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PATTERNS OF OPTIMISM AND EMPLOYEE WELL-BEING
A PERSON-ORIENTED APPROACH TO EXPLANATORY STYLE IN HUNGARIAN EMPLOYEES

Employee well-being is increasingly recognized as a key aspect of individual and organizational performance. Optimistic mindset – conceptualized as explanatory style of interpretation of positive and negative events – is an important aspect of employee well-being. The present study aims to explore different types of explanatory styles in Hungarian employees in relation to their well-being and relies on a recently developed situational judgment test of the optimistic mindset, the MQ Test (Kovács – Martos, 2017) measuring optimism as a reaction to positive and negative situations. In the present study, cross-sectional data of 992 Hungarian employees were analyzed using a person-oriented approach (Bergman – Lundh, 2015). Cluster analysis revealed five patterns of explanations for positive and negative events that were tentatively labeled as 'Winner', 'Fighter', 'Lucky', 'Survivor' and 'Wonder seeker' clusters. Associations of the clusters with well-being indices (self-efficacy, self-esteem and life satisfaction) indicated that there are significant differences between the cluster members. Results are interpreted with regard to the potential resources and weaknesses of the five strategies in organizational functioning as well as to the possibility of using explanatory style development in job related trainings.

Keywords: **employee well-being, explanatory style, person-oriented research, cluster analysis, Hungarian employees**

Employee well-being is increasingly recognized as a key aspect of individual and organizational performance (c.f., Bakker – Demerouti, 2018; Boxall – Guthrie – Paauwe, 2016; De Neve – Diener – Tay – Xuereb, 2013; Nielsen – Nielsen – Ogbonnaya – Känsälä – Saari – Isaksson, 2017). Well-being becomes a more and more important factor of high performing companies. It is evident that negative feelings and stress destroys not only the quality of employees' private life but influences the level of several key performance indicators as well, like employee turnover rate, sick leaves, sales results and others. Moreover, the notion of ethical leadership also contains reference to aspects of well-being (Guest, 2017) stressing the responsibility of the leadership toward monitoring and improving positive functioning in the employees (Inceoglu – Thomas – Chu – Plans – Gerbasi, 2018). Therefore, recent research focused on several important aspects of employee well-being, including its temporal stability (Mäkikangas – Kinnunen – Feldt – Schaufeli, 2016) and content (Mäkikangas – Kinnunen – Feldt, 2004). employee well-being and performance were connected to individual characteristics like self-efficacy, hope and, most notably, optimism, both theoretically and empirically (Bakker – Sanz-Vergel, 2013; Luthans – Youssef, 2004; Nielsen – Nielsen – Ogbonnaya – Känsälä – Saari – Isaksson, 2017). For our approach, optimism is of primary importance, therefore, we focus on this concept below.

Optimism and explanatory style

Optimism, that is, a positive attitude toward future events and the self itself, is among the core concepts of positive psychology (Peterson – Steen, 2009). Compared to other approaches where optimism is regarded as a stable individual characteristic (c.f. Carver – Scheier – Segerstrom, 2010), the theory of learned optimism (Seligman, 1991) conceptualizes optimism/pessimism rather as a cognitive process. In this approach, an optimistic stance toward the future connected to a personal explanatory style (frequently named also attributional style) of life events. Explanatory style is a person's relatively stable mindset with which he/she explains the causes of positive and negative events and situations. According to the theory, explanations may involve three interrelated aspects of the assumed causes in our explanation. First, Stability (S) of the causes refers to the time frame, that is, the actual cause may be stable vs. unstable in time. Second, Globality (G) captures whether the individual sees the actual event as the result of general, decontextualized or distal agents that have an effect on other events as well vs. specific, situation bound or proximal agents that affect only the specific event itself. Third, Internality (I) refers to the assumed role of the individual himself; internal causality attributions place the agency inside the person herself while external causality attributions put the causes of the event into external agents.

This way, an optimistic mindset can be characterized with the interaction of the above described three dimensions of the explanations (S, G and I), as well as the nature of the situation (negative vs. positive). For the explanation of negative situations an individual with optimistic explanatory style tends to use external causes along with seeing the situation as particular and temporarily sporadic (e.g., it was caused by somebody else, and it occurred just here and now). On the other hand, in case of positive events an optimistic explanatory style would involve internal causality, along with a generalized and temporarily extended view of the situation (it was me, and it can happen elsewhere and other times as well). Both patterns of optimism were found to be positively related to better mental health, higher self-esteem, lower depression and lower risk of post-traumatic stress disorder (Peterson – Seligman, 1984;

Peterson – Steen, 2009). Moreover, optimistic explanations are associated with better skills in identifying one's own emotional experiences (Gohm – Clore, 2002). Those respondents who were able to better perceive, interpret and express their emotional experiences also made more optimistic (stable, global and internal) attributions for good events as measured by the Attributional Style Questionnaire.

Explanatory style in work context

Explanatory styles have been studied with regard to the workplace experiences as well. It was shown that burnout in one's work may be predicted by pessimistic attributional style, along with dysfunctional attitudes and ruminative thinking style (Bianchi – Schonfeld, 2016). In line with this association, different facets of optimistic explanatory style were found to contribute to effectiveness and effort in the work experiences of Indian IT professionals (Fernandes – Sunkarapalli – Nandinee – Pallavi, 2016). In their overview Rana and Chadha (2017) argue that it is possible to learn a more optimistic explanatory style and higher optimism. It is connected not only to higher personal well-being but also to better performance in the workplace (c.f., Guest, 2017). Specific work related measures of explanatory styles (e.g., Proudfoot – Corr – Guest – Gray, 2001) provided evidence that optimistic explanations relate positively to higher work motivation, learned resourcefulness as well as to lower psychological strain and intention to quit.

Researchers also investigated the relevance of the explanatory style in business successes. For example, self-leadership was proposed as an umbrella concept representing an individual level characteristic of the employee or entrepreneur: self-leadership may channel several motivational and psychological constructs, among them also optimism and explanatory style as well, and may contribute to improved personal functioning and business performance (D'Intino – Goldsby – Houghton – Neck, 2007). Previous conceptualizations suggested that an optimistic explanatory style could be a key factor in the development of professional self-efficacy (Kasouf – Morrish – Miles, 2015). Moreover, when investigating team performance it was found that more successful teams were more optimistic in their explanatory style as well (Carron – Shapcott – Martin, 2014) especially in internality and globality.

A situational judgment test approach to optimism: the MQ Test

Recently, Kovács and Martos (2017) reviewed several approaches toward measuring explanatory styles and concluded that most measures apply a series of abstract evaluations for the stability, globality and internality aspects of the events. They argued, however, that a situational judgment test (SJT; Motowidlo – Dunnette – Carter, 1990) approach may be a viable alternative for assessing ecologically valid reactions to real life situations and they considered an SJT based approach to measure explanatory style

of the individuals. In the last decades personnel psychology and assessment often capitalized the unique features of an SJT approach (c.f., Campion – Ployhart – MacKenzie, 2014). Instead of measuring general self-knowledge or attitudes, SJTs target at the procedural knowledge of the individual in real life situations, i.e. the "how" of his/her reactions, responses and attitudes. To reach this end, situational judgment tests present descriptions or pictorial depictions of relevant situations for the measurement and ask respondents to make choices among the provided realistic responses (Weekley – Ployhart, 2006). Research showed that scores obtained by a SJT assessment procedure were valid predictors for long term success and performance (Lievens – Sackett, 2012).

This approach was applied to the measurement of optimism and the development process resulted in a new SJT based measure of the explanatory styles, the MQ Test. Kovács and Martos (2017) documented adequate psychometric characteristics and validity of the measure. Their results showed that an optimistic explanatory mindset – as measured by SMQ Test dimensions – comprises an integral part of the person's self-system and represents an important way of social-cognitive information processing (cf., Mischel – Shoda, 1995). At the same time, their results indicate that an optimistic explanatory style may have consequences also for the subjective experience of the individual. For example, a more optimistic mindset in negative situations may strengthen the personal capacity for resilience and thus may contribute to the appreciation of positive aspects of one's life, that is, hope, self-efficacy and self-esteem.

The MQ Test as a measure of optimistic mindset has a series of distinctive features that make it unique among the explanatory style questionnaires. First, it refers to both personal life and work life situations in a balanced quantity. Second, its measurement approach follows the SJT approach by offering real life thinking patterns as responses instead of abstract evaluative categories as in many of the above reviewed explanatory style questionnaires. Finally, the development of the MQ Test aimed at fitting well in the Hungarian and in a broader sense European culture as well, both through the depicted situations and the provided reaction alternatives.

The person-oriented approach

While scientific research on well-being and more specifically on explanatory styles has been long dominated by variable-oriented approaches (e.g., analyses based on means or covariations), the so called person-oriented approach is gradually gains significance in psychological investigations. Both approaches have different theoretical assumptions and methodological solutions (Bergman – Lundh, 2015). Variable-oriented approaches treat separate individual characteristics and the variables that represent them as units of the questioning and look for generalizable associations between them. Person-oriented approaches are based on a holistic view of the person and emphasize that personal characteristics interact with each

other as parts of a complex integrated system (Bergman – Lundh, 2015; Bergman – Magnusson – El-Khouri, 2003). Therefore, on the methodological side, studies use pattern identification methods, mostly cluster analysis and structural equation modeling based techniques like latent class analysis and latent profile analysis (Bergman et al., 2003; Laursen – Hoff, 2006).

Person oriented approach is increasingly used in work context and in studies of employees' well-being as well (see a recent Special Issue on the topic in Organizational Psychology, e.g., Morin – Bujacz – Gagné, 2018). Mäkikangas and Kinnunen (2016) reviewed job burnout literature and identified several studies that used a person-oriented approach. They concluded that a person-oriented approach was more sensitive to the heterogeneity of the burnout experiences and might better detect atypical burnout types and trajectories. For example, (Leiter – Maslach, 2016) identified five patterns of burnout dimensions that may be meaningfully placed on a burnout-engagement continuum. In a three wave assessment Kinnunen and colleagues (Kinnunen – Feldt – Sianoja – de Bloom – Korpela – Geurts, 2017) identified several time patterns of work-related rumination processes and found that these time patterns predicted different well-being outcomes in work. In another line of research based on self-determination theory (SDT, Ryan – Deci, 2000) work motivations were analyzed in a person-oriented manner (e.g., Gillet, Fouquereau – Vallerand – Abraham – Colombat, 2017; Graves – Cullen – Lester – Ruderman – Gentry, 2015; Howard – Gagné -Morin – Van den Broeck, 2016). Different profiles of external, introjected, integrated and intrinsic self-regulation strategies in work revealed that several different types of work motivation existed and that these types of motivation could not be reduced to a simple one dimensional extrinsic-intrinsic continuum (Friederichs – Bolman – Oenema – Lechner, 2015; Moran – Diefendorff – Kim – Liu, 2012). In sum, person-oriented approach may reveal meaningful patterns of emotional experiences, cognitions and motivated actions. However, after a careful literature search we may conclude that this kind of approach has not been applied yet to explanatory styles.

The present study

The aim of the present study is to provide the first person-oriented analysis of explanatory styles based on the MQ Test (Kovács – Martos, 2017). In their validation study, Kovács and Martos (2017) found that MQ Test results are best interpreted as two interrelated but distinct factors (i.e., explanations for positive and negative events). Moreover, they found a predominance of the MQ-N dimension in the associations with constructs of well-being, that is, the use of optimistic handling of negative situations may be a more stable source of positive experience and well-being. Therefore, we will use these dimensions for the subsequent analysis. This approach is in line with the great part of the psychometric research

on explanatory style questionnaires (e.g., Ashforth – Fugate, 2006; Liu – Bates, 2014; Proudfoot, et al., 2001; Smith – Caputi – Crittenden, 2013) indicating that the personal explanatory style may be somewhat different for positive and negative situations. By identification of explanatory style patterns in a sample of Hungarian employees this research may also provide valuable insight for organizations, HR practitioners and leadership decisions on workforce development. For example, MQ Test based explanatory style types may give a powerful tool to develop employees' resilience in a personally tailored way.

Our approach is exploratory in nature, that is, we don't want to set hypotheses regarding the number and characteristics of types of explanatory dimensions. Moreover, we intend to examine the resulting types in terms of their association with other well-being indices (satisfaction with life, self-esteem, self-efficacy) and sociodemographic characteristics.

Method

Samples and procedure
Sample 1, community assessment
In an online survey we collected data using snowball methodology and online advertisement for reaching the potential participants. The survey was provided in Hungarian and all participants were of Hungarian nationality. Eligibility for participation was predefined as having a full time equivalent job and being older than 18 years (adults). Subjects participated voluntarily and anonymously and got no payment for the participation. Respondents who did not meet the inclusion criteria (typically students) were omitted from the analysis. In sum, 459 Hungarian employees participated in the study, 139 male and 319 female (30.3 %, mean age 45.4±15.4 years and 69.5 %, mean age 44.3±12.0 years, respectively, with 1 case, 0.2 %, missing). Most of the sample graduated from higher education (N = 329, 71.7 %), 26 respondents (5.7 %) completed primary school and 103 respondents had a high school degree (22.4 %, 1 case, 0.2 %, missing). Approximately half of the sample (N = 230, 50.2 %) was employed as operative employees, while 217 respondents (47.2 %) worked as a manager, among them 92 in low-level management, 92 in mid-level management and 33 in top management positions. 12 respondents (2.6 %) did not give a position.

Sample 2, corporation assessments
Sample 2 consisted of a cumulative dataset of employees of Hungarian companies that used the MQ Test for human resource development through the assessment center of Profil Training Ltd. from 2009 to 2016. In sum, 543 data from employees were included into the database. Due to data handling policy of the assessment, only gender information was available for the cases. There were 140 male (25,8%) and 265 (48,8%) female respondents in this sample, with 138 cases (25,4%) with missing data on gender.

Measures

MQ Test

The 36 item version of the MQ Test was used (Kovács – Martos, 2017). Each of the 36 items depicts everyday situations (both from the private and work life domains) and provides two different options as potential immediate reactions to the depicted situation. Respondents are asked to imagine the situations and indicate on a 10 point scale which answer they would endorsed more likely if they were in the actual situation. Every provided pair of reactions implicitly captures one aspect of the explanatory styles, i.e., they are worded to imply explanations for either stability, globality or internality of the causes. Item scoring is based on an a priori classification of the reactions, always assigning 1 to the least optimistic and 10 to the most optimistic reaction (for a more detailed description see Kovács – Martos, 2017). During the assessment there was no hint for scoring of the items. We used the standard response format as depicted in *Figure 1*. From the individual responses we computed summed scale scores for positive (MQ-P) and negative situations (MQ-N) separately and also computed the total MQ score as a sum of MQ-P and MQ-N scores. The psychometric properties of the MQ scales were satisfactory (see *Table 2.*).

Figure 1.

Sample item and response format

You receive a new assignment that you really enjoy.									
I enjoy it because I'm really good at this!					I enjoy it because this is an interesting task.				
O	O	O	O	O	O	O	O	O	O

Note: In this case, agreement with the left extreme scores 10 and the right extreme scores 1. All other options score between 1 and 10 according to the actual response

Self-efficacy Scale (SES).

The ten item Self-efficacy Scale (SES; Schwarzer – Jerusalem, 1995; Kopp – Schwarzer – Jerusalem, 1995) aims to measure the generalized beliefs on personal efficacy of the individuals. Statements were evaluated on a seven point Likert-type scale (1 = Not at all true, 7 = Exactly true). Internal consistency of the measure was good (alpha = 0.885; sample item is "It is easy for me to stick to my aims and accomplish my goals.").

Satisfaction with Life Scale (SWLS)

The five items Satisfaction with Life Scale (SWLS; Diener – Emmons – Larsen – Griffin, 1985; Martos – Sallay – Désfalvi – Szabó – Ittzés, 2014) is scale for assessing the cognitive component of subjective well-being, i.e., satisfaction with life. Items are scored on a 7 point Likert-type scale (1 = strongly disagree, 7 = strongly agree). Internal consistency of the measure was good (alpha = 0.882 ; sample item is "I am satisfied with my life.").

Rosenberg Self-esteem Scale (RSES)

The ten item Rosenberg Self-esteem Scale (RSES Rosenberg, 1965, Sallay – Martos – Földvári – Szabó – Ittzés, 2014) is a widely applied measure for assessing general self-esteem of the respondents. The Likert-type response format ranged from 1 (strongly disagree) to 7 (strongly agree) in our study. Internal consistency of the measure was excellent (alpha = 0.905; a sample item is "I take a positive attitude toward myself").

Results

Overview of the analytic process

After initial data screening and identification of basic psychometric properties of the scales (see *Table 1.* for an overview) first we checked the sample for potential outlier cases. Second, using MQ-P and MQ-N subscales of the MQ scale we run cluster analysis using the pattern recognition module of the ROPstat software (Vargha, 2016). In an iterative process we identified the most appropriate number of clusters (c.f., Takács – Makrai – Vargha, 2015; Vargha – Bergman – Takács, 2016). Cluster membership was then compared to other indices of psychological functioning like self-efficacy, satisfaction with life and self-esteem. To better understand the meaning of the different clusters we also run a case study analysis on the interview transcripts of a selected subsample.

Preliminary analyses

Table 1.

Descriptive statistics, psychometric properties and bivariate correlations for the variables

	Scale	Alpha	m	SD	Pearson correlation coefficients				
					1	2	3	4	5
1	MQ-P	0,720	115,06	22,88					
2	MQ-N	0,653	113,79	18,74	0,378				
3	MQ	0,770	228,84	34,62	0,865	0,791			
4	SES	0,885	5,39	0,94	0,416	0,467	0,549		
5	SWLS	0,882	4,60	1,41	0,305	0,266	0,359	0,369	
6	RSES	0,905	5,51	1,15	0,388	0,412	0,499	0,577	0,561

Notes:

N = 994 for MQ variables and 451 for SES, SWLS and RSES

MQ-P = positive situations, MQ-N = negative situations; MQ = Total MQ score, SES = Self-Efficacy Scale, SWLS = Satisfaction with Life Scale, RSES = Rosenberg Self-esteem Scale

For all correlation coefficients p < 0.001

First we run descriptive statistics and bivariate correlations for the main variables (*Table 1*). All cases were complete in regard to the target variables MQ-P and MQ-N. There were 451 complete cases where psychosocial well-being variables were computable. For all scales, including MQ-P and MQ-N, we estimated alpha coefficients as indices of internal consistency. Alpha coefficients were acceptable in magnitude for the MQ Test subscales ranging from 0,653 (MQ-N) to 0,720 (MQ-P) and good for well-being measures ranging from 0,882 (SWLS) to 0,905 (RSES). Inspection of bivariate correlations revealed that association between

MQ-P and MQ-N was of only medium effect size (r = 0,378, p < 0,001) indicating that while there is a certain correspondence between these two aspects of explanations they cannot be reduced to each other by no means. This relative independence showed also that the variables are appropriate for entering into a cluster analysis.

Moreover, it is well known that outliers can severely bias the results of cluster analysis (e.g., Milligan – Hirtle, 2003). Therefore, to identify potential outlier cases with regard to the variables in the cluster analysis, that is, MQ-P and MQ-N, we run residue analysis with a threshold of 0,7 (c.f. Bergman, et al., 2003, p. 109-110.; Vargha – Bergman – Takács, 2016). According to this analysis no case was found as an outlier therefore we retained the whole sample.

Cluster analysis of the MQ Test scales

As a next step we conducted hierarchical cluster analysis and compared 3 to 10 cluster solutions with regard to their adequacy. Hierarchical cluster analysis was run on standardized variables via Ward method with squared Euclidean distances which maximizes the difference between the groups and minimizes it between the clusters. Following the procedure described by Vargha and colleagues (Vargha – Torma – Bergman, 2015), in the first run we retained 3 to 10 clusters for further investigation. For each of the actual cluster solutions we investigated the most important adequacy measures (explained variance, Point-biserial correlation, Silhouette coefficient, average cluster homogeneity; see Vargha et al., 2016). Results are presented in *Table 2*. Number of clusters for the final solution was based on inspection of the adequacy measures as well as preliminary interpretation of the different cluster solutions. We retained the five cluster solution for further analysis because we found that this solution maximize the somewhat competing aspects of interpretability, goodness of fit and explanatory power. When we compare the adequacy measures (see *Table 2*) we can conclude that N = 5 seems to be an appropriate solution in several ways. EESS = 71,18%, which is satisfactorily high while the next solution adds proportionally less to this value than the previous solutions. Point-biserial coefficient is above the 0,3 threshold while Homogeneity Coefficients of the clusters are all fairly below 1,0. The preliminary interpretation of this solution also confirmed its viability. The only index below the optimal was the modified Xie-Beni index where a local maximum is expected.

Table 2.

Adequacy indexes of the cluster solutions 3 to10

Step	Cluster N	EESS %	EESS increase	Point biserial	XieBeni (mod)	Silhouette coefficient.	HC mean	HC min – HC max
i=984	10	85,37	1,73	0,3	0,83	0,595	0,295	0,10-0,57
i=985	9	83,64	2,25	0,301	0,53	0,588	0,33	0,10-0,69
i=986	8	81,39	2,32	0,339	0,57	0,583	0,375	0,22-0,69
i=987	7	79,07	3,43	0,356	0,75	0,61	0,421	0,22-0,69
i=988	6	75,64	4,46	0,362	0,69	0,588	0,49	0,22-0,69
i=989	5	71,18	8,29	0,371	0,57	0,582	0,579	0,33-0,73
i=990	4	62,89	11,03	0,425	0,78	0,563	0,744	0,59-0,85
i=991	3	51,86		0,401	0,49	0,555	0,965	0,59-1,45
after relocation	5	74,94		0,375	0,763	0,671	0,503	0,47-0,60

Notes

EESS = Explained Error Sum of Squares

Point biserial = Point biserial correlation coefficient

XieBeni (mod) = modified Xie-Beni index

HC = Homogeneity of Cluster index

After confirming the appropriate number of the clusters we also performed relocation process in order to let the individual cases fit better their final cluster. Relocation increased the fit of the adequacy indices with the EESS% increasing to 75,64% and also the previously less preferable modified

Table 3.

Descriptive statistics of the clusters

	Clusters										ANOVA	
	1		2		3		4		5		F	p
	m	SD	m	SD	m	SD	m	SD	m	SD		
MQ-P	144,48 a	11,21	109,69 b	11,15	125,36 c	12,09	89,25 d	12,03	98,28 e	13,71		
MQ-N	132,16 a	9,10	130,89 a	9,11	106,73 b	8,80	109,40 c	8,63	84,57 d	9,25		
MQ	276,64 a	14,21	240,58 b	12,86	232,09 c	13,68	198,65 d	14,19	182,85 e	18,23		
N	201		195		255		193		150			
%	20,22		19,62		25,65		19,42		15,09			
SES	6,08a	0,59	5,68b	0,60	5,59b	0,79	5,16c	0,85	4,51d	1,08		
SWLS	5,15a	1,35	4,94a	1,22	4,77a	1,20	4,23b	1,41	4,02c	1,61		
RSES	6,27a	0,63	5,90a	0,89	5,70b	1,04	5,10c	1,08	4,76c	1,35		
N	66		93		103		112		77			
%	14,63		20,62		22,84		24,83		17,07			
Label	Winner		Fighter		Lucky		Survivor		Wonder seeker			

Notes:

N = 994 for MQ variables and 451 for SES, SWLS and RSES

MQ-P = positive situations, MQ-N = negative situations; MQ = Total MQ score, SES = Self-Efficacy Scale, SWLS = Satisfaction with Life Scale, RSES = Rosenberg Self-esteem Scale

different subscripts for mean scores indicate significant subgroup differences according to the post hoc test with Bonferroni correction

Xie-Beni index increased significantly from 0,570 to 0,763. After relocation the individual cases were assigned to the clusters for further analyses. The proportion of each of the clusters in the sample ranged from 15,09% to 25,65%, thus, it can be regarded as fairly balanced (see *Table 3*).

The five cluster solution

Means and standard deviations of the cluster centroids are presented in *Table 3*. For a more visual depiction we also present *Figure 2* where the clusters are represented in the two dimensional space defined by MQ-P and MQ-N. Additionally, we constructed tentative names for the specific clusters to increase their identity. According to our interpretation, Cluster 1 (N = 201, 20,22 %) is the "Winner" group

Figure 2.

**Graphical representation
of the clusters and their centroids**
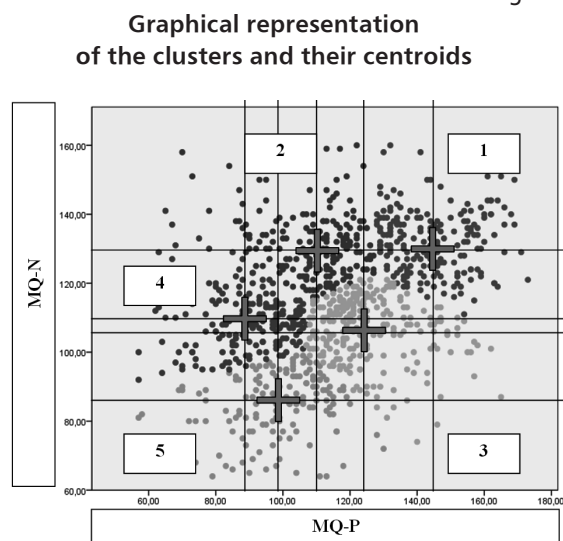
Notes

cluster numbers denote: 1 = Winner, 2 = Fighter, 3 = Lucky, 4 = Survivor, 5 = Wonder seeker (see also text and Table 3 for the interpretation)

containing those respondents who can uphold an optimistic explanatory style both in positive and negative situations. Cluster 2 (N = 195, 19,62 %) is the "Fighter" group that is high in optimistic explanatory style for negative situations but only medium for positive ones. In an opposite manner, Cluster 3 (N = 255, 25,65 %) represents the "Lucky" ones who are able to make optimistic explanations when events are positive; however, they are less adept when getting into troubles. In a similar vein Cluster 4 (N = 193, 19,42 %) and 5 (N = 150, 15,09 %) are each others' counterparts and they may be labeled as the "Survivors" and the "Wonder seekers", respectively. Both clusters have relatively low scores in both sub-dimensions but "Survivors" seem to be a little bit better off with optimism in bad situations while "Wonder seekers" are rather helpless when they experience negative events but are still somewhat more skillful if they encounter positive ones. Obviously, in strict sense these interpretations are valid only for the five cluster centroids, the most typical cases. In contrast, the actual cluster assignment is more arbitrary close to the borders of the clusters.

Comparing the clusters

Cluster membership was used for further analyses as well. To explore the meaning and adequacy of the five cluster solution we compared the groups along a series of other dimensions of positive psychological functioning. We performed ANOVAs to determine how patterns of MQ-P and MQ-N relate to self-efficacy, life satisfaction and self-esteem (see *Table 3*). Post hoc test was performed to check subgroup differences using Bonferroni correction. As a general tendency we may see that higher MQ scores – regardless whether they are composed more from MQ-P or MQ-N item ratings – are associated with more favorable positive psychological functioning. The clearest pattern can be seen for self-efficacy where "Winners" have the highest values as a group, followed by "Fighters" and "Luckies" (between the two latter there was no significant difference in the post hoc test) and then by "Survivors" while "Wonder seekers" as a group have the lowest values (see *Table 3*). Concerning self-esteem, Clusters 1 and 2 ("Winners" and "Fighters") did not differ significantly and presented the highest mean scores among the five clusters, followed by medium mean score in the Cluster 3 (the "Luckies") and the lowest mean scores of Clusters 4 and 5 ("Survivors" and "Wonder seekers"; no significant difference). Although mean scores of life satisfaction followed the general tendency in the clusters, the difference between Clusters 1-3 did not reach statistical significance and can be seen as equally high in these groups. However, mean score of life satisfaction was lower in the group of "Survivors" and even lower in the group of "Wonder seekers". While these similarities and differences can be interpreted in a meaningful way as we present in the next section in detail, we may emphasize here the general tendency of the results that point to the importance of an integrated and sufficiently high optimistic explanation style for both positive and negative events.

Discussion

To our best knowledge our study was the first to aim at a person-oriented description of the explanatory styles in employees. Since employee well-being is recognized as an important goal of responsible, future oriented leadership and employees with a more optimistic mindset are more capable of maintain their well-being and productivity in the face of adverse situations and challenges, identification of different types of optimistic explanatory strategies may bear with both theoretical and practical implications. First we address theoretical and then practical implications of our research.

In our analysis, we used optimism scores for positive and negative events separately. This approach is in line both with theoretically based conceptualizations that emphasize the patterns-oriented analysis of interrelated but distinct constructs and with our empirical data. Concerning the first aspect, Xin and colleagues argue that different dimensions of self-construal have to be analyzed in a person-oriented way, instead of simplifying them to the two extremes of the same continuum (Xin – Yang – Ling, 2017). Their approach is similar to ours where we

would like to decompose the concept of one dimensional optimism into a more fine graded and person-oriented use of both negative and positive events.

Cluster analysis of the two basic dimensions of explanations, that is, explanations for positive and negative events, resulted in five clusters. We tentatively named them "Winner" (high scores on both dimensions), "Fighter" (highly optimistic explanations for negative events and medium score for positive ones), "Lucky" (highly optimistic explanations for positive events and medium score for negative ones), "Survivors" (moderately optimistic explanations for negative events and low score for positive ones) and the "Wonder seekers" (moderately optimistic explanations for positive events and low score for negative ones). It is important to note that in this sample of well-adjusted, nonclinical adults the resulting solution does not contain a kind of "loser" cluster, that is, a group that scores very low on both dimensions. Distribution of the data allowed rendering all cases to clusters where empowering aspects of explanations are present at least to a certain extent. Cluster memberships and their tentative labels point to the resources of the persons: the most suitable situation is where she can use her characteristic way of explanations the best possible way to increase her functioning and thus increase the fit between herself and the environment (the person-environment fit; c.f., Zou – Zuo, 2015). Looking from the other end of the continuum, we could identify only one group of respondents who integrated both aspects of optimistic explanatory style, that is, responded in an optimistic way to both negative and positive events. We may interpret this phenomenon in a way that there is only one type of truly integrated functioning and it has to contain adaptive strategies for both sides of the human experiences, the positive as well as the negative.

Associations of the clusters with well-being indices reinforce this interpretation. Distinctiveness of the cluster membership was the highest in case of self-efficacy. Stable self-efficacy beliefs are closely related to high performances and functionality and our results contribute to this concept by emphasizing the importance of cognitive flexibility that enables the person to find the benefits in every kind of situations. Consequently, the lower is the summed score in optimistic explanations of any kind, the less advantageous the self-efficient self-regulation can be expected. On the other hand, self-esteem did not differ in case of Winners and Fighters underlining the utmost importance of handling negative situations in the possibly most optimistic way when forming one's inner image of the self. In fact, self-esteem is closely related to the self-regulation skill of handling frustrations and obstacles. Finally, life satisfaction, that is, the general evaluation of one's place in life, was equally high in the first three clusters, at least in terms of statistical (non) significance. This may point to the positive interpretation that to run a good and satisfied life it is important to have at least one kind of the explanation at its best. This may help one to find a way of living that fits his or her preferred processing of information.

If we consider the practical aspects of a good and productive work environment, the cluster membership patterns also reveal those aspects of an employee's functioning that may be the target of conscious development. There are studies indicating that the style of explanations may modify the interpretation and the subsequent action of employees in favourable and unfavourable conditions (Schinkel – van Vianen – Marie Ryan, 2016). At the same time, explanatory style can be changed by cognitive behavioural techniques (Moore – Fresco – Schumm – Dobson, 2017) and a training for more optimistic explanations may be an integral part of burnout prevention (Slavin – Shoss – Broom, 2017). Moreover, intervention induced changes may lead to higher self-efficacy and general well-being which in turn improves the performance and lowers turnover intentions (c.f., Proudfoot – Corr – Guest – Dunn, 2009). MQ Test based assessment of exploratory styles and the corresponding interventions and trainings may help to reach individual and organizational goals simultaneously.

Limitations

Our results have to be interpreted in the light of certain limitations. First, our cross sectional study design does not allow causal explanations of the result. Second, snowball recruitment and self-report online responses may raise concerns toward the validity of the answers. Third, our samples consisted of exclusively Hungarian respondents. Since cultural aspects are important part of the interpretation of negative and positive events, future research can aim at cross-cultural generalizability of different explanatory patterns. In line with this notion, there are research results that show that cultural factors may moderate the reactions to positive and especially negative events; for example, respondents with a Buddhist worldview tended to explain negative events in a pessimistic way, however, this explanatory style did not predict lower well-being for them (Liu – Wang – Peng, 2017). Therefore, separate investigation of both kinds of explanations may provide a more detailed picture on the functioning and significance of explanatory styles. Finally, we focused on positive and negative explanations only, fitting our approach to the measurement domain of the MQ Test. More fine graded methodology and analysis including different aspects of explanations in terms of stability, globality and internality may broaden the scientific power of a person-oriented approach toward optimism.

Conclusions and future directions

Our research showed that characteristic explanations for positive and negative events may be clustered in a meaningful way and that different clusters represent characteristically different ways of functioning. While general well-being levels may be similar for those who are better in taking the best out of the positive situations (e.g., the "Lucky"-s) and those who are at their best when things turn bad (e.g., the "Fighters"), their different strategies reveal a lot about the "how" of reaching well-being. This way, MQ Test provides organizations, business leaders,

HR practitioners and also employees a scientifically reliable and easy to take measure with which the existing explanatory style of the associates can be identified. A reliable and accurate measure provides vital information for leaders and employees concerning the available resources of the employees to cope with adversities and their readiness for change. One of the main potential of our results is the possibility of a tailor made approach toward human resource management and development as well. Therefore, further investigations may refine how MQ Test and the corresponding approach to optimistic mindset could be employed as a training program tool for employees.

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