to reduce one's own importance as an ability to withdraw oneself, to suppress one's own influence and diminish one's own value for the good of a team and the organization, it was recognized that a particular connection would occur with the agreeableness factor describing an individual's interpersonal attitude. In the case of high values, agreeableness manifests itself as sensitivity to other people's affairs (Costa & McCrae, 1992), which appears to be necessary for a moderating skill. The analyses conducted in this respect confirmed the above assumptions. Since the assumptions regarding relationships of deinfluentization with temperament and personality were demonstrated, the tool's validity and its concep, respectively, were recognized in both dimensions.

Conclusions

The *Influence Regulation and Deinfluentization Scale (DEI-beh)* satisfies essential requirements for factor validity and reliability. This allows the DEI-beh tool to be considered useful in research studies that regulate one's own influence and importance in an organization.

The validity of differentiating two factors within the tool – reduction of influence and importance (RI) and making space available (MSA) was borne out by factor analysis.

Our research on the tool's external validity enabled us to confirm the hypotheses on the kind and strength of deinfluentization relationships with individual temperament and personality traits. Our research also revealed the relationships between making space available and the strength of inhibitory and mobility of nervous processes, and the relationships between influence reduction and importance with inhibitory strength. Deinfluentization with personality traits demonstrated that there is a positive relationship between reduction of importance with agreeableness, while making space available is related to extraversion, openness to experience, agreeableness, conscientiousness, and negatively related to neuroticism.

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Anorexia readiness syndrome and sensitivity to body boundaries breaches

Abstract

Our study tests the relationships between the anorexia readiness syndrome (ARS) and the sense of body boundaries as well as sensitivity to breaches of self boundaries. Conducted among 120 young females aged 18–24, the study was based on three questionnaires: the Eating Attitudes Questionnaire, the Sense of Body Boundaries Questionnaire, and the Self Boundaries Sensitivity Scale. Two groups were used for comparative analyses, each consisting of 30 participants with either high or low ARS intensity. The results showed high-ARS intensity individuals to have a weaker body boundary sense, a weaker sense of being separate from the environment, and a stronger sense of their bodies' permeability boundaries, as well as being overly-sensitive to breaches in their social self boundaries. The groups showed no significant differences with respect to sensitivity to breaches in their bodily and spatial-symbolic selves.

Keywords

anorexia readiness syndrome, sense of body boundaries, bodily self

Streszczenie

Celem zaprezentowanych badań było sprawdzenie zależności pomiędzy natężeniem syndromu gotowości anorektycznej (SGA) a poczuciem granic ciała oraz wrażliwością na naruszenie granic Ja. W badaniu wzięło udział 120 młodych kobiet w wieku od 18 do 24 lat. Pomiar przeprowadzony został przy użyciu Kwestionariusza do badania indywidualnego stosunku do jedzenia, Skali Wrażliwości na Naruszenie Granic Ja (SnaG), Kwestionariusza Poczucia Granic Ciała (KPGC). Wyodrębnione zostały dwie grupy porównawcze liczące 30 osób: z niskim oraz z wysokim natężeniem syndromu gotowości anorektycznej. Wyniki wykazały, że osoby z wysokim natężeniem syndromu gotowości anorektycznej doświadczają słabszego poczucia granic ciała, niższej odrębności od środowiska, wyższej przepuszczalności granic cielesnych oraz charakteryzuje je nadwrażliwość na naruszenie granic Ja cielesnego. Grupy nie

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różniły się od siebie w zakresie wrażliwości na naruszenie granic ja cielesnego i symboliczno-terytorialnego.

Słowa kluczowe
syndrom gotowości anorektycznej, poczucie granic ciała, Ja cielesne

Introduction

Anorexia and the anorexia readiness syndrome

Under ICD-10 (1998, qtd in Cierpiałkowska, 2009), the symptoms that must be present for the eating disorder anorexia nervosa to be recognized include body weight that is maintained at least 15% below that expected for height and age, and weight loss self-induced by avoiding high-calorie foods and by purging, excessive exercise, or by using appetite suppressants and/or diuretics. Moreover, there is persistent body-image distortion with a dread of fatness . The symptoms are accompanied by endocrine disorders that in women lead to amenorrhoea, and if the onset of anorexia is in adolescence, also to pubertal arrest. Anorexia is estimated to affect between 0.3 and 1% of the population, with the major risk group being adolescents, in particular females (Józefik & Pilecki, 1999; Hoek & van Hoeken, 2003; Keski-Rahkonen et al., 2007).

Several factors are thought to cause anorexia, including biological, socio-economic and socio-cultural ones, such as disorders of attachment and family relations, negative feedback from significant others and the peer group, as well as the prevailing media images promoting slim and attractive-looking female bodies (Józefik & Pilecki, 1999, 2006; Ziółkowska, 2001; Cierpiałkowska, 2009; Kiejna & Małyszczak, 2009).

The cure rate for anorexia nervosa is currently estimated at about 60%. In the remaining cases, its symptoms may lead to death from starvation or self-annihilation (Strober, Freeman, & Morrell, 1997; Ziółkowska, 2001), while also increasing the risk of other medical disorders, including depression, bulimia nervosa, osteoporosis, and procreation-related ailments (Bulik, Reba, Siega-Riz, & Reichborn-Kjennerud, 2005). Effective therapy is increased considerably through recognizing anorexia risk factors and the disorder itself, especially before it reaches its full-blown form.

One direction of preventive action is to analyse behaviour that precedes the development of anorexia. In this context, Ziółkowska (2001) described the so-called anorexia readiness syndrome (ARS), which she defined as “a set of symptoms suggestive of abnormalities in satisfying one’s nutritional needs and the attitude to one’s own body” (Ziółkowska, 2001, p. 17). The syndrome is identified in people who have not yet developed full-blown anorexia, but are nevertheless found to control the amount and quality of food, focus on their appearance and body weight, believe a slim female body to be a socially desired femininity indicator, dread putting on weight, and delight in weight loss (Chytra-Gędek & Kobierecka, 2008). ARS manifests itself in so-called anorectic behaviour, which is displayed every now and then under stress and in a lowered mood. According to Ziółkowska (2001), examples of such behaviour include:

- taking a keen interest in foods and their calorific value
- showing periodical increase in physical activity
- paying excessive attention to one's looks, focusing on the body and comparing oneself with the ideal of female beauty
- having a tendency toward overestimating the size and weight of the body
- competitiveness
- perfectionism
- need for control
- susceptibility to the influence of mass culture
- emotional lability (mainly conditioned by the attitude to food and the body)
- tendency to control the weight and size of the body, which is accompanied by emotional tension.

Psychologically Ziółkowska reported that, based on her research (2001), ARS is accompanied by an unrealistic and lowered self-esteem, especially with respect to one's attractiveness, which is perceived to be the main source of success in life. This is accompanied by a lowered mood, which may be temporarily boosted by creating strategies for gaining greater control over one's image. Physiologically body size and weight of women with ARS do not usually deviate from the standard, occasionally also exceeding the standard weight and height for their age. People with ARS are also likely to have or have had disturbed family relations with either insufficient or excessive distance between family members. Susceptibility to advertisements is rather selective, although ARS women tend to compare themselves with attractive actresses and models presented in the media.

Three key factors lie at ARS's source: disturbed relations between parents and child (too little or too much distance), a disturbed perception of one's body, and a lack of constructive strategies for coping with difficult situations. Facilitated by adolescent challenges and young people's immersion in popular culture, these factors, when interacting, may trigger anorectic behaviour, thus also leading to full-blown anorexia.

Sense of body boundaries

Corporality and body image are two issues that are being increasingly looked at. Izydorczyk (2011) showed that young anorectic women are characterized by high dysfunction levels affecting various bodily features, contributing as a result to dissatisfaction with the body, low esteem of one's own body, and a limited capacity to recognize emotional states and bodily sensations. Izydorczyk and Bieńkowska (2009) conducted a study with a view to diagnosing the body self's psychological structure. Their findings demonstrated that young anorectic women were characterized by less complex body schema and unstable attitudes to their boundaries, which were manifested in difficulties those participants had in delineating their body boundaries, as well as in having a sense of their being blurred or absent.

One key body self component, the sense of body boundaries, is related to the way in which people experience their boundaries (Wycisk, 2004; Schier, 2009; Krzewska & Dolińska-Zygmunt, 2012, 2013). The first to investigate this matter were Cleveland and Fisher (1958), who used the notion of "body image boundaries" to demonstrate the differential degree to which people conceive their body boundaries as either being a "barrier" (definite and firm boundaries separating the individual from the external environment) or as being "permeable" (indefinite and weak boundaries exposing the individual to external influences).

Following this lead, Sakson-Obada (2009) define such boundaries as having the skin isolate oneself from other people and objects. A weak boundary sense indicates disturbed body self functioning and is manifested in a limited capacity to interpret one's bodily emotions and physical states, such as hunger, fatigue, and sleepiness.

Regarded as a relatively stable mental experience (Krzewska & Dolińska-Zygmunt, 2012), the sense of body boundaries is significantly related to human mental health. An impairment to body boundary development may result from adverse early-childhood experiences, such as parental emotional unavailability, and a lack of appropriate touch and adequate stimulation (Anzieu, 1989, qtd. in Sakson-Obada, 2009). Individuals without a fully-developed body self in their adult life tend to delineate their boundaries by engaging in self-destructive behaviour, which may lead to self-mutilation, self-inflicted pain, addictions, and eating disorders (Krueger, 2002, qtd. in Krzewska & Dolińska-Zygmunt, 2012).

The subject of body boundaries has also been taken up by Burris & Rempel (2004), who put forward the conception of amoebic self, one that draws certain analogies between unicellular organism (amoebas) qualities and the human beings' cognitive and motivational features . Amoebas are driven by the two basic needs for food and protection from danger, which is a tendency that is common for all living organisms: striving for what is positive and favorable, and eliminating the negative. Furthermore, both amoebas and human beings need to be able to differentiate between what is internal and what is external, with an extra requirement added for humans, the social creatures who also need to distinguish friend from foe. The underlining assumption behind the conception of amoebic self is the need common to all organisms to perceive oneself as separate from the environment (Jaśkiewicz & Drat-Ruszczak, 2011).

Under their theory, Burris and Rempel (2004) distinguished three levels that define the boundary between the self and the world around: bodily, social, and spatial-symbolic. At the first level, the boundary between the internal and the external is delineated by the skin, a literal equivalent to the amoeba membrane that, when intact, comprises the most effective protection against infection. The ability to differentiate the inside of one's body and the external world is no less important for human beings than it is for the amoeba (Jaśkiewicz & Drat-Ruszczak, 2011), since being aware of one's body boundaries allows an individual to distinguish between what they might be able to interact with using the strength of their muscles, and what lies beyond that influence. Conversely, it may well have deadly consequences to identify one's own body as a potentially harmful element of the external environment. At the heart of the second level lies the need to be able to distinguish between friends – those who might support one's development, and foes – those who pose a threat. Being able to do so is indispensable for human beings, who coexist with other representatives of their kind (Jaśkiewicz & Drat-Ruszczak, 2011). To navigate through these complex social networks, people have to perceive their privacy and the ability to regulate interpersonal boundaries in order to reveal their selves to people they trust and hide them from those who may be unworthy of their trust. As Burris and Rempel (2004) point out, emotions play a significant role in how human beings function at the social level, making it distinctly different from the bodily level, which is grounded solely on corporality. Spatial-symbolic is the third level in the amoebic self theory. By using abstract thinking, human beings are able to endow other people, objects, beliefs, and even the surrounding space with symbolic meaning that may be unrelated to the functions assigned to them (Jaśkiewicz & Drat-Ruszczak, 2011). In so doing, humans may incorporate them as part of their self representations, ensuring consistency and stability. Termed "identity markers", they serve to symbolize who individuals are, where they come from, where or who they belong to, and why they are where they are (Burris & Rempel, 2004). At this level, individuals distinguish between people and objects that constitute their "identity markers" and those that do not.

Each level allows for a manifestation of different key survival motives in avoiding danger by defending one's boundaries: at the bodily level, the self is defended against physical injury, at the social level – against the violation of privacy by the wrong people, and at the spatial-symbolic level the self is guarded against having the "identity markers" altered or lost (Jaśkiewicz & Drat-Ruszczak, 2011).

Current study

Being strongly associated with identity and personality formation, the sense of body boundaries is ranked among the bodily perception's key aspects (Krzewska & Dolińska-Zygmunt, 2013). People suffering from anorexia are characterised by a dysfunctional corporal self and a weakened body boundary sense, which impair their capacity to interpret the signals coming from their bodies. Eating disorders may be treated as attempts to delineate those boundaries by individuals with incompletely developed corporal selves, and thus also with incomplete body boundaries (Krueger, 2002, qtd. in Krzewska & Dolińska-Zygmunt, 2012). In light of these theoretical assumptions, we found it justified to investigate whether ARS women would be significantly characterized by a weaker sense of body boundaries.

To this end, we set out to measure the differences in the general body boundary sense and two of its aspects ("barrierability" and "permeability") with respect to ARS intensity. We hypothesized that individuals with high ARS intensity will be characterised by a weaker body boundary sense, in particular a weaker sense of being separate from the environment and a stronger sense of permeability, compared with people having low ARS intensity.

We also wanted to verify body boundaries in the amoebic self concept. ARS individuals are excessively concentrated on their bodies, paying particular attention to their looks and controlling their body size and weight (Ziółkowska, 2001). People suffering from anorexia and those with ARS alike may perhaps treat food as a sort of threat, both for their physical appearance as well as the sense of control they have over their bodies. It could therefore be predicted that young ARS females, who are prone to excessive concentration on their body, will also demonstrate higher sensitivity to their bodily self boundary breaches.

Furthermore, according to Jaśkiewicz and Drat-Ruszczak (2011), sensitivity to social self boundary breaches may be perceived in terms of a strategy that minimises the risk of negative social evaluation. People with high ARS intensity perceive their attractiveness in rather critical terms, which – reinforced by the influence of mass culture – makes them control their appearance excessively. Mira Dana (1987, qtd. in Garrett, 1998) explains the symbolic meaning of boundaries in people suffering from anorexia, an explanation that can be associated with the social level of self-representation: the afflicted female does not accept the version of herself that she thinks others would wish her to become. Body boundaries are then a metaphor for social relations, determining the degree to which people allow others to get close and to which they trust them. It is justified to argue that the case with young ARS females is similar; they may be more sensitive to breaches of their social self boundaries than are people with low ARS intensity. Moreover, sensitivity to social self boundary breaches may trigger response strategies that also typify anorexia: a self-directed attack, which is related to a high awareness of one's negative features and actions, both of which often lead to embarrassing situations, and withdrawal (Jaśkiewicz & Drat-Ruszczak, 2011). At the same time, given that a breach of spatial-symbolic boundaries triggers a coping strategy based on attacking others rather than oneself (op. cit.), we predicted that using such a strategy would not be characteristic of ARS individuals. Moreover, spatial-symbolic self-representation is related to social awareness demands that usually develop in relationships with strict parents; such adolescents perceive that others' opinions are a key reference point for the norms and principles they follow. Families with an anorectic member are characterised by overprotecting parenting and blurring of roles and subsystem boundaries, making it difficult for such individuals to clearly formulate identity markers. In this light, we predicted that individuals with high and low ARS intensity will not be different on the spatial-symbolic level of self-representation.

Materials and Methods

The study included 120 young women aged 18–24 (M = 21.0; SD = 1.82), who were asked to complete a battery of questionnaires.

Eating Attitudes Questionnaire (EAQ)

A self-reported questionnaire used to assess ARS intensity, the EAQ was developed by Ziółkowska (2001). It comprises 20 statements that define four types of variables expressing the respondents' attitude to eating and their own body: ways to lose weight, attitude to eating, style of upbringing, and one's attractiveness perception. The questionnaire is complemented by a lie scale, on which the respondent answers *Yes* or *No* to a series of questions. The results are shown on a scale from 0 to 16 points, with a high score indicating the presence of ARS and a low score showing no abnormalities in attitude to eating and the body.

Sense of Body Boundaries Questionnaire (SBBQ)

Developed by Krzewska and Dolińska-Zygmunt (2013), the SBBQ is a self-reported questionnaire used to assess how respondents experience their body boundaries. It comprises 17 statements that describe the sense of physical separation from the environment and the respondents' sensitivity to body boundary breaches, which they rate on a 5-point scale. The SBBQ results test are reported on three scales: a global scale, which is indicates the sense of body boundaries (SBB), a barrierability scale (BAR), and a permeability scale (PERM). The higher the score on the global scale, the stronger the respondent's sense of body boundaries. Likewise, high scores on the BAR and PERM scales indicate a strong sense of separation from the environment and a low permeability sense, respectively. The questionnaire has satisfactory reliability coefficients, with Cronbach's alphas ranging between 0.75 and 0.87.

Self Boundaries Sensitivity Scale (SBSS)

The SBSS was used to assess participants' sensitivity to breaches of self boundaries. The questionnaire is a Polish adaptation of Burris and Rempel's Amoebic Self Scale (2004), and was developed by Jaśkiewicz & Drat-Ruszczak (2011). It comprises 22 statements divided into three subscales that measure sensitivity to bodily self boundary breaches, the social self (associated with the need for privacy, shame, and social anxiety), and the spatial-symbolic self (associated with identity markers).

The instrument consists of three tasks: in Task 1, the respondents rate on a 7-point scale how unpleasant it is for them to think about a number of specific events; in Task 2, they identify people they would feel uncomfortable with in a number of embarrassing situations; and in Task 3 the respondents rate on a 7-point scale how much discomfort they would experience in a range of situations posing a potential threat to their identity. High scores on the individual scales indicate the participant's high sensitivity to self boundary breaches. Like the remaining two instruments, this questionnaire also has satisfactory reliability, with alphas ranging between 0.70 and 0.77.

Results

Based on their scores in the EAQ, which determined ARS intensity (M = 7.52, SD = 4.09), study participants were divided into three groups:

– low-ARS individuals, who scored 0–4 points (N = 30);
– moderate-ARS individuals, who scored 5–10 points (N = 60); and
– high-ARS individuals, who scored 11–16 points (N = 30).

We chose to run further analyses on a sample comprising the participants who made up the two outermost groups, that is, women with low and those with high ARS scores.

We hypothesized that high-ARS individuals would have a weaker sense of body boundaries compared with their low-ARS counterparts. The measurements were based on participants' global SBBQ scores. Furthermore, we hypothesized that, in contrast to their low-ARS counterparts, high-ARS participants would be characterized by a weaker sense of separation from the environment (as measured on the BAR scale) and a higher sense of permeability and susceptibility to external influences (as measured on the PERM scale). The statistical analyses we conducted confirmed all of our assumptions. The results are given in Table 1.

Table 1. *ARS and sense of body boundaries*

	Low ARS intensity (N=30)		High ARS intensity (N=30)			
	Mean Rank	Sum of Ranks	Mean Rank	Sum of Ranks	U	Z
Global Score	37.66	1054.5	21.0	656.5	191.5*	−3.95
Barrierability	36.28	1088.5	24.72	741.5	276.5*	−2.59
Permeability	38.13	1067.5	21.45	643.5	178.5*	−3.76
	Low ARS intensity (N=30)		High ARS intensity (N=30)			

*$p < 0.05$

We additionally hypothesized that individuals with high ARS scores would be more sensitive to breaches of the bodily and social selves boundaries than those with low ARS scores. The sensitivity indicator was determined based on participants' SBSS scores. Analyses revealed no statistically significant differences between the high- and low-ARS groups with respect to the sensitivity to boundary breaches of the bodily and spatial-symbolic selves ($p > 0.05$), although they showed significant differences with respect to such a breach of the social self boundaries. The women who scored high on the ARS intensity scale also demonstrated higher sensitivity levels in having their social self boundaries breached than did their low-ARS counterparts (see Table 2).

Table 2. *ARS and sensitivity to breaches of the social self boundaries*

	Low ARS intensity (N=30)		High ARS intensity (N=30)			
	M	SD	M	SD	T	df
Social Self	21.1	7.14	25.33	5.54	−2.57*	58

*$p < 0.05$

Discussion

According to Izydorczyk and Bieńkowska (2009), body boundary sense is the mental ability to perceive oneself as an embodied entity – that is, one with a physical body who is able to perceive its (finite) boundaries – and to mentally separate one's body from the world around. The sense of body boundaries is weaker in people who suffer from anorexia than is expected for healthy individuals of their height and age. Izydorczyk and Bieńkowska (2009) demonstrated that anorectic females experience the greatest difficulty in defining their body boundaries, which was manifested in the difficulty they had in delineating body boundaries, as well as having a sense of their being blurred or absent altogether. These observations allowed us to put forward several hypotheses about the abnormalities in perceiving body boundaries, barrierability, and permeability in individuals with high ARS scores. Specifically, we hypothesized that such participants would have a weaker sense of body boundaries, as well as seeing their bodies as characterized by lower barrierability, that is, feeling distinctly separate from the environment, and higher permeability. The current study corroborated all of these hypotheses. We conducted further analyses to investigate the high-ARS females' sensitivity to breaches of the self, defined in line with the amoebic self theory by Burris and Rempel. One could expect that given the exceptional preoccupation of high-ARS individuals with their appearance and body weight, it would be their bodily selves that would be most sensitive to boundary breaches. Rempel and Burris (2006) observed that a lower body mass index is related to perceiving a threat related to skin breaching boundaries. Our findings failed to confirm their hypothesis, as individuals with high and low ARS intensity scores did not differ significantly with respect to their sensitivity to such breaches. This is consistent with Bagińska's findings (2006). However, instead of being related to having one's body interfered with directly and invasively, a weak sense of body boundaries in both anorectic and ARS individuals may in fact stem from their perception of the psychological boundaries between the self and the external world. Furthermore, Jasiński and Drat-Ruszczak demonstrated high scores on the SBSS to be related to subjective perception of depression, while "signals coming from the body are observed with care, although they are an unlikely symbolic expression of emotional problems" (Jasiński & Drat-Ruszczak, 2011, p. 260).

In turn, our study has confirmed the hypothesis that individuals with high ARS intensity may be significantly more sensitive to breaches of the social self boundaries, as compared with their low-ARS intensity counterparts. This finding is congruent with the results obtained by Bagińska (2006) and Sokołowska (2006) in their studies among young females diagnosed with anorexia. Sensitivity to breaches of the social self might be perceived as a strategy to prevent negative evaluation by others. Ziółkowska (2001) underlines eating in the context of individuals' taking care of their physical appearance in order not to become less attractive and, therefore, lose social acceptance. According to Jaśkiewicz and Drat-Ruszczak (2011), the social self-representation level is associated with low self-esteem, low tolerance level for one's imperfections, and the control individuals wish to exercise over how they are perceived by others. These, in turn, relate to fear in being negatively evaluated by other people and to experiencing shame that leads to self-directed attack and withdrawal.

Our study encourages further body boundary exploration in ARS individuals, with future research ideally involving larger samples and comparing ARS females with those suffering from anorexia. It would furthermore be interesting to investigate more deeply the factors that contribute to developing a strong sense of body boundaries. Such knowledge could greatly widen the scope of screening for individuals at high risk for developing anorexia, while strengthening the body boundary sense could constitute the practitioners' aim in providing them with a tool for preventing the disorder.

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Existential/spiritual resources and the subjective quality of life experiences among elderly adults

Abstract

My paper presents the results of a research study on the relationship between existential/spiritual resources, that is, spiritual sensitivity (a disposition to experience spirituality, manifested in the embracement of the nature of things in the transcendent and final perspective, in moral sensitivity, and the ability to find meaning in paradoxical and limiting situations), spiritual sensitivity components and subjective quality of life (a generalized attitude to one's own life mode, in the four existential dimensions: psycho-physical, psycho-social, subjective, and metaphysical). Study subjects were older adults (60+, n = 522) living in the current, dynamic, uncertain and fluid modern world conditions. The study had two phases – quantitative and qualitative (narrative interviews). To measure the phenomena, the Spiritual Sensitivity Inventory (Straś-Romanowska, Kowal, & Kapała, 2013) and the Quality of Life Questionnaire (Straś-Romanowska, Oleszkowicz, & Frąckowiak, 2004) were used. The results obtained confirmed a strong mutual relationship between spiritual resources and quality of life, also providing an answer to some questions about the nature of spiritual sensitivity, and its integrating, pro-development and pro-health role in the elderly adults' life in the post-modern era.

Keywords

elderly adults, spiritual sensitivity and its components, quality of life, conception of a multi-dimensional human being, Spiritual Sensitivity Inventory, narrative interviews

Streszczenie

W artykule prezentuję wyniki badań dotyczących związku między zasobami egzystencjalnymi/duchowymi, a więc wrażliwością duchową (dyspozycją do doświadczania duchowości, przejawiającą się w ujmowaniu natury rzeczy w perspektywie transcendentnej i ostatecznej, wrażliwości moralnej i zdolność do znajdowania sensu w sytuacjach paradoksalnych i granicznych), jej składnikami i poczuciem jakości życia (zgeneralizowane ustosunkowanie do własnego trybu/formy życia, w czterech wymiarach egzystencji: psycho-fizycznym, psycho-społecznym, podmiotowym i metafizycznym). Badanymi były osoby w okresie późnej dorosłości (60+, n = 522) funkcjonujące w dynamicznych, niepewnych i płynnych warunkach współczesnej rzeczywistości. Badanie składało się z dwóch etapów – ilościowego i jakościowego (wywiady narracyjne). Do pomiaru badanych fenomenów wykorzystano Inwentarz Wraż-

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liwości Duchowej (Straś-Romanowska, Kowal i Kapała, 2013) oraz Kwestionariusza Jakości Życia (Straś-Romanowska, Oleszkowicz i Frąckowiak, 2004). Uzyskane wyniki potwierdziły silną wzajemną relację między zasobami duchowymi i poczuciem jakości życia, a także przyniosły odpowiedź na niektóre pytania dotyczące charakteru wrażliwości duchowej i jej integrującej, pro-rozwojowej i prozdrowotnej roli w życiu osób w podeszłym wieku w epoce postmodernizmu.

Słowa kluczowe

późna dorosłość, wrażliwość duchowa i jej składniki, poczucie jakości życia, koncepcja człowieka wielowymiarowego, Inwentarz Wrażliwości Duchowej (SSI), wywiad narracyjny

Introduction

Spirituality is an issue of utmost importance in psychology, if we assume that the primary aspiration of the study is a complete, holistic understanding and description of human beings and their existence. The conception of a multi-dimensional human being (Straś-Romanowska, 1992) adopted in this study implies thinking of the man as a whole – a bodily and psycho-spiritual entity, and indicates that these spheres coexist and influence one another. Observing modern reality makes one ask the following question: is there still place for spirituality in today's human life? The term that appears most frequently in scientific publications and mass media, and which offers a concise and multi-contextual description of the modern *entourage* of life and the development of individuals and societies alike, is "globalization" (Giddens, 1990; Fukuyama, 1992; Bauman, 1999, 2000; Friedman, 2001; Beck, 2002; Rybinski, 2007; Elliott, 2011). Globalization is of particular interest to many sciences, including sociology, political science, and economics. It has also recently attracted the attention of psychologists, who concentrate on globalization treating it as the context of contemporary life of individuals, and a phenomenon that is necessary to fully describe human existence. For example, Senejko and Łoś (2011, 2013) describe globalization as the flow and interrelationship of economic, political and socio-cultural factors, under conditions of the dynamic development of information technology – which have direct reference to the psychological condition of modern man. The literature describing the modern world *milieu* and its influence on the human condition is dominated by the voices that stress the harmful side of this phenomenon. The list of its negative effects includes, among others, extreme individualism and fragmentation of personality (Fukuyama, 2000; Starosta, 2001; Sarnat, 2002); need for constant redefinition of concepts and their boundaries, uncertainty, fluidity, and having no roots (Mamzer, 2002; Bauman, 1994; Friedmann, 2001; Dionne, 2001); cf. problems with identity (Rattansi & Phoenix, 1997; Arnett, 2003; Luyckx et al., 2008; Jensen, Arnett, & McKenzie, 2012; Sugimura & Mizokami, 2012); loneliness, alienation, exclusion, mistrust, and social polarization (Sassen, 2007; Piketty, 2013, after: Nobis, 2014; Sztompka, 2012; Riesman, 1996;

Dembiński, 2001; Szymański, 2001); decrease in the ability to communicate, to enter into direct interaction with others, and to maintain that interaction (DiMaggio, Hargitai, Neumann & Robinson, 2001; Fontana, 2006; Turkle, 2011; Zimbardo & Coloumbe, 2015); avoiding long-term commitment, fear of responsibility, "freedom from", but no "freedom to" (Giddens, 1990, 2001; Fromm, 2014; Frankl, 2009; Grzybowski, 2001); aversion to reflection and existential questions (Kapała & Frąckowiak, 2009); overestimation of external activity and underestimation of internal activity (Kapała & Frąckowiak, 2009); and incomplete perception of the person (Straś-Romanowska, 1992).

As existing research and current observations show, technological development (information and communication), trade, and international business introduce the need for a change in macro systems (economic, social, and cultural) and on the micro level – in the life of individuals (personal, professional, and social). From the perspective of developmental psychology, two age groups seem to be particularly sensitive to these changes: adolescents, who are just at the stage of starting to define themselves and specify their identity, and seniors, whose patterns of perceiving reality, the way of functioning, and lifestyles are relatively fixed and were formed under conditions that differ significantly from the current ones (in Poland, in addition to global, technical, and civilizational changes, there were also significant changes in the socio-political and historical conditions). The issue of seniors is particularly timely. Demographic forecasts show that the share of older people in Europe is increasing. In 2008, the proportion of economically active people over age 65 was 4 to 1, while it will be down to 2 to 1 in 2060. People aged 65+ will make up approximately 30% of the EU population, compared with 17% in 2008 (Eurostat, after: Finogenow, 2011). Poland is no different in this respect from other European countries: in 1988, elderly people accounted for 14.5% of the population, already reaching 19.6% in 2010. Paradoxically, even though the world of today is shaped by younger adults, the majority of the Europeans are seniors. Therefore, there has been a postulate to develop a so-called *silver economy*, that is, products and services for seniors, and the economic system that would make use of their potential. Also, the aging population is a subject of interest for such institutions as WHO and certain bodies at the national level (the Council for Policy on Seniors [*Rada Polityki Senioralnej*] and the Long-Term Senior Policy Program [*Program Długofalowej Polityki Senioralnej*]).

Theoretical background

My study concerns seniors for whom the quickly changing uncertain contemporary reality poses challenges that are not only threats but also opportunities. In the conditions created by the modern world, the categories describing reality, and institutions constituting that reality are continuously being redefined. This requires from people the ability to constantly adapt to flexible changes in thinking, lifestyle, and goals. The present day demands that changes even be made in the system of values, an area that is particularly important for defining ourselves and for our direction in life. “The new environment forces the birth of a new kind of man” (Lędzińska, 2006, p. 176). The conditions of modernity can impinge on the quality of life, for example, by contributing to the following phenomena: marginalization, loneliness, mistrust, and failure to find meaning in life.

A remedy for the instability and fluidity of reality may be sought in developing existential/spiritual resources and in using them skillfully. To this end, the following may prove particularly useful: existential wisdom, awareness and self-awareness, reflectiveness, the ability to adopt a holistic and multi-contextual look at reality, openness to values and the ability to look through their prism on one’s own existence, the ability to find meaning in life, and sensitivity to others. Also, religion and faith offer a point of reference that is especially important for people in late adulthood, who make their life balance under the resolution of developmental tasks (Erikson, 2000; Straś-Romanowska, 2011). Universal values can raise the man above the divisions resulting from diversity (ethnic, religious and national) characterizing *the global village*, and can become a platform for inter-generational, social, and cultural dialogue.

Much has been written about the integrating and development-oriented role of spirituality in life (e.g. Chlewiński, 1982; Allport, 1955, after: Hall & Lindzey, 1994; Hill & Pargament, 2000; Welte, 1980, after: Król 2002; Szmyd, 2002; Young & Morris, 2004; Straś-Romanowska & Kapała, 2010). In those authors’ view, we cannot easily extract and place spirituality in human existence as, for example, a sphere of activity, or a biological or social area. It is, rather, a general category that relates to deeper layers concerning other existence spheres, as well as in penetrating them. According to Straś-Romanowska (1992), a fully developed personality takes place in the following dimensions: psycho-physical, psycho-social, subjective, and metaphysical, with the latter being associated with the individual’s cognitive openness reaching the essence of things. It manifests itself in crossing the borders of empirical reality (*transcendence*), which takes place within cognition as broadly understood (i.e. experiencing). Describing the areas that manifest spirituality (consciousness and self-awareness, understanding and wisdom, feelings, life’s aesthetic dimension, creativity, morality, religion, worldview, and faith), Socha (2000) states that people can realize spirituality, for instance, in their passion for reaching the truth, the desire to express beauty, the willingness to bring peace to humanity, and seeking a universal meaning in everyday life. Batson and Stocks (2004) claim that spirituality, as a response to existential questions, can relate to each need distinguished by Maslow in everyday situations, transcending them toward higher values. Smith (1971) points out that spirituality is not a slice of life, but its deeper dimension, referring everything to "the sacred". This can be experienced in any part of reality through the prism of "the sacred": wonderment about nature, momentary great joy, felt love, a well-done task, and so on. According to Heszen (2003), spirituality is a disposition to transcendence, which is manifested specifically in observable activities and through inner experience. It can be directed to "I" (self-development), to "the other", to the Absolute, and to the universe.

Another phenomenon that is comprised in the spiritual realm and has an integrating and direct impact on human personality and activity, is the meaning of life. Frankl wrote that man "does not exist in order to be, but to become" (Frankl, 1984, p. 44). A sign of one's maturity is reaching the ability to find meaning, especially in circumstances marked by suffering, by *transcending* it, and to dedicate meaning to someone or something. An important concept in the integrating role of spirituality in human life is also "higher-meaning" (*uber-sinn*, Frankl, 1984) – the meaning in itself, the meaning that is given (Frankl, 1984; Baumeister, 1991). Also Obuchowski (1995) claims that people have a natural need for creating their own conceptions of life, in which they may fulfill themselves, develop personality, and exploit their own potential. Such conceptions are created through the reflection on what life is, what the world is and the man living in it, and what is really important in life. The author emphasizes the role of intentional human activity in discovering the meaning in life.

Numerous research results show that spirituality can be a resource that has a positive impact on health (Heszen, 2003, 2004). People involved spiritually and/or religiously have better general well-being than the non-involved (Schumaker, 1992). Lotufo Neto (1997), and Sousa et al. (2001) demonstrated the beneficial effect of spirituality and/or religion on mental, physical, and social functioning. A developed spirituality and/or religion are associated with a lower incidence of chronic illness and lower mortality (Ball et al., 2003). For example, people with low spiritual and/or religious commitment are 1.29 times more likely to die from cardiovascular problems than are those with high involvement (Mc Cullough et al., 2000). Oxman et al. (1995) found that people involved spiritually and/or religiously return to health faster and have better results in convalescence after severe illness or surgery.

Moreover, Levin & Taylor (1998) observed a positive relationship between spirituality and/or religion and mental health . A positive impact of spirituality and/or religion on mental health is indicated by 77% of research on the subject (Bergin, 1983; Levin & Chatters, 1998). People involved spiritually and/or religiously have fewer psychopathological symptoms than those less involved (Hannay, 1980). Spiritual and/or religious caregivers (nurses, assistants, social services professionals) of chronically sick patients enjoyed a better emotional state and were less prone to burnout than were the non-spiritual/non-religious caregivers (Rabins et al., 1990).

McCraken and Yang (2008) came to similar conclusions in a study of 100 physiotherapists. “Spiritual” factors, including acceptance values – awareness and self-awareness – and taking action associated with them, correlated with better health, greater vitality, lower levels of stress and burnout, and better social and emotional functioning. Other studies have shown that developed spirituality and/or religiosity correlated negatively with schizoid thinking in healthy subjects (Feldman & Rust, 1989) and positively with lower levels of depression (Koenig 1995; Levin et al., 1994; Hussain, 2011). According to Levin and Chatters (1998), and Nisbet et al. (2000), spirituality and/or religion is a protective factor against suicide, substance abuse, irresponsible behavior, mental suffering, and certain mental disorders.

Spiritual sensitivity and subjective quality of life in elderly people – the study

Phenomena under investigation: I assumed that “spiritual sensitivity” can enhance an individual’s effectiveness as it is a resource that helps to maintain subjectivity, facilitating an understanding of (often paradoxical) contemporary reality, self, and others, and creating a basis for dialogue in interpersonal relations and between social, national, cultural, and religious groups. Spiritual sensitivity is a disposition to experience spirituality, manifested in embracing the nature of things in a transcendent and final perspective (beyond empirical perspective), in moral sensitivity, and the ability to find meaning in paradoxical and limiting situations. It is a collection of related (specific) abilities, with a direct reference to everyday life, that are used in adaptive problem-solving and fulfilling one’s aims (especially in the moral field), which is necessary for full development in adulthood (Emmons, 2000). Among the capacities that make up spiritual sensitivity we can find: Holism and Harmony; Wisdom, Awareness, and Meaning; Religiosity and Faith; Ethics and Moral Sensitivity (Conscience); Openness to Other People; Spiritual Involvement; and Aesthetic Sensitivity. These components are described in detail in Table 1 in the Annex.

“Spiritual sensitivity” is an original idea of understanding spirituality, although there are similar concepts in psychological literature: so-called *spiritual intelligence* (Fairholm, 1996; Gardner, 1999; Emmons, 2000; Zohar & Marshall, 2001; Sisk & Torrance, 2001; Wolman, 2001; McHovec, 2002; Wigglesworth, 2003; Vaughan, 2003; Hyde, 2004; Hense, 2006; Johnson, 2006; Korcz, 2006; Katz, 2006; Smith, 2006; Amram, 2007) and other conceptions relating the spiritual realm to everyday life and activity (Bradford, 1995; Hay, 1998; Hobfoll, 1989, 2001; Wilber, 2000; Socha, 2000; Heszen, 2003; Hill, 2009). Spiritual sensitivity, as an existential/spiritual resource, may be helpful:

- in everyday situations and relationships between people;
- in tragic, existential situations as a coping resource;

- in psychology, education, and pedagogy (Sisk & Torrance, 2001; Johnson, 2006) – the educational process involves not only acquiring knowledge, but also holistic education, education of values, and actions taken that form a mature personality;
- in the professional domain, in business environments and organizations (Zohar & Marshall, 2004; Wigglesworth, 2003; Korcz, 2006; Smith, 2006; Katz, 2007), for instance in choosing leaders and managers, and in managing human resources;
- in the social and political domain, and in religious life (Kriger, 1999; Wigglesworth, 2003; Hense, 2006; Amram, 2007; Sisk, 2008) – spiritual sensitivity and skills are essential for being an effective social or religious leader, facilitator, coach, and spiritual adviser.

In this study, spiritual sensitivity was the independent variable. The dependent variable was quality of life. It is "a generalized attitude to one's own mode or life (i.e. to the way in which a person realizes his/her values and meets his/her needs), in the four existential dimensions: psycho-physical, psycho-social, subjective, and metaphysical". The definitions of life quality and its spheres, according to a multidimensional human being (Straś-Romanowska, 1992) are given in Table 2 in the Annex.

Quantitative phase of the study

Aim, research questions and hypotheses: In my study I investigated the relationship between spiritual resources (*spiritual sensitivity*) and quality of life in a specific population – people in late adulthood (aged 60+), facing modern world challenges – its opportunities as well as threats. This is the age group for which the question of the contemporary social, cultural and economic conditions seems to be as important as for adolescents. In the case of the latter, a concept has been developed which shows a relationship between the modern cultural context and psychological development (*emerging adulthood* – Arnett, 2000, 2002). But how do the circumstances of the modern world affect seniors' quality of life: in its global dimension and in the psycho-physical, psycho-social, subjective, and metaphysical areas? Do they see a place for themselves in the current reality? Do they see chances for themselves to implement their developmental potential? Do the spiritual resources help them to achieve this goal?

Late adulthood is sometimes defined as a stressful stage (due to the multitude of concurrent changes to which the subject struggles to adapt). In the *theory of stress of aging*, Neugarten, Tobin and Havighurst (1968) emphasize that seniors are exposed to numerous critical events – losses (losing one's health, job and social position after retirement, the death of a spouse or friends) and related negative emotions, to which they have to constantly re-adapt. The continuous need for re-adaptation is a secondary stressor. Moreover, there is a specific susceptibility to stress that increases with age, which is associated not only with sudden, difficult events, but with having to continuously struggle with the petty limitations of everyday life (Straś-Romanowska, 2011). Uchnast (1998, p. 1) writes: “Human existence […], its dynamic aspect [is expressed] in the ability to go beyond the current state, to develop and become a fully-functioning personality. The dynamics of this self-direction reveals itself — inter other things — in the aspiration for differentiating and perfecting the forms of relationship with the world, creating the world of meanings of one’s own, realizing one’s potentialities to act in a free, rational, effective and social manner”. These words also apply to seniors, and old age is often seen as the time to obtain a fully-functioning personality. Seniors adapting Effectively can be achieved through: accepting the inevitability of aging and its resulting constraints; accepting life’s transience and its approaching end; adapting one’s lifestyle to the new conditions; perceiving the positive aspects of one’s own situation; adopting a creative attitude; and focusing selectively on what is important in life and what gives it meaning. Poor adaptation manifests itself in self-isolation, misanthropy, apathy, and negative emotions, such as hostility toward the world, anxiety, and guilt (Bromley, 1969). An elderly person can adopt one of the following functioning styles: adapted active, adapted passive, adapted defensive, and misfit (Reichard, Livson, & Petersen, 1962; Neugarten, Tobin, & Havighurst, 1968; Stuart-Hamilton, 2006). These styles are described in Table 3 in the Annex.

Today, the following are defined as resources for coping with stress in late adulthood: philosophical attitude, affirmation of fate, wisdom, and religiousness (Straś-Romanowska, 2011). Zych (2014) wrote: “The last task in life in the old age, I think, is to achieve reconciliation with oneself (that is, with the new image of oneself, with the loss of beauty, attractiveness, and with the decrease in physical fitness and intellectual capacity) and with the whole world” (p. 354). As the author observes further: “The most important gift of old age is life itself and its meaning, and maybe redefining the meaning of our existence, or giving life a new meaning” (p. 351). Looking at the classic psychological conceptions, Jung (1968, 1995) wrote about “the transcendent function”, the “pursuit of self” and the characteristic return toward one’s own interior in life’s second half. Erikson (1963, 1968) drew the reader’s attention to the role of life balance and emphasized the virtue of wisdom revealed in late adulthood due to positively solving the developmental dilemma that integrates the ego vs. despair. Kohlberg (1981, 1984) and Fowler (1981, 1984) pointed to the possibility for achieving moral and religious heights at this stage.

Therefore, as part of my study, I looked for answers to the following questions:

- Are existential/spiritual resources (spiritual sensitivity) conducive to high quality of life (in its global dimension and in the psycho-physical, psycho-social, subjective, and metaphysical areas) in the elderly people living in the modern world?

– Do existential/spiritual resources help seniors to cope with the dynamic, fluid and unpredictable conditions of the modern world?

Hypotheses. There were two main hypotheses about the variables described above and the correlations between them.

1. There is a relationship between spiritual sensitivity and quality of life in elderly adults:
   – A developed, high spiritual sensitivity is beneficial for high subjective life quality.
   – A low level of spiritual sensitivity is accompanied by a poor subjective life quality.
2. There is a relationship between spiritual sensitivity and the way in which seniors cope under modern world conditions:
   – Developed spiritual sensitivity favors efficient coping under modern world conditions, taking chances offered by contemporary reality, and adaptation in general (consistent with the Adapted active and Adapted passive styles).
   – Low spiritual sensitivity is associated with poor functioning (consistent with the Adapted defensive and Misfit styles) under contemporary world conditions, and with succumbing to modernity's negative effects.

Research methods. To explore spiritual sensitivity, the Spiritual Sensitivity Inventory (SSI) (Straś-Romanowska, Kowal, & Kapała, 2013) was used. The method was constructed in the course of my own research on spiritual sensitivity and its structure (for more details, see Straś-Romanowska, Kowal, & Kapała, "Spiritual Sensitivity Inventory (SSI). The construction process and method validation", in press). The measure is designed to diagnose spiritual sensitivity as a general factor and its constituent abilities. It is an inventory – it contains items that consist of claims rather than questions. This method is based on self-report activity, by referring to the indicators available to introspection (Fiske, 1971, after: Paluchowski, 2007). Thanks to the objectification of responses, the inventory provides quantitative results with appropriate psychometric properties (they are reliable, accurate, and normalizable). Although the inventory is based on self-reports, it meets the criteria for psychological tests set out in the *APA Standards* (Hornowska, 2001; Zawadzki, 2006). The inventory comprises 56 items, the summarized results of which form the overall score.

This process allows us to measure the intensity of spiritual sensitivity and to distinguish, within the inventory, the items that make up the seven scales measuring the spiritual sensitivity components (Holism and Harmony; Wisdom, Awareness, Meaning; Religiosity and Faith; Moral Ethical Sensitivity/Conscience; Openness to Other People; Spiritual Commitment; and Aesthetic Sensitivity). In keeping with the standards set for the questionnaire construction, the inventory features instructions for use by the subject, explaining how to respond to the claims. This relies on selecting one among several answers possible, without intermediate options, expressed on a numerical scale ranging from 1 to 4 (1 – *strongly disagree*, 2 – *somewhat disagree*, 3 – *somewhat agree*, 4 – *strongly agree*). A multi-categorical four-point scale with so-called “forced choice” excludes the possibility of mechanical “acceptance” or “denial”. The inventory’s individual items describe heterogeneous behavioral forms in different situations and operationalize behavior – that is, they indicate individual spiritual sensitivity components. Inventory items include: a description of reaction (internal and external); a description of personal attributes; a description of interests and expectations; and a description of attitudes and beliefs (Angleitner & Riemann, 1991). The test sheet is given in the Annex.

To measure subjective life quality of life, the Quality of Life Questionnaire (Straś-Romanowska, Oleszkowicz, & Frąckowiak, 2004) was used. This method is based on a multi-dimensional human being by Straś-Romanowska (1992), and in keeping with this theory, it consists of four scales describing the four existential spheres: psycho-physical, psycho-social, subjective, and metaphysical. The questionnaire comprises 60 items, the summarized results of which form the overall life quality score. The tool features items that can be selected to make up the scales measuring the quality of life. The inventory contains instructions for use. The subjects respond to the claims by selecting one from among several options possible, without intermediate options, expressed as a numerical scale from 1 to 4 (1 – *strongly disagree*, 2 – *somewhat disagree*, 3 – *somewhat agree*, 4 – *strongly agree*). As is the case with the SSI, a multi-categorical four-point scale with forced choice excludes mechanical “acceptance” or “denial”. The test sheet is attached in the Annex.

Research sample and procedure. The study was conducted among a population of 522 randomly selected seniors (aged 60+) from different regions in Poland. Their demographics varied in terms of age, gender, educational level, socioeconomic status, and religious creed. They were divided into two groups as called for by WHO (Nowicka, 2006; Szarota, 2002):

- group I: subjects in early old age – aged between 60 and 74 years, n = 266;
- group II: subjects in middle old age – aged between 75 and 89 years, and long-lived subjects – aged 90 years and more, n = 256. It was decided to combine both age categories due to the limited availability of long-lived individuals, especially in good mental condition.

The procedure consisted of two phases:

a) Phase I: ***quantitative phase***, in which the correlated variables were measured. The data were collected twice (in June and July 2015, with 261 subjects in each month). Respondents had been previously informed about the study’s purpose and procedure and about possibly becoming involved in the study's second part – that is, in the narrative interviews. The subjects filled out questionnaires individually or in groups – in their homes or institutions (e.g. community centers, local and parish senior clubs). Statistical analyses were performed for the two groups (I and II) together and separately. The results obtained were compared with the scores received by a group of young adults (aged 18–35, n = 278) in a previous study.

b) Phase II: ***narrative interviews*** (performed and analyzed in accordance with the procedures proposed by Schutze, 1980, after: Prawda, 1989) conducted in August 2015 among 31 seniors with extremely high (x + 2SD; group 1) and extremely low (x – 2SD; group 2) results on both variables. The aim of the interviews was to find out how spiritual resources (spiritual sensitivity and its components) affected the quality of life experiences of older people (the Annex provides questions for the interview). The interviews were followed by comparative narrative analyses, which were made with reference to a) the form, b) the content, and c) the presence of spiritual sensitivity indicators.

Results of the study's quantitative phase. The interrelationship was examined between quality of life (in its global dimension and in the psycho-physical, psycho-social, subjective, and metaphysical spheres) and spiritual sensitivity (global and its components: Holism and Harmony; Wisdom, Awareness, Meaning; Religiosity and Faith; Moral Ethical Sensitivity/Conscience; Openness to Other People; Spiritual Commitment; and Aesthetic Sensitivity). The detailed results are presented in Tables 4-8 in the Annex. The Pearson Coefficient was used to estimate the relationship between the variables. The variables distributions normality had previously been checked using the Kolmogorov-Smirnov test. The asterisk (*) marks statistically significant correlations.

The results confirmed the hypothesis that there is a strong, positive correlation between quality of life (both global and in particular spheres) and spiritual sensitivity (and its components), ranging between 0.44–0.72. Among life quality, the weakest link with spiritual sensitivity was found in the psycho-physical sphere. In the whole sample, and in the groups distinguished within it, correlations obtained average values. This does not mean that spirituality is not at all associated with physicality. Such a thesis would be disproved research that showed a positive spirituality impact on health (Frankl, 2009; Hill & Pargament, 2000; Idler & Kasl, 1997; Musick, 1996; Thoresen et al., 2001; Powell et al., 2003; Plante & Sherman, 2001). Such a correlation exists, but was rather low to medium, ranging between 0.26 and 0.57. Not surprisingly, the strongest correlation between spiritual sensitivity and quality of life was found for the metaphysical sphere, ranging between 0.60 and 0.79. The relationship between spiritual sensitivity and the psycho-social and subjective spheres were similarly strong – 0.40–0.67 and 0.38–0.70, respectively.

The relationships between spiritual sensitivity and quality of life in different dimensions had similar strengths. Also, the pattern, which turned out to be essential for quality of life, unvaried no matter which sphere was considered. The components that proved to be most important for quality of life were: Moral Ethical Sensitivity/Conscience; Wisdom, Awareness, Meaning; and Spiritual Commitment. They formed the "core of spiritual sensitivity", or in other words, these components reached the highest correlation with the overall spiritual sensitivity score.

Data analysis also included comparing the results in particular age groups. The seniors' results in the two groups were compared with each other. In addition, seniors' results taken together were confronted with the scores received by young adults (data collected in a previous study). Statistical significance of differences between the groups was tested. The distributions of analyzed variables checked using the Kolmogorov-Smirnov test turned out to be normal, and the variances were homogeneous. The parametric t-student test was used for independent measurements to verify the significance of differences. Tables 9 to 11 in the Annex present the details of those comparisons, taking into account significant differences (marked with an asterisk).

An interesting tendency was found, after dividing the sample into age groups, one which – developmentally – testifies to the fact that spiritual sensitivity to quality of life increases with age. However, it must be borne in mind that this is a cross-sectional study, not a longitudinal one. For this reason, there can also be another explanation of these results, namely, that the generations differ in their quality of life and spiritual sensitivity.

These results defy common stereotypes. The eldest subjects received the highest global quality of life scores. It also turned out that there were no significant differences between the age groups psycho-physically. Whereas all the three groups – the youngest, middle, and oldest – comprised both healthy individuals as well as those suffering from chronic diseases, these symptoms were more frequent among the elderly. However, this did not significantly affect their life quality. This result confirms the fact that well-being depends only to a certain extent on objective living conditions (described by such variables as gender, income, and education, which together explain 10% of the variance in well-being), and more so on the subjective way in which an individual perceives them, while also depending on standards/reference groups (e.g. Diener, 1984). One's health is a better predictor of life satisfaction than the objective condition of the body as assessed by a physician (Palmore, 1981), and perceived social interaction is more strongly associated with happiness than the number of friends one has (George, 1990; Gibson, 1990). Also, people may or may not be satisfied with their income, depending on the group which they compare themselves to (Diener, 1984). As far as the remaining life quality areas are concerned, there was no surprise – in the psycho-social and subjective spheres, the older the subjects were, the higher their results were. Metaphysically, there was a similar pattern concerning global quality of life – the oldest subjects differed significantly from the rest of the sample and received the highest scores. The data described above allows for drawing the following conclusions: a) the older people become (thanks to their abilities that make up spiritual sensitivity), the more they are reconciled with the way in which they live; or b) the older generation appreciates their lives and what they have to a greater extent, than does the younger generation.

My study also revealed differences with respect to spiritual sensitivity, relative to a respondent's age. Tornstam (2005) wrote that late adulthood is the stage for redefining how one perceives time, space, life and death, transcending the ego, departing from what is physical and material, and for spending more time on internal activity, including existential contemplation. The results confirm these characteristics, drawing a specific pattern of change in spiritual sensitivity and its component as one ages. The results obtained are highest in the oldest group and differ significantly from the results in the younger groups. This finding is consistent with the generally accepted thesis that existential wisdom, commitment to values, and religiosity increase with age due to the accumulation of life experiences and growing self-reflection (e.g. Baltes, 1990; cf. Trempała, 2011).

Qualitative phase of the study – the narrative interviews

The second phase of the study was qualitative, in which brief narrative interviews with selected subjects were conducted. The examined seniors formed two groups: group 1 comprised subjects with extremely high scores in life quality and spiritual sensitivity; and group 2 was formed by subjects with extremely low levels in both variables.

Purpose of the qualitative phase and research questions. This research was aimed at improving knowledge about experienced individual relationships between quality of life and spiritual sensitivity. The interviews – the narrative's emotional climate, its everyday descriptive functions, activities and relations with the world and others – could also claim to reveal how elderly people function.

Research questions. There were twelve questions put forth:

1. What characterizes the seniors' life experience with high life quality and high spiritual sensitivity, and seniors with low life quality and low spiritual sensitivity?
2. Do the elderly with high life quality and high spiritual sensitivity perceive their storytelling manner about life's experiences differently when compared to those with low life quality and low spiritual sensitivity?

3. What kind of experiences are considered as “significant life experiences” by the seniors representing the two groups? How do they evaluate and interpret them?
4. Do, and in what way, significant life experiences affect one’s future life and its perceived quality (global and in the particular spheres)?
5. What kind of people/meetings/relationships have an impact on the further life of the surveyed elderly adults (a question about their “significant others”)?
6. In what way do subjects from both groups deal with difficult/tragic life events?
7. What kind of events (causes) induce a person to take the path of spiritual development?
8. What are the purposes (what are the people from both groups looking for) for taking the path of spiritual development?
9. What are the subjects’ key values, needs and goals in life from both groups?
10. What are the respondents’ main commitments from both groups?
11. What is the philosophy and the leading idea of life in the two groups?
12. What are the benefits and psychological costs involved in spiritual sensitivity development?

Research method. Because space is limited, I do not describe the research method in detail. The narrative interviews were based on the Shutze procedure (Shutze, 1980, after Prawda, 1989). After the interviews, a comparative analysis of the narratives was performed on a) the textual form or structure, b) the content and its main motives, and c) the presence of spiritual sensitivity indicators.

Research sample. Interviews were collected from 31 seniors who received high (x + SD and x + 2SD) and low (x – SD and x – 2SD) results in the two tested variables – quality of life and spiritual sensitivity. They formed Group 1 and Group 2, respectively.

Comparison of narrative interviews in both groups

The interviews’ structural and content analyses revealed a wealth of spiritual sensitivity indicators. They also showed that both groups perceived and interpreted reality differently, differed in their own place in the world, their lot, and their relations with the world and others. What were the main differences?

Language. Group 1 differed from Group 2 in terms of narrative liquidity, their length and complexity, and the degree of conventional phraseology. Stories in Group 1 were more fluent, characterized by longer sentences, a greater degree of complexity, unconventional and creative language, and more frequent use of metaphors, comparisons, and linguistic embellishments. Narratives in Group 2 had less literary quality, were less colorful, mostly concrete, consisting of short sentences, and were expressed through simple, uncomplicated, everyday language.

Narrative structure and content. The main feature distinguishing the narratives from both groups was Group 1's deeper level of analysis of their own biographies and a greater ease in reaching their own feelings and experiences, which, in turn, determined the narratives' proportions and their structure. Table 12 in the Annex shows differences between narrations of seniors from both groups in greater detail.

Further analysis revealed that regularities in constructing the biographies groups can be closely related to the level of spiritual sensitivity (and its components). As was mentioned earlier, respondents in Group 1 had higher spiritual sensitivity levels than did those in Group 2. The spiritual sensitivity components that seem of key importance for the differences in the narratives' structure primarily include: Wisdom, Awareness, Meaning, and – to a lesser extent – Holism and Harmony, and Aesthetic Sensitivity. Wisdom, consciousness and self-consciousness, reflexivity, the ability to draw conclusions, the ability to deeply understand existential questions, holistically perceived reality, the metaphorical perception of reality, the multi-level perception of reality (the material world/ the mental phenomena world /the spiritual phenomena world), the ability to organize experience in relation to a sphere of values, and the ability to see beauty – all these narrow skills characterizing spiritual sensitivity were reflected in the content of the narratives, and shaped their form. The seniors in Group 1 were more conscious and self-conscious, reflective, intuitive and sensitive than those in Group 2, and therefore had greater ease in constructing a biography, and the process of on-the-fly construction was a very creative one. As the respondents themselves admitted, and observation of their behavior and emotions confirmed – this process pleased them. Table 13 in the Annex presents spiritual sensitivity indices found in the interviews.

In general, the Group 1 seniors presented narratives that seemed to be more consistent and monolithic. The emotions contained in them were more toned down, while the biographies represented a greater degree of reflection on various issues and featured closing and summarizing phases of narratives and threads, even though they may have contained more threads than did the narratives presented by the Group 2 seniors. This can serve as evidence that – to put it more directly – the seniors from Group 1 had a greater personal maturity level, and in accordance with the concept on which my research is based – that spiritual sensitivity plays an integrating role in life and has importance for quality of life.

Conclusions

My study shows that in relation to people in late adulthood who live in a dynamic, liquid, uncertain modern reality, there is a positive and strong relationship between existential/spiritual resources (spiritual sensitivity and its components) and quality of life (global and in the psycho-physical, psycho-social, subjective, and metaphysical spheres). The study confirmed that spiritual sensitivity can be treated as a resource for the efficient and fully successful functioning of seniors in everyday life and for dealing with difficult or traumatic events, which has an impact on life quality, and in the long term – also on health. Seniors showed stronger effects than young adults, which is consistent with the claim existing in psychology that spirituality is a strength of the elderly, the potential that they naturally need to develop and implement as part of life's developmental tasks. What was especially important for seniors' life quality was "the core" of spiritual sensitivity consisting of: Moral Ethical Sensitivity/Conscience; Wisdom, Awareness, Meaning; and Spiritual Commitment. There is some evidence from other research showing that a high level achievement in these spiritually sensitive components is important in life, even in the earlier stages, whereas in late adulthood it is some kind of a culmination of personal growth, a favorable life balance. For example, in a study of 112,000 students from 236 US universities, more than half attributed great importance to spiritual commitment, and indicated the following as important life goals: achieving life wisdom, developing one's own life philosophy that ensures a sense of meaning, being involved in activities aimed at becoming a better and fully loving person, and in a broader sense – demonstrating actions that improve the general existential condition of human beings (Green & Noble, 2010).

Therefore, it can be concluded that in a subjective evaluation of life as good and valuable, the most important are the following:

- the feeling that our life is based on values, and our way of life is consistent with them and with our conscience;
- the feeling that our life is guided by objective meaning or higher-meaning (hierarchical objectives, hierarchical meanings);
- the feeling that values, goals, and meanings are implemented in a life with involvement, that is, in a required quantitative extent (amount of time) and qualitative extent (strength of feelings, emotions, and experiences). It is equivalent to feeling that one is able to effectively combine the sphere of higher values with everyday activities.

The qualitative phase – that is, the narrative interviews – allowed for a closer look at the relation, detected in the quantitative stage, between quality of life and spiritual sensitivity and its components in elderly people's life experiences. The basic, and perhaps also somewhat surprising conclusion is that the content of the seniors' life histories from the two contrasting groups did not differ significantly from each other, which is to say that the narratives from both groups had similar threads, and that participants experienced similar events – good and bad. However, due to the dissimilarl ability levels that spiritual sensitivity consists of, they experienced those events in different ways. And so, it turned out that life quality is affected not only by the type and number of life experiences, but primarily by how the experience is perceived, interpreted, and perhaps even organized (this would be the impact from feedback).

This is consistent with the claim that what is subjective is more important for individuals' life quality than what is objective (i.e. the objective life conditions). Thus, seniors with high spiritual sensitivity and quality of life levels: treated life experience reflectively and, for this reason, it was more cognitive; included more complex narratives, richer in descriptions, comparisons, metaphors and reflections (which were contained in theoretical and argumentative comments); revealed a wider and more diverse range of life events that were considered as significant for them (these were also positive events, not just negative ones, events promoting the subjective – not just objective – changes, or events that are more difficult to see, less obvious, and did not only include the spectacular ones); attributed greater importance for their life to many significant events thanks to their cognitive and spiritual abilities (e.g. to reflect, draw conclusions, look at events from a broader perspective, and perceive the symbolic meaning in events and situations); spoke about many significant people – not only from the closest family, but also strangers; coped with difficult / tragic life events better, due to cognitive and spiritual abilities; revealed in their narratives more goals, including long-term ones, pursued not only individually but also collectively, while their needs, goals, and values were more spiritual than material in nature; mentioned more commitments (related to work, family, social activities, and hobbies), and took additional actions focused on other people or ideas, in contrast to seniors from Group 2, who were more focused on themselves and their immediate surroundings; and had a coherent, structured and conscious philosophy of life. The subjects of both groups, distinguished based on the scores obtained in the SSI, clearly differed in the way they perceived their life, in how they lived it, and talked about it. In the narrative content and form, the seniors assigned to Group 1 revealed the categories associated with spiritual sensitivity and its components to a greater extent.

Another conclusion from this study's qualitative part is that highly developed spiritual resources favor how older people adapt towards the modern stressful, fluid, and unpredictable reality. Thanks to spiritual sensitivity, seniors gained a "protective umbrella" shielding them from harmful contemporary phenomena. Again – this does not mean that they escape this influence, but that they interpreted reality in a more positive way (i.e. accepting it wisely rather than in a mindless and uncritical fashion) and stayed "internally free" from it. In contrast, seniors with low spiritual sensitivity levels showed more criticism and anxiety in perceiving, interpreting and talking about their lives, relations, and their own place in the modern world. It can be concluded that a high spiritual sensitivity level corresponds with the overall style of seniors' functioning – Adapted active and Adapted passive, and a low spiritual sensitivity level is accompanied by symptoms of Adapted defensive and Misfit styles (Reichard, Livson, & Petersen, 1962; Neugarten, Tobin, & Havighurst, 1968; Stuart-Hamilton, 2006, after Straś-Romanowska, 2011).

Finally, although further studies are required to confirm these observations, analyzing the seniors' interviews showed the key role played by subjectivity, which is particularly important in the fuzzy contemporary world. As Tyszka (2007) wrote, in the modern world, the system – comprising technology, economics, politics, mass media, and the entertainment industry – determines not only the necessary skills and attitudes of individuals, but it also "determines (...) individual needs and aspirations (...) meaning of life, creates (...) values. Human identity and existence are determined here by the standards of production and consumption (...). It is one of the most drastic attempts to restrict human subjectivity, and hence, his/her identity" (Tyszka, 2007, p. 172).

Is subjectivity really so important? Psychologists have no doubt that defining oneself as a conscious being who exists, experiences, and operates in an autonomous, intentional, and purposeful way is one of the fundamental aspirations of human beings: the main motive, which plays a regulatory and meaning-creating role in human life (Korzeniowski, 1983; Kofta, 1989; Straś-Romanowska, 1992; Sotwin, 2003). Uchnast (2002, p. 85- 86) writing about „the person" and personal experience, suggests an important role in the differentiation between experiencing oneself as the subject and as the object. This is connected paradoxically with increasing internal consistency. The full experience of one's own existence (*sense of being*) expresses itself through the experience: "I am the one who can, among other things, experience myself as the subject and as the object of what happens". Similarly, Karol Wojtyła wrote that the person is - both – subject and object of cognition and action for oneself, and one's existence functions in two ways: by opening on the inside and opening to the outside (the experience: "*I am acting*" and "*Something is happening in me*") (Wojtyła, 1985 after: Harciarek, 2008). The contemporary, modern world gives people a whole range of opportunities – for self-creation and self-realization. Advances in technology and knowledge allow people to live longer lives, but in the offer presented by the present day there is no guarantee of being a subject. Especially among older people, it is important not only to focus on the undisputed value of human existence and life expectancy (medicine and technology today can do a lot in this field), but also to focus on subjective life quality. Perhaps (it is worth checking this hypothesis in future studies), spiritual sensitivity helps older people to maintain a subjective sense in the contemporary world, and also prevents them from objectifying others. In addition, this spiritual resource can, in both the micro (i.e. interpersonal) and macro dimensions, create a meta-level: common ground between culturally and religiously diverse communities, and – using the language of philosophic dialogue – to create the "reality of meeting" (Buber, 1992; Levinas, 2002). Meetings, which are so easy to arrange in the modern era because of technology (communication, the Internet) and the possibility of fast movement. But also the true meeting – where two people, despite individual differences, co-create a new reality and enrich each other. I will end the Conclusions part with a quote, which can serve to summarize the study presented here:

The road to unification [in the modern world] – the real way, the primary way, runs through every human being, through the definition, recognition and respect for the inalienable rights of individuals, societies and nations (...). Respect for the dignity of every human being is therefore a prerequisite for global fairness. (John Paul II, Message for the UN, after: Czachorowski, 2002)

Limitations and suggestions for future investigation

In general, the suggestion for future research is to further explore the relationship between the studied phenomena, the forms for manifesting spiritual sensitivity in how individuals live their lives, and the manner in which their lives are perceived and narrated. There is no denying that data from the interviews, including recurring themes, frequent threads, and respondents' emphasizing different events, behavior, and values, all provide many new aspects of knowledge about spiritual sensitivity and quality of life.

The procedure's disadvantage was that a relatively small number of interviews were conducted. I used a mixed analysis technique: 522 seniors were tested with respect to quality of life and spiritual sensitivity, and then used quantitative analysis on the subjects that showed extreme results – that is, low or high quality of life and spiritual sensitivity – and studied their cases qualitatively. This partly explains the relatively small sample in the narrative phase. In the future, researchers would be encouraged to use cross-selection. There was no such possibility in my study, because the respondents' results with high quality of life were at least average on the spiritual sensitivity scale (although this situation was less common than the co-occurrence of either high or low outcomes on both the variables at the same time), but never low, and *vice versa*.

Also, the results show an interesting relationship between spiritual sensitivity and the seniors' general activity (Reichard, Livson, & Petersen, 1962; Neugarten Tobin & Havighurst, 1968; after: Straś-Romanowska, 2011) they choose while living under modern world conditions. It can be interesting to explore in future studies – by using structured methods, such as the World-I Questionnaire (Senejko & Łoś, 2011) – how the spiritual sensitivity level corresponds with seniors' attitudes toward globalization.

In sum, the results obtained call for further empirical verification, although the developed method for measuring spiritual sensitivity (SSI) has good statistical parameters and the study brings answers to its research questions. Knowledge about the mutual relation between life quality and spiritual sensitivity provides a reply to part of the current and increasingly pressing questions about the place that values and spirituality have in the life of seniors living in postmodern reality.

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Annex

Table 1. *Definitions of spiritual sensitivity components.*

Holism and harmony	Manifests itself in the feeling of belonging to a greater whole (the universe, the cosmos, humanity, creation, etc.), being its unique part, a sense of unity with the greater whole, and awareness of the interaction between this whole and the „self". A person can draw a deep inner peace, joy, a sense of security and meaning in life from the feeling of unity.
Wisdom-Awareness-Meaning	Refers to fundamental life questions, to what is important in life, but often uncertain. It comes rather from personal experience than from theoretical knowledge. It refers to the knowledge and ability to make judgments about the course of human life, its changes, existential conditions, the context of their existence in a dynamic perspective, and the relationships between them (Baltes 1990). It manifests itself in need and the ensuing quest to understand the essence of things, in asking questions about the meaning of phenomena and events, like „Why?", „For what reason?", „With what purpose?" and in the ability to understand oneself and understand deep intuitive existential questions. It is based on not only using logic, but also on insight and intuition, therefore it requires acceptance of irrationality, uncertainty, relativity, diversity and contradictions in life.
Religiosity and Faith	Kind of personal involvement, resulting from a person's deep inner need and will, allowing one to relate common and special life events to „higher senses" – to ultimate concerns (Tillich). It results in striving for consistency in a professed religion, in the principles of faith. Religion essence and faith is the belief in the existence of God and His presence in human life, and the desire to build a personal relationship with Him. Religion and faith can manifest itself in the quest to learn the truths of faith, exploring sacred writings/religious knowledge, practicing private and organized spirituality , and participating in community life. Religion and faith can also be regarded as resources used to cope with difficult life events.
Moral Ethical Sensitivity (conscience)	Manifests itself in the possession of an organized, hierarchical value system to organize our experience, which allows a person to respond to life's problems in its many aspects – from everyday events to dramatic life decisions. Practically, it results in the ability to distinguish between good and evil, in sensitivity to values, their conscious choice and their pursuit in daily life. It leads to self improvement and personal development, and more generally – to life in accordance with our own conscience.
Openness to Other People	It is an attitude resulting from ethical sensitivity. In practice it manifests itself in understanding and showing respect for other people, skill in forgiveness, compassion and empathy, in perceiving others' needs, in taking action to assist and realize people's well-being, in showing responsibility for others, respect for the principles of social justice and disagreement to do harm to others.
Spiritual Commit-ment	Understood as a two-dimensional factor. It is expressed both quantitatively – in the amount of time spent on activities relating to implementing and developing our own spirituality, as well as qualitatively – in the intense feelings and sensations associated with operations serving to realize and develop spirituality. The result of spiritual commitment is effective interaction between the spiritual realm of higher values and everyday actions.
Aesthetic Sensitiv-ity	It is expressed in possessing so-called good taste and a sense of beauty – seeing it around us, in needing to have beauty in the closest surroundings, in seeking the aesthetic. A person with this sensitivity is characterized by finesse and sophistication in meeting the needs from the lowest – biological, through mental, to the highest – spiritual (Socha, 2000).

Source: own materials

Table 2. *Definitions of subjective quality of life.*

Psycho-physical sphere	It is widely understood as the human corporeality and biological urges sphere. It consists of genetic, congenital, independent-of-man factors: physical appearance, temperament, intellectual ability, vitality. The biological sphere concerns the survival of the individual (and species) – the preservation of life and health. Biological imbalances can be a disease.
Psycho-social sphere	The human world is always a social world. Man in the course of socialization is learning new social roles, and fulfilling environmental expectations. In return he obtains a sense of belonging, security/safety, social identity. Man's social adaptation helps him find his place in the community, promotes establishing and maintaining relationships with other people. It dismisses loneliness, and allows man to experience acceptance and self-esteem.
Subjective sphere	It expresses itself in emphasizing ndividuality and independence, in extracting oneself from the social background. Human subjectivity is associated with taking responsibility for one's own life and decisions. Man has free choice, he is aiming for self-realization and tries to be authentic (to live in harmony with himself). This is manifested in achieving personal goals, and in realizing one's interests and passions.
Metaphysical sphere	It is man's spirituality. It is associated with accepting and implementing universal, timeless values, such as goodness, love, truth, and beauty. It is identified with religious experiences and with searching for meaning in life. In spirituality man experiences his own existence as going beyond "here and now" and he feels a part of the universe. Developing the metaphysical sphere promotes moral responsibility and behavior which are in accordance with one's own conscience.

Own description based on Straś-Romanowska, Oleszkowicz, Frąckowiak(2004).

Table 3. *The everyday functioning styles of elderly people.*

Adapted active	the person remains independent, actively pursues their goals, maintains good, satisfactory relationships with others, successfully copes with the challenges of daily life
Adapted passive	the person is dependent, prefers peace and quiet, is concentrated on the inner experience, withdraws from active social life and career, but accepts the life situation;
Adapted defensive	the person copes with the stress of aging helped by replacement activities, and is sometimes hyperactive, rigorous, and rigidly adheres to standards. Such a person is not very reflective and self-sufficient, and avoids the help of others;
Misfit style	the person manifests aggression and open or overt rebellion against their senility. The person can direct the hostility toward others and the world around (also becoming suspicious, spiteful and bitter), or toward themselves (auto-agression).

Own description based on Straś-Romanowska [in:] Trempała (2011).

Table 4. *Correlations of the global sense of life quality and spiritual sensitivity*

Variable	Correlation	p
Spiritual Sensitivity – overall result	0.72 *	< 0.001
Holism and Harmony	0.60 *	< 0.001
Wisdom, Awareness, and Meaning	0.65 *	< 0.001
Religiosity and Faith	0.44 *	< 0.001
Moral Ethical Sensitivity/Conscience	0.71 *	< 0.001
Openness to Other people	0.65 *	< 0.001
Spiritual Commitment	0.67 *	< 0.001
Aesthetic Sensitivity	0.64 *	< 0.001

Table 5. *Correlations of life quality in the psycho-physical sphere and spiritual sensitivity*

Variable	Correlation	p
Spiritual Sensitivity – overall result	0.54 *	< 0.001
Holism and Harmony	0.46 *	< 0.001
Wisdom, Awareness, and Meaning	0.53 *	< 0.001
Religiosity and Faith	0.26 *	< 0.001
Moral Ethical Sensitivity/Conscience	0.57 *	< 0.001
Openness to Other people	0.55 *	< 0.001
Spiritual Commitment	0.52 *	< 0.001
Aesthetic Sensitivity	0.52 *	< 0.001

Table 6. *Correlations of life quality in the psycho-social sphere and spiritual sensitivity*

Variable	Correlation	p
Spiritual Sensitivity – overall result	0.67 *	< 0.001
Holism and Harmony	0.59 *	< 0.001
Wisdom, Awareness, and Meaning	0.59 *	< 0.001
Religiosity and Faith	0.40 *	< 0.001
Moral Ethical Sensitivity/Conscience	0.66 *	< 0.001
Openness to Other people	0.63 *	< 0.001
Spiritual Commitment	0.63 *	< 0.001
Aesthetic Sensitivity	0.63 *	< 0.001

Table 7. *Correlations of life quality in the subjective sphere and spiritual sensitivity*

Variable	Correlation	p
Spiritual Sensitivity – overall result	0.67 *	< 0.001
Holism and Harmony	0.56 *	< 0.001
Wisdom, Awareness, and Meaning	0.64 *	< 0.001
Religiosity and Faith	0.38 *	< 0.001
Moral Ethical Sensitivity/Conscience	0.70 *	< 0.001
Openness to Other people	0.64 *	< 0.001
Spiritual Commitment	0.65 *	< 0.001
Aesthetic Sensitivity	0.63 *	< 0.001

Table 8. Correlations of life quality in the metaphysical sphere and spiritual sensitivity

Variables	Correlation	p
Spiritual Sensitivity – overall result	0.79 *	< 0.001
Holism and Harmony	0.62 *	< 0.001
Wisdom, Awareness, and Meaning	0.68 *	< 0.001
Religiosity and Faith	0.67 *	< 0.001
Moral Ethical Sensitivity/Conscience	0.72 *	< 0.001
Openness to Other people	0.60 *	< 0.001
Spiritual Commitment	0.69 *	< 0.001
Aesthetic Sensitivity	0.66 *	< 0.001

Table 9. *Comparison of young adults (from previous research) and the early-old-age adults groups with respect to the examined variables*

	Young adults		Early-old-age adults			
Variables	m	SD	m	SD	test	p
Spiritual Sensitivity – overall result	145.54	17.68	145.36	20.35	1.88	0.06
Holism and Harmony	16.01	2.08	16.44	2.11	1.72 *	0.09
Wisdom, Awareness, and Meaning	27.18	3.65	26.49	3.36	1.88	0.06
Religiosity and Faith	20.08	7.34	20.13	8.92	0.05	0.96
Moral Ethical Sensitivity/Conscience	28.96	2.13	29.03	3.14	0.22	0.83
Openness to Other people	26.85	3.65	26.68	3.47	−0.93	0.35
Spiritual Commitment	11.21	1.09	11.24	1.49	0.17	0.86
Aesthetic Sensitivity	15.26	2.57	15.35	2.55	−0.19	0.85
Quality of life – Global	164.18	16.34	170.62	22.40	1.58	0.11
Psycho-physical sphere	42.49	5.04	42.70	6.62	−1.40	0.16
Psycho-social Sphere	40.28	4.66	42.52	6.22	3.55 *	< 0.001
Subjective sphere	40.28	4.48	42.80	5.91	3.92 *	< 0.001
Metaphysical sphere	41.14	4.07	42.60	5.41	0.80	0.43

Table 10. *Comparison of early-old-age adults, and middle-old-age and long-lived adults with respect to the examined variables*

	early-old-age adults		middle-old-age and long-lived adults			
Variables	m	SD	m	SD	test	p
Spiritual Sensitivity – overall result	145.36	20.35	164.42	22.03	−6.93 *	< 0.001
Holism and Harmony	16.44	2.11	17.90	1.66	−6.20 *	< 0.001
Wisdom, Awareness, and Meaning	26.49	3.36	29.43	4.31	−5.55 *	< 0.001
Religiosity and Faith	20.13	8.92	26.55	8.96	−5.90 *	< 0.001
Moral Ethical Sensitivity/Conscience	29.03	3.14	31.69	4.32	−5.10 *	< 0.001
Openness to Other people	26.68	3.47	29.06	3.82	−5.19 *	< 0.001
Spiritual Commitment	11.24	1.49	12.47	1.79	−6.20 *	< 0.001
Aesthetic Sensitivity	15.35	2.55	17.32	2.73	−5.67 *	< 0.001
Quality of life – Global	170.62	22.40	183.18	26.08	−4.29 *	< 0.001
Psycho-physical sphere	42.70	6.62	43.23	7.75	0.16	0.87
Psycho-social Sphere	42.52	6.22	46.74	6.32	−5.52 *	< 0.001
Subjective sphere	42.80	5.91	46.47	7.04	−4.71 *	< 0.001
Metaphysical sphere	42.60	5.41	46.74	6.41	−5.80 *	< 0.001

Table 11. *Comparison of young adults (from previous research) and middle-old-age and long-lived adults with respect to the examined variables*

	Young adults		Middle-old-age and long-lived adults			
Variables	m	SD	m	SD	test	p
Spiritual Sensitivity – overall result	145.54	17.68	164.42	22.03	−6.51 *	< 0.001
Holism and Harmony	16.01	2.08	17.90	1.66	−7.26 *	< 0.001
Wisdom, Awareness, and Meaning	27.18	3.65	29.43	4.31	−3.80 *	< 0.001
Religiosity and Faith	20.08	7.34	26.55	8.96	6.17 *	< 0.001
Moral Ethical Sensitivity/Conscience	28.96	2.13	31.69	4.32	−4.87 *	< 0.001
Openness to Other people	26.85	3.65	29.06	3.82	−3.98 *	< 0.001
Spiritual Commitment	11.21	1.09	12.47	1.79	6.66 *	< 0.001
Aesthetic Sensitivity	15.26	2.57	17.32	2.73	−5.39 *	< 0.001
Quality of life – Global	164.18	16.34	183.18	26.08	−4.14 *	< 0.001
Psycho-physical sphere	42.49	5.04	43.23	7.75	0.24	0.81
Psycho-social Sphere	40.28	4.66	46.74	6.32	−8.41 *	< 0.001
Subjective sphere	40.28	4.48	46.47	7.04	−6.26 *	< 0.001
Metaphysical sphere	41.14	4.07	46.74	6.41	−6.59 *	< 0.001

Table 12. *Comparison of respondents' narratives in terms of structural characteristics*

Trait	Group 1	Group 2
Ease in reaching one's own feelings and experiences	Good	Poor
Level of biography length	High	Low
Temporal order	Lesser, but greater flexibility	Greater but inflexible
Liquidity in moving from the general to a detailed description of events	Great	Small
Current reflection on described facts	Present/Many	Absent/Few
Metaphors	Many	Few
Descriptions	Many	Few
Confronting the actual facts with one's inner world	Frequent	Rare
The problem of narrative potential	Absent	Frequent
Number of sequences	Greater	Smaller
Changes of framework	Frequent	Rare
„I" perspective	Rare	Almost exclusive
Demarcation of the narrative entity and the entity of events	Frequent	Rare
Argumentative and theoretical comments	Frequent	Rare
Structures in the background	Frequent	Rare
Overrides	Rare	Frequent
Biographical action schemes	Frequent	Rare
Institutional patterns	Rare	Frequent
Trajectories	Equally frequent	Equally frequent

Trait	Group 1	Group 2
Metamorphosis	Frequent	Rare
Coda	Frequent	Rare
Dasein fullness dimension *umwelt*, *mitwelt* and *eigenwelt*	Present	Absent

Table 13. *Comparison of the narratives provided by the respondents from both groups in terms of spiritual sensitivity indices*

Trait	Group 1	Group 2
Acceptance of one's own life	Full	Partial/absent
Ability to enjoy life's little things	Present	Absent
Inner peace, distance to life	Present	Absent
Finding meaning of life and events	Present	Absent
Self-awareness	Great	Small
Awareness of one's own spirituality	Present	Absent
Distinction between spirituality and religiosity	Present	Absent
Spiritual experiences	Present	Absent
Holistic feelings	Present	Absent
A sense of wonder	Present	Absent
Delight	Present	Absent
Aesthetic Sensitivity	Present	Absent
A general interest in the world	Great	Small
Actions	Scheduled, one's own long-term tasks	Flowing with the tide of events Short-term tasks imposed by others
Other interests /hobby	Many	Few
Commitment	Great	Small
Significant others	Many, people from family and strangers	Few, often limited to the closest relations
Focus on the self	Small	Big
Focus on others	Great	Small
Social Involvement	Great	Small
Forgiveness	Present	Absent
Conscience	Conscious	Unconscious
Hope	Present	Absent
Relating events to the horizon of universal values	Present	Absent
Use of previous experiences, conclusions	Present	Present to a smaller extent
Reflection	Great	Small
Questions about existential issues	Frequent	Rare
Coping with trauma	Good	Poor
Degree of internal integration	Great	Smaller

Tables 4-13 source: own materials

Institute of Psychology
Wroclaw University

Maria Straś-Romanowska, Jolanta Kowal, Magdalena Kapała

SPIRITUAL SENSITIVITY INVENTORY

Test data (fill in): __ / __ / _______	**Birth data** (fill in): __ / __ / _______	**Age** (fill in): ________
e-mail / phone/ mobile number (fill in): ____________________________________		**Sex** (check): K M

Educational level	Check:
(a) primary	
(b) secondary	
(c) higher (bachelor / engineer / Master)	
(d) more than higher	
(e) other (fill-in):	

Religion / creed	Check:
(a) atheism	
(b) no religious affiliation or non-practicing person	
(c) Catholic	
(d) Protestant	
(e) Orthodox	
(f) Judaism	
(g) Islam	
(h) Buddhism	
(i) Hinduism or Hare-Kriszna	
(j) Other (fill in):	

Please carefully fill in all the boxes above, then read the instruction, which are on the next page...

INSTRUCTIONS:

The tool you have in front of you is the Spiritual Sensitivity Inventory. It contains 56 numbered statements which relate to your attitude to yourself, to other people, to life, and to values. Read all the claims and determine how much each of them applies accurately to you.

The survey is completely anonymous; it is used only for research/scientific purposes. There are no bad or good answers, and it is important that your answers were consistent with what you feel while reading the inventory claims. Please respond in accordance with your ordinary (not: unique) behavior.

For each statement, you should respond by selecting one of four possible answers:

*1 – **strongly disagree***
*2 – **somewhat disagree***
*3 – **somewhat agree***
*4 – **strongly agree***

The time for answering is unlimited. Consider each answer, and after finishing filling in the Inventory, make sure that no claim was missed.

1	I strive for spiritual development.	1 2 3 4
2	I'm moved by and admire works of art.	1 2 3 4
3	I often wonder about the meaning of different events.	1 2 3 4
4	I'm often moved by someone else's hard luck.	1 2 3 4
5	Religious orders are guideposts which I try to follow in my life.	1 2 3 4
6	My life is a whole spiritual unity with other people.	1 2 3 4
7	My daily activities are accompanied by a sense of realization of universal values (truth, goodness, beauty, etc.)	1 2 3 4
8	There is a person representing moral authority to me.	1 2 3 4
9	I believe that the beauty of the world reveals the Divine.	1 2 3 4
10	I have a sense of community and responsibility towards fellow believers.	1 2 3 4
11	When I think about my life and the world, I feel that I am in the right place.	1 2 3 4
12	I'm certain that nothing happens by accident in my life.	1 2 3 4
13	I feel responsible for others.	1 2 3 4
14	Thanks to faith I see the meaning of what happens to me in my life.	1 2 3 4
15	I try to organize my time so that I can find a moment to realize spiritual needs on every day basis.	1 2 3 4
16	The most important in my life is to be in accordance with my conscience.	1 2 3 4

17	I get involved in activities for the sake of others.	1 2 3 4
18	I'm impressed by the beauty and harmony of the world.	1 2 3 4
19	I believe in the existence of the Supreme Being who is the ultimate ruler of the universe.	1 2 3 4
20	I try to find something positive in every aspect of my life.	1 2 3 4
21	There are times when I have a sense of unity with other people and the world.	1 2 3 4
22	I try to deepen the knowledge concerning my faith/religion.	1 2 3 4
23	I accept that not everything in life is certain, predictable and rational.	1 2 3 4
24	I feel uncomfortable when, for some reason, I have to stay in unaesthetic (ugly, discordant) environment.	1 2 3 4
25	I try to live in harmony with the values I hold.	1 2 3 4
26	Despite difficulties and adversities, I feel grateful to fate, when I think about my life.	1 2 3 4
27	I realize myself in the love for another human being.	1 2 3 4
28	I believe that the Supreme Being is the cause of order and harmony.	1 2 3 4
29	I have a strong need to understand the meaning of what happens to me in my life.	1 2 3 4
30	I think that regardless of the circumstances we should be guided by the highest values.	1 2 3 4
31	I can see the inner beauty in other people.	1 2 3 4
32	I am aware that I multiply the good by helping others.	1 2 3 4
33	Despite various obstacles I consider myself a lucky man.	1 2 3 4
34	I think the feelings and intuition are an important complement to reason.	1 2 3 4
35	I'm guided by moral ethical principles in decision making.	1 2 3 4
36	I'm certain that doing good pays off.	1 2 3 4
37	Thanks to faith I can distance myself from what is going on in my life.	1 2 3 4
38	I believe that the spiritual path I had chosen will lead me to realise my goals.	1 2 3 4

1 – ***strongly disagree***
2 – ***somewhat disagree***
3 – ***somewhat agree***
4 – ***strongly agree***

39	My philosophy of life helps me deal with external influences.	1 2 3 4
40	I try to understand the motives of the people, even when in my opinion they do wrong.	1 2 3 4
41	Everything what I get involved in I take seriously and with due consideration.	1 2 3 4
42	I try to deeply understand of myself, people and world.	1 2 3 4
43	I think people are not inherently evil, even though they may sometimes err.	1 2 3 4
44	I experience the closeness of God every day.	1 2 3 4
45	The values I hold guided all my life.	1 2 3 4
46	What I see around me makes me sometimes feel disappointed but also encourages to do good.	1 2 3 4
47	I try to ensure agreement in my surroundings.	1 2 3 4
48	I am reconciled with what happened to me in my life.	1 2 3 4
49	I try to forgive those who hurt me, although it is sometimes difficult.	1 2 3 4
50	Prayer (meditation) resulting from internal needs is something important for me.	1 2 3 4
51	Moral principles facilitate and organize my life.	1 2 3 4
52	I'm often moved by listening to music.	1 2 3 4
53	I look for answers to questions about my life, my place in the world and the goals I want to (I should) achieve.	1 2 3 4
54	I feel compassion for the weak and suffering.	1 2 3 4
55	I actively participate in the life of the church/community to which I belong.	1 2 3 4
56	The values I hold and realise make me who I am.	1 2 3 4

*1 – **strongly disagree***
*2 – **somewhat disagree***
*3 – **somewhat agree***
*4 – **strongly agree***

Now check again that no claim has been left out... Thank You!

The key:

Holism and Harmony – 6, 11, 21, 26, 33, 47

Wisdom, Awarness, Meaning – 3, 12, 20, 23, 29, 34, 38, 42, 48, 53

Religiosity and Faith – 5, 10, 14, 19, 22, 28, 37, 44, 50, 55

Moral Ethical Sensitivity/Consciousness – 1, 8, 16, 25, 30, 35, 39, 46, 51, 56

Openess to Other People – 4, 13, 17, 27, 32, 36, 40, 43, 49, 54

Spiritual Commitment – 7, 15, 41, 45

Aesthetic Sensitivity – 2, 9, 18, 24, 31, 52

Sphere	1 HH	2 MŚS	3 RW	4 EMS	5 OD	6 Z	7 WE
Score							
Global score							

Instytut Psychologii
Uniwersytetu Wrocławskiego

Maria Straś-Romanowska, Anna Oleszkowicz, Tomasz Frąckowiak

KWESTIONARIUSZ POCZUCIA JAKOŚCI ŻYCIA

Imię i nazwisko (lub kod osobowy): ………………………….	Płeć: K M
Data badania: …………………	Wiek: ………..

Poniżej znajdują się stwierdzenia dotyczące różnych aspektów ludzkiego życia. Przy każdym z nich znajdują się cztery możliwe odpowiedzi. Proszę przeczytać każde stwierdzenie i zaznaczyć odpowiedź, która najtrafniej odnosi się do Pana/Pani.

Do każdego stwierdzenia proszę ustosunkować się, zaznaczając tylko jedną z czterech możliwych odpowiedzi:

*1 – **zdecydowanie nie zgadzam się***
*2 – **raczej nie zgadzam się***
*3 – **raczej zgadzam się***
*4 – **zdecydowanie zgadzam się***

1	Dolegliwości fizyczne przeszkadzają mi w codziennym życiu.	1 2 3 4
2	Są osoby, z którymi łączą mnie głębokie więzi.	1 2 3 4
3	Nie mam zainteresowań, którym poświęcałbym/łabym wiele czasu	1 2 3 4
4	Godzę się z tym, że nie wszystko zależy ode mnie.	1 2 3 4
5	Na ogół jestem energiczny/a, pełen/na werwy.	1 2 3 4
6	W moim życiu jest więcej sukcesów niż porażek.	1 2 3 4
7	Dokonując ważnych wyborów kieruję się przede wszystkim tym, co mówią inni ludzie.	1 2 3 4
8	Są rzeczy, które zachwycają mnie swoim pięknem.	1 2 3 4
9	Mam dobry sen.	1 2 3 4

10	Pasuję do ludzi, którzy mnie otaczają.	1 2 3 4
11	Mam poczucie, że odnalazłem/am swoje miejsce w życiu.	1 2 3 4
12	Współczuję ludziom, których spotyka nieszczęście.	1 2 3 4
13	Wolno mobilizuję się do wysiłku, tracąc dużo czasu na zabranie się do pracy.	1 2 3 4
14	W spornych sprawach rzadko decyduję się na kompromis.	1 2 3 4
15	Nawet małe rzeczy są dla mnie powodem do radości.	1 2 3 4
16	Wierzę, że nad tym co robię, czuwa siła wyższa.	1 2 3 4
17	W wolnych chwilach łatwo się odprężam, potrafię odpoczywać.	1 2 3 4
18	Są osoby, dla których jestem ważny/a.	1 2 3 4
19	Lubię to, co robię.	1 2 3 4
20	W moim życiu nic nie dzieje się przypadkowo.	1 2 3 4
21	Mam dobrą kondycję fizyczną.	1 2 3 4
22	Moje życie rodzinne jest satysfakcjonujące.	1 2 3 4
23	Ponoszę odpowiedzialność za swoje czyny.	1 2 3 4
24	Istnieją wartości, dzięki którym nawet w trudnych chwilach zachowuję nadzieję.	1 2 3 4
25	Nie mam problemów w życiu intymnym/seksualnym.	1 2 3 4
26	Ludzie mają szacunek dla tego, co robię na co dzień.	1 2 3 4
27	Mam w życiu do zrobienia coś ważnego.	1 2 3 4
28	Chciałbym/abym, aby zostało po mnie coś dobrego.	1 2 3 4
29	Na ogół czuję się zmęczony/a, wyczerpany/a, brak mi energii.	1 2 3 4
30	Często spotykam się z życzliwością ze strony innych ludzi.	1 2 3 4
31	Moje życie w głównej mierze zależy ode mnie.	1 2 3 4

*1 – **zdecydowanie nie zgadzam się***

*2 – **raczej nie zgadzam się***

*3 – **raczej zgadzam się***

*4 – **zdecydowanie zgadzam się***

32	Mimo że na świecie jest wiele zła, jest też dużo dobra.	1 2 3 4
33	Często przebywam w szpitalu (jestem hospitalizowany/a).	1 2 3 4
34	Wiele znaczę wśród ludzi, którzy mnie otaczają.	1 2 3 4
35	Nie mam sprecyzowanych planów na przyszłość.	1 2 3 4
36	Rzadko rezygnuję z przyjemności w imię wartości wyższych	1 2 3 4
37	Często dokucza mi ból.	1 2 3 4
38	W razie kłopotów mogę liczyć tylko na siebie.	1 2 3 4
39	Zdobywanie nowych doświadczeń sprawia mi dużo radości.	1 2 3 4
40	Warto dążyć do tego, aby być coraz lepszym człowiekiem.	1 2 3 4
41	Mam dobry apetyt.	1 2 3 4
42	Czuję się samotny/a.	1 2 3 4
43	Mam jasny cel życiowy, w którego realizację jestem zaangażowany/a.	1 2 3 4
44	Trudność sprawia mi wybaczanie innym ludziom.	1 2 3 4
45	Lubię swój wygląd fizyczny.	1 2 3 4
46	Czuję się potrzebny/a innym ludziom.	1 2 3 4
47	Prawie zawsze mówię to, co myślę.	1 2 3 4
48	Wierzę, że moje życie nie kończy się wraz ze śmiercią.	1 2 3 4
49	Cieszę się dobrym zdrowiem.	1 2 3 4
50	Często popadam w konflikty z innymi ludźmi.	1 2 3 4
51	Podążam wybraną przez siebie drogą życia.	1 2 3 4
52	Mimo przeciwności losu uważam, że moje życie ma głęboki sens.	1 2 3 4
53	Choroba nie pozwala mi spokojnie patrzeć w przyszłość.	1 2 3 4

*1 – **zdecydowanie nie zgadzam się***
*2 – **raczej nie zgadzam się***
*3 – **raczej zgadzam się***
*4 – **zdecydowanie zgadzam się***

54	W moich kontaktach z innymi ludźmi często obecna jest walka i rywalizacja.	1 2 3 4
55	Akceptuję siebie takim, jakim jestem.	1 2 3 4
56	Skłonność do refleksji pomaga mi żyć.	1 2 3 4
57	Jestem aktywny/a fizycznie (np. uprawiam sport, gimnastykuję się, spaceruję).	1 2 3 4
58	Jestem w związku uczuciowym z bliską mi osobą.	1 2 3 4
59	Często robię coś wbrew sobie i później źle się z tym czuję.	1 2 3 4
60	Moje życie jest wartościowe, nawet jeśli nie wszystko układa (układało) się po mojej myśli.	1 2 3 4

*1 – **zdecydowanie nie zgadzam się***
*2 – **raczej nie zgadzam się***
*3 – **raczej zgadzam się***
*4 – **zdecydowanie zgadzam się***

KLUCZ DLA SFER:

Jakość życia w sferze **psychofizycznej**: 5, 9, 17, 21, 25, 41, 45, 49, 57 (punktacja wprost); 1, 13, 29, 33, 37, 53 (punktacja odwrotna).

Jakość życia w sferze **psychospołecznej**: 2, 6, 10, 18, 22, 26, 30, 34, 46, 58 (punktacja wprost); 14, 38, 42, 50, 54 (punktacja odwrotna).

Jakość życia w sferze **podmiotowej**: 11, 15, 19, 23, 27, 31, 39, 43, 47, 51, 55 (punktacja wprost); 3, 7, 35, 59 (punktacja odwrotna).

Jakość życia w sferze **metafizycznej**: 4, 8, 12, 16, 20, 24, 28, 32, 40, 48, 52, 56, 60 (punktacja wprost); 36, 44, (punktacja odwrotna).

Sfera	Psychofizyczna	Psychospołeczna	Podmiotowa	Metafizyczna
Wynik				
Wynik globalny				

GUIDELINES FOR CONTRIBUTORS

Papers submitted to the *Polish Journal of Applied Psychology* are to be in English only with the exception of the abstract which should be prepared in both English and Polish. Send an e-mail copy of your submission to Marta Kochan-Wójcik PhD: m.kochan-wojcik@psychologia.uni.wroc.pl.

Maximum article length is to be 20 typed pages (including references, footnotes, figures and figures captions, and tables as well as their caption). References should not exceed six typed pages. Typescripts should be Times New Roman and standard font size 12, double-spaced throughout, with 1.5-4 cm margins left and right. The e-mailed copy should be 1800 ASCII characters per computer page.

Papers should include an abstract (maximum 115 words) in both English and Polish, along with key words, typed text, references, footnotes, figures and tables (on separate pages in that order). Indicate in a separate footnote the address to which requests for reprints should be sent. Tables are to be treated as self-contained: that is, do not repeat in the text data presented in the tables. Keep the number of tables and figures to a minimum. [(Please use quotation marks – not commas – in presenting the data there) – this statement is not understood]. Indicate the placement of these tables in the text.

Folowing the APA standards we propose using ”Podstwowe standardy edytorskie naukowych tekstów psychologicznych w języku polskim na podstawie reguł APA [Basic editorial standards of scientific psychological publications in Polish language according to APA' rules] (www.liberilibri.pl).

For example: for referencing, the most commonly used types of citations are given here:

Book: one, two, or more authors:

Smith, P.B., & Bond, M.H. (1998). Social psychology across culture. Hemel Hemstead, UK: Prentice-Hall.

Article in a scholarly journal:

Mączyński, J. (2001). The cultural impact on the leadership style of Polish managers. *Polish Journal of Applied Psychology*, (1), 107-132.

Chapter (or article) in a book:

Sashkin, M. (1998). The visionary leader. In J. A. Conger & R. A. Kamungo (Eds.).

Charismatic leadership:

The exclusive factor in organizational effectiveness. San Francisco: Josey Bass, 122-160.

Titles of publications in languages other than English should be given in English in square brackets after the title of the original:

Wojciszke, B. (2002). Człowiek wśród ludzi. [A man among men].Warszawa: Wydawnictwo Naukowe „Scholar”.

Taken from the internet: “When writing in APA Style, you can use the first person point of view when discussing your research steps (‘I studied...’) and when referring to yourself and your co-authors (‘We examined the literature...’). Use first person to discuss research steps rather than anthropomorphising the work. For example, a study cannot ‘control’ or ‘interpret’; you and your co-authors, however, can.”

“APA Style encourages using the active voice (‘We interpreted the results...’). The active voice is particularly important in experimental reports, where the subject performing the action should be clearly identified (e.g. ‘We interviewed...’ vs. ‘The participants responded...’).”

“Clarity and conciseness in writing are important when conveying research in APA Style. You don’t want to misrepresent the details of a study or confuse your readers with wordiness or unnecessarily complex sentences.”

Numbers one, two, three and through nine should be written out in longhand. Numbers 10, 11, 12, and through infinity should be written as digits.

Abbreviations like etc., e.g. are used only in parentheses ( ) or brackets [ ]. In the running text, that is, outside parentheses or brackets, these abbreviations should be written out: <u>and so on</u>, <u>for example</u>, <u>such as</u>.

“Of” phrases, proper in Polish but unfortunately not a good carry-over into English style, should not be overused. In their place use gerunds, verbs, or prepositional phrases other than ones beginning with of.

Example:

before:“Further analysis of the test results referred to the assessment of the dependency of...”

after:“Further test results assessed the dependency of...”

Papers submitted to PJAP are assessed by external reviewers according to the double blind principle. A list of reviewers from the last two years is available on the web site of our journal www.pjap.psychologia.uni.wroc.pl.

In order to facilitate the reviewing process, authors are asked to indicate names and e-mail addresses of three persons from their own country and an additional three from other countries, who on the grounds of factual consistence of scientific interest could be called on as potential reviewers of the submitted paper.

To prevent ghostwriting and guest-authorship phenomena[1], the editorial board of PJAP asks authors to indicate (on a separate page) the percent of each author's share in creating the submitted paper (general share, share in the concept, methods, analysis and interpretation of data). We also ask you to follow the financial disclosure principle.

THERE ARE TWO DEADLINES FOR SUBMITTING ARTICLES TO PRINT IN THE *POLISH JOURNAL OF APPLIED PSYCHOLOGY*:

30TH OF JANUARY

31ST OF MAY

---

[1] Ghostwriting – omitting in authorship of a paper any persons who take a significant part in preparing the submitted paper.
Guest authorship – putting down as co-author persons whose share in preparing the submitted paper is negligible or who did not take place at all.

AIMS AND SCOPE

The *Polish Journal of Applied Psychology* is devoted primarily to original investigations that contribute new knowledge and understanding to all fields of applied psychology. PJAP is mainly interested in publishing empirical articles, where quantitative as well as qualitative analyses of data enhance our understanding of individuals, groups or various social systems, and have practical implications within particular contexts. Conceptual or theoretical papers may be accepted if they bring a special contribution into the field for application. Although the paper version of our journal is primary, we are also available on the internet at www.pjap.psychologia.uni.wroc.pl

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