Dimensionality of burnout – Is the Mini Oldenburg Burnout Inventory suitable for measuring separate burnout dimensions?

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Theoretical background: Research on burnout has widespread interest in mental health sciences. The Demands-Resources Model of Burnout represents a new direction in research. Similarly to the most popular model of burnout, the Multidimensional Model, it embeds burnout in an organizational framework. *Goals:* The purpose of this study is to analyze the dimensionality and divergent validity of the Mini Oldenburg Burnout Questionnaire (MOLBI), the measurement tool of the Demands-Resources Model. Our work also tests the multidimensional theory, which posits that the burnout dimensions are independent of one another and do not form a global burnout factor. *Method:* Participants' (*n* = 406 people, 59.1% female) mean age was 39.4 (SD = 11.06) years and most of them had a graduate degree. In addition to the MOLBI questionnaire, participants completed the Work-Family Balance and Mental Health Test. We conducted a parallel analysis and exploratory factor analysis to analyze the structure of MOLBI; a bifactor analysis and model-based reliability test to analyze the validity of global and specific factors. We assessed the relationships between MOLBI and other parameters with Kendall's *tau-b* correlation. *Results:* Our results showed that the original two-factor structure of the questionnaire fit our data best (χ^2 = 78.489, DF = 26, *p* < 0.001; CFI = 0.977; NNFI = 0.960; RMSEA = 0.068; RMSEA CI$_{90}$:0.066–0.070). The reliabilities of factors and global scores were adequate. Besides, the bifactor analysis showed that the global burnout dimension and disengagement subscale had enough explanatory power. The exhaustion factor of

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burnout was moderately associated with work-family balance and resilience. The disengagement factor was moderately related to creative problem-solving capacity. *Conclusions:* MOLBI demonstrates appropriate psychometric characteristics and can be reliably used for the assessment of global burnout (with the total score) and disengagement. Therefore, it fits the dimensional perspective of mental health problems. Considering the construct and divergent validity analysis, exhaustion and global burnout show a similar correlation pattern, while disengagement measures the motivational and behavioral aspects of the phenomenon.

Keywords: Mini Oldenburg Burnout Inventory, validity, dimensionality

1. Introduction

Burnout is a widely researched construct in the social and health sciences. The phenomenon, which became a common research topic in the 1970s, has taken several approaches in the last forty years. Multidimensional- (Maslach & Jackson, 1981), existential- (Pines, 1993), and conservation of resources theories (Shirom, 2003) are well known in the international literature. These approaches highlight three important characteristics of the phenomenon. Trends agree that burnout is (1) characteristic of people who have no other mental illness. (2) It usually occurs in a workplace situation and (3) it has a broad spectrum of negative emotions. However, there is no consensus on whether it has motivational, physiological, and performance-related aspects too (Maslach & Jackson, 1981; Shirom, 2003). Also, controversial theories have arose if burnout is related only to work situations (Maslach & Jackson, 1981) or it appears in other areas of life (eg. marriage or parenting; Pines 1993).

Recently, a new theory has appeared in burnout literature, which attempts to unify the common points of previous theories. It highlights and integrates parts that can be useful elements for further detailed burnout testing and provides a basis for diagnostic practice. The Burnout Demands-Resources Model (BDR Model) was developed by Demerouti and her coworkers (2001). According to the model, burnout is due to relatively high work requirements and the limited resources available to manage them. The limited ability to cope with the resources leads to negative emotional states. Thus, the discrepancy between resources and challenges creates a significant negative emotional state. Therefore, the BDR Model introduces the exhaustion dimension that characterizes work-related emotional and physical fatigue. In addition, the model is complemented by disengagement, which maps the motivational background of how open an individual is to deal with a discrepancy. Thus, the disengagement dimension measures the lack of work-related motivation (Bakker, Demerouti, & Verbeke, 2004; Demerouti et al., 2001).

The BDR Model narrows the definition of burnout and addresses only these two dimensions of burnout, omitting the reduction in performance that appears in the multidimensional model. Some researchers state that performance loss is not necessarily part of the burnout phenomenon. Some authors view it as a consequence of burnout (Shirom, 2003), while others view it as a personality trait (as part of self-efficacy) that does not characterize the transient state of burnout (Cordes & Dougherty, 1993). Demerouti and Bakker (2008) introduce refinements to the multidimensional model not only at the theory level but also at the measurement model level. The dimension of exhaustion and disengagement is characterized by simple and clearly-worded items, which can also be very helpful in translating the questionnaire into any other language. As a result of conceptual and semantic clarification, the Oldenburg Burnout Questionnaire (OLBI; Demerouti & Bakker, 2008) has been created, which contains 16 items. Eight items to describe exhaustion, eight to describe disengagement. The authors also took care to include both straight and reversely worded items in both dimensions. As opposed to Maslach's approach, which only describes the dimensions of emotional exhaustion and cynicism with negative terms, while using only positive items to characterize personal performance. The downside of this solution is that when analyzing the factor-structure of a measurement tool, one-way items, by their very wording, are condensed into a single factor, so they do not necessarily show the properties of the characterized dimension (Demerouti & Bakker, 2008). Therefore, in the Oldenburg Burnout Questionnaire, each scale has both straight and reverse items.

The factor structure of OLBI has been studied in several studies (Campos, Carlotto, & Marôco, 2012; Halbesleben & Demerouti, 2005; Mahadi et al., 2018; Schuster & Dias, 2018; Sedlar, Šprah, Tement, & Sočan, 2015; Subburaj & Vijayadura, 2016). Some confirmed the original version of the questionnaire (Halbesleben & Demerouti, 2005; Subburaj & Vijayadura, 2016), but many had to remove items from the measurement tool or keep only negative items because positive items generated response bias (Campos, et al., 2012; Mahadi et al., 2018; Schuster & Dias, 2018; Sedlar et al., 2015). To use the questionnaire more effectively, Thun, Fridner, Minucci and Løvseth have developed an abbreviated version of OLBI, the Mini Oldenburg Questionnaire (MOLBI; Thun et al., 2014). This version of the questionnaire turned out to be more applicable in intercultural and longitudinal studies. MOLBI also measures exhaustion and disengagement. Each factor contains 3–3 straight and 2–2 inverted items. During the Hungarian adaptation of OLBI and MOLBI, comparative studies showed that the factor structure of MOLBI shows a better fit in the domestic environment (Ádám et al., 2020). Therefore, the present study aims to analyze MOLBI on a heterogeneous

sample, which is important both because it analyzes the applicability of the questionnaire outside the health sector and on the other hand provides further evidence for the two-factor structure. Based on the above, we assume that: H1: MOLBI has two dimensions, named exhaustion and disengagement.

We aimed to confirm the two-factor structure of MOLBI on our sample. We also aimed to examine if exhaustion and disengagement constitute independent or correlated factors. In our previous study, we found that the two factors of MOLBI show a relatively high correlation ($r = 0.810$, $p < 0.001$) (Ádám et al., 2020). Also, some burnout studies question the independence of the subscales in the multidimensional approach. For example, regarding the Maslach Burnout Inventory (MBI; Maslach & Jackson, 1981), researchers often note that exhaustion and the other major burnout dimension (called: depersonalization, cynicism, or disengagement) are correlated at a medium or high level (Gil-Monte, 2005; Mäkikangas, Hätinen, Kinnunen, & Pekkonen, 2011; Vanheule, Rosseel, & Vlerick, 2007). Moreover, certain studies question the independence of the emotional exhaustion dimension, and show that this dimension is more likely to merge into "non-specific psychological distress" (Schonfeldt, Verkuilen, & Bianchi, 2019) factor and correlate more intensively with depression than with other burnout subscales (Bakker et al., 2000).

The other aim was to measure how subfactors and how global factor could explain the total variance of variables and how much specific information is provided by subfactors. In our previous study, we found that global burnout scores explain significantly more of the variance than the specific factors (such as emotional exhaustion and depersonalization dimensions; Mészáros, Ádám, Szabó, Szigeti, & Urbán, 2014). We have also found that burnout can be positioned within the multidimensional space of mental problems, as certain burnout characteristics overlap with characteristics of depression and anxiety. However, research needs to unfold the syndrome-specific characteristics of burnout.

Testing other forms of validity can also guide the meaning of the subscales. Therefore we would like to test MOLBI in the relationship to other constructs. As previously described, the emotional component of burnout is most commonly researched. Some studies highlight the pervasive nature of negative feelings related to fatigue. Thus, they experience negative emotions during work that can affect other areas of life, such as family life or leisure activities (Westman, 2001, Westman & Vinkour, 1998). Bakker, Demerouti & Schaufeli (2005) narrow his analysis to the emotional component of burnout. It describes how emotional exhaustion affects positive feelings about privacy, such as happiness or satisfaction. Therefore, it can be assumed that: H2: Burnout and its subscales are in correlation with work-family balance and mental health.

2. Method

2.1. Sample

In our previous study about the factor structure of MOLBI, we used a relatively homogenous sample of health care workers (Ádám et al., 2020). Therefore, we aimed here to test the questionnaire in a relatively heterogeneous sample. We have analyzed only complete questionnaires, there were no missing values. *Table 1* shows the demographic profile of the sample. Our sample consisted of 406 people, 240 female (59.1%) and 166 male (40.9%). The mean age was 39.39 (SD=11,06) years. They mainly have master's degree (n = 132, 32.5%) and are typically married (n = 192, 47.3%). The inclusion criteria of the study were: 1) age 18 or above, and 2) having no known mental disorder within the past year.

Table 1. Characteristics of the sample

Variables		n (%)
School	Elementary	6 (1.5%)
	Highschool	101 (24.9%)
	Bachelor degree with specific health care profession course	31 (7.6%)
	Bachelor degree	92 (22.7%)
	Master degree	132 (32.5%)
	Specialization above MD/Phd	44 (10.8%)
Relationship status	Single	64 (15.8%)
	In relationship	121 (29.8%)
	Married	192 (47.3%)
	Divorced	24 (5.9%)
	Widowed	4 (1.0%)
	Missing	1 (0.2%)
Profession	Student	22 (5.4%)
	Teacher	100 (24.6%)
	Law enforcement	121 (29.8%)
	Priest	37 (9.1%)
	Health care worker	22 (5.4%)
	Other (student, social worker, manual worker, etc.)	104 (26.7%)

2.2. Questionnaires

Mini Oldenburg Questionnaire (MOLBI; Thun et al., 2014; Ádám et al., 2020) is a 10-item scale, which measures the two aspects of the burnout. Its first aspect is *exhaustion*, which is physical and emotional tiredness connected to work. The second aspect is *disengagement*, which contains a lack of motivation in work and intensive depersonalization. Five items belong to each scale, and two of them are reversed. Responses are rated on a 4-point Likert-scale, ranging from 1 ('totally disagree') to 4 ('totally agree'). The higher score indicates more burnout symptoms. The reliability (i.e. Croncabch's α) of the scales in the health care workers' sample is: Exhaustion = 0.790; Disengagement = 0.762 (Ádám et al., 2020).

Mental Health Test (MHT; Vargha et al., 2020; Zábó & Vargha, 2019) measures the emotional, psychological, social, and spiritual characterizing of the person. The four aspects of the questionnaire are measured by 5 scales, named: Well-being (SWB), Savoring (S), Creative, executive individual and social efficiency (CE), Self-regulation (SR), and Resilience (R). It is a 20-item questionnaire. The items are rated on a 6-point Likert scale, ranging from 1 ('not typical at all') to 6 ('typical at all'), so the higher scores indicate better mental health. The meaning of the subscales are as follows: 1) Well-being: the feeling of well-being in the emotional, psychological, social, and spiritual aspects of life. 2) Savoring: positive cognition processes of life in service of well-being. 3) Creative, executive individual, and social efficiency: collection of the strategies and actions, which help the individual to change the circumstances in a difficult adjustment situation, to achieve the goals and plans. 4) Self-regulation: the control of emotions, attention, and cognition. 5) Resilience: psychological flexibility and resistance (Vargha et al., 2020; Zábó & Vargha, 2019). The reliability of the scales in the Hungarian sample are WB = 0.784; S = 0.747; CE = 0.719; SR = 0.815; R = 0.777 (Zábó & Vargha, 2019).

Work-Family Balance Questionnaire (WFB; Carlson et al., 2006; Ádám et al., 2019) measures the global balance of work and family. This questionnaire gives a system-wide perspective that goes beyond the individual. In Hungarian, it is a 5-item scale, which measures the balance in a 5-point Likert-scale, ranging from 1 ('totally disagree') to 5 ('fully agree)', with a Cronbach's α = 0.919.

Table 2 represent the descriptive statistics, normality test results, and internal reliabilities. The latter is in the acceptable to good range. As it is seen, their reliability is in the optimal range – the Cronbach's α between 0.7 and 0.8 is acceptable and between 0.8 and 0.9 is good –, but their normality is violated in all cases (Cohen, 1996).

Table 2. Parameters of the used scales in our sample

Scale	Mean	Standard deviation	Normality (Kolmogorov-Smirnov test, Z value)	Reliability (Cronbach's α)
Exhaustion	12.081	3.166	0.089 ($p < 0.001$)	0.797
Disengagement	10.492	2.878	0.088 ($p < 0.001$)	0.740
Well-being	13.467	2.967	0.108 ($p < 0.001$)	0.827
Savoring	13.393	2.796	0.099 ($p < 0.001$)	0.727
Creative, executive individual and social efficiency	22.740	4.116	0.080 ($p < 0.001$)	0.809
Self-regulation	7.980	2.471	0.112 ($p < 0.001$)	0.796
Resilience	15.330	4.103	0.066 ($p < 0.001$)	0.769
Work-family balance	18.705	3.681	0.158 ($p < 0.001$)	0.852

2.3. Procedure and statistical analysis

We chose an online method to reach a relatively heterogeneous sample for the study. We collected our sample with the help of students of the KRE Institute of Psychology, and used the snowball sampling method. The demographical questions and the questionnaires were administered in a Google form. The answers we collected were voluntary and anonymous. The plan of the study was accepted by the ethical committee of the Reformed Church of Károli Gáspár University (ethical numbers are 406/2018P, 407/2018P), the study started in January, 2019 and ended in April, 2019. Participants agreed to participate in the study in an online form.

For the statistical analysis, we used FACTOR (Lorenzo-Seva, 2019), Mplus 8.4. (Muthén & Muthén, 2019), Omega Calculator (Watkins, 2013) and ROPstat (Vargha, 2019). To test the first hypothesis, we calculated parallel analysis and exploratory factor analysis with FACTOR. Additionally, we tested the bifactor model with Mplus 8.4., and calculated omega and omega hierarchical with Omega calculator. Lastly for testing the second hypothesis, we used Kendall's *tau-b* correlation with ROPstat.

In the study, we marked the Pearson correlation with „r", and the fit indices of the factor analysis with χ^2, RMSEA, CFI, TLI, NNFI. The optimal range of the fit indices is: CFI, NNFI and TLI above 0,95. The RMSEA under 0,05 is excellent; under 0,08 is good and above 0,10 is not acceptable. Besides these parameters, not significant χ^2 is really good, but in bigger sample it's rather preferably, than rule (Bentler, 1990).

We calculated model-based reliability for the bifactor model. The omega coefficient reflects the proportion of variance of the scale score that is attributable to the global and specific factors. For example, in the disengagement scale, score coefficient omega indicates the proportion of variance that is attributable to the global and the specific disengagement factor. In contrast, the omega hierarchical indicates how much variance is attributable to only the specific factor (e.g. disengagement factor). Reise, Bonifay and Haviland (2013) suggest that the value of the omega hierarchical is preferable around 0.50, but Szigeti and her coworkers (2016) use lenient criteria. They define the coefficient around 0.20, because in this case, the specific factor explains at least 20% of the variance in specific factor scores.

We use $p = 0.05$ as the upper limit of statistical significance and report its exact value unless it is less than 0.001, in which case we present it as $p < 0.001$.

3. Results

At first, we would like to test our first hypothesis, if MOLBI has two factors. We tested our sample with an exploratory factor analysis and a parallel analysis. We used the Maximum Likelihood method. This is a Pearson correlation-based method. According to Baglin (2014) and Vargha (2019), this solution is advisable if the skewness and Kurtosis of the variables are under 1 in every case. In our sample, all items of MOLBI fulfilled this criterion (see *Table 3*). We used oblique rotation with a direct oblimin method, because this rotation properly evaluates the factor loadings if fewer complex variables (variables, which load onto more than one factor) are present and it is advisable if there is a medium or high correlation between the factors (Lorenzo-Seva, 1999; Vargha, 2019).

The parallel analysis advised that one-factor solution fits the best for the questionnaire. But the fit indices of this solution were worse ($\chi^2 = 285.488$, DF = 35, $p < 0.001$; CFI = 0.927; NNFI = 0.906; RMSEA = 0.105; RMSEA CI_{90}:0.100–0.110) than the two factor solution ($\chi^2 = 78.489$, DF = 26, $p < 0.001$; CFI = 0.977; NNFI = 0.960; RMSEA = 0.068; RMSEA CI_{90}:0.066–0.070). This usually can happen, when the eigenvalue of the second factor is around one, therefore the one-factor solution is statistically more economical than the two-factor solution. In our sample, the eigenvalue of the first factor was 3.932, and the second was 1.507. Additionally, the two-factor solution nearly matched the original model (refer to *Table 4*). Only item 3 ('talk about my work in derogatory way') loaded equally in both factors. Exhaustion factor can be described by the following items: 'after work I feel worn out', 'I feel tired before work'. The items with the highest factor loading are: 'lost internal relationship to work' and 'I think less and execute tasks mechanically'. A medium correlation were found between the two factors ($r = 0.487$).

Table 3. Item statistics of MOLBI

Variable	Mean	Standard deviation	Skewness	Kurtosis
MOLBI1	1.907	0.725	0.390	–0.413
MOLBI2	2.087	0.864	–0.364	–0.508
MOLBI3	2.226	0.897	0.385	–0.612
MOLBI4	2.485	0.891	–0.041	–0.816
MOLBI5	2.210	0.789	0.319	–0.318
MOLBI6	2.044	0.818	0.511	–0.255
MOLBI7	2.041	0.862	0.479	–0.469
MOLBI8	2.240	0.849	0.156	–0.710
MOLBI9	2.493	0.845	0.110	–0.650
MOLBI10	2.259	0.800	0.116	–0.587

Table 4. Item labels and standardized factor loadings of the MOLBI items

Item	Content of the item	Exhaustion	Disengagement
2	'feel tired before work'	0.721	
4	'after work I need more time to relax'	0.714	
5	'stand work pressure well'	–0.517	
8	'after work I have energy'	–0.583	
9	'after work I feel worn out'	0.753	
3	'talk about my work in a derogatory way'	0.439	0.457
1	'find interesting aspects in my job'		–0.444
6	'think less and execute tasks mechanically'		0.696
7	'lost internal relationship to work'		0.836
10	'engaged to work'		–0.405

In the next step, to test the legitimacy of the two specific factors, we ran a bifactor model for the two-factor solutions. We examined how much variance was attributable to the global factor and how much variance was attributable to the specific factors. The fit indices of the bifactor model were in the proper range (Satorra-Bentler χ^2 = 67.852, DF = 23, p = 0.001; CFI = 0.962; TLI = 0.926; RMSEA = 0.068; RMSEA CI_{90}:0.050–0.087). The

model-based reliability (omega and omega hierarchical) indices showed that the disengagement factor explained 47% of the variability alone, the exhaustion factor explained only 16.1% (see *Table 5*).

Table 5. The bifactor model-based reliabilities

Model-based reliability	Global burnout	Exhaustion	Disengagement
Omega	0.868	0.870	0.740
Omega hierarchical	0.656	0.161	0.470

The reliability of the two scales in the sample was exhaustion α = 0,870; disengagement α = 0,740, which also underlines the adequacy of the structure.

Finally, we wanted to test the MOLBI's divergent validity from mental health and work-family balance constructs. The Kendall's *tau-b* correlations are shown in *Table 6*. Exhaustion had more medium correlations with particular aspects of mental health and work-family balance. The global burnout, and also its subscales showed a relatively large difference from mental, physical, and psychological aspects of well-being. In the case of disengagement well-being and creative, executive individual and social efficiency showed a medium correlation, however, exhaustion had a medium negative relationship with resilience, well-being, and work-family balance. Thus, being more exhausted is linked to less work-family balance and more stressful life situations.

Table 6. Correlations between burnout, mental health and work-family balance (Kendall's *tau-b*)

Variables	Global burnout	Exhaustion	Disengagement
Well-being	−0.368	−0.340	−0.312
Savoring	−0.201	−0.174	−0.182
Creative, executive individual and social efficiency	−0.251	−0.181	−0.268
Self-regulation	−0.143	−0.172	−0.079
Resilience	−0.320	−0.381	−0.161
Work-family balance	−0.305	−0.330	−0.191

Note: Only self-regulation and disengagement has p = 0.029 correlation, the other correlations' significance are p < 0.001.

4. Discussion

Burnout, similar to other psychological problems, contains specific elements, which can be described with emotional exhaustion, depersonalization, and reduced personal accomplishment. Besides the specific elements, there are some general features, which could overlap with other mental health problems (e.g. in the case of burnout with depression, or anxiety) according to the dimensional approach of mental health problems.

Many pieces of research have studied the dimensionality and wording of burnout questionnaires (Demerouti & Bakker, 2008; Gil-Monte, 2005; Kiss, Polonyi, & Imrek, 2018; Mäkikangas et al., 2011; Vanheule et al., 2007). Demerouti and Bakker (2008) have developed the OLBI; and the researchers of Karolinska Institute (Thun et al., 2014) have shortened the questionnaire, developing MOLBI. The questionnaire became clear and simple, measuring only two dimensions, with relatively few items.

One of our previous study, we have studied the dimensionality of MBI-HSS, and we have found that only the overall burnout factor and the specific reduced personal accomplishment factor had high enough explanatory power (Mészáros et al., 2014). Although Maslach and Jackson (1981) emphasize from the 1980s that burnout has distinct, non-additive dimensions, Hungarian researches either with MBI-HSS (Mészáros et al., 2014) or MBI-ES (Szigeti et al., 2017) have not confirmed this. Moreover, in our other previous research on studying the structure of MOLBI, we concluded that exhaustion and disengagement dimensions were highly correlated (Ádám et al., 2020). These leave the question open on whether the dimensions have individual added value or whether the questionnaire measures a global burnout dimension just like the various forms of MBI.

This study aimed to unfold the underlying factor structure of the MOLBI questionnaire and to test its validity. Our results showed that the correlation between the factors is moderate and the bifactor model confirmed the separate explanatory power of the specific disengagement factor. Disengagement has significantly higher self-explanatory variance than the exhaustion factor. This is close to the criteria suggested by Reise, Bonifay and Haviland (2013) and high above the criteria suggested by Szigeti and coworkers (2017). In conclusion, MOLBI is a suitable instrument for measuring global burnout and specific disengagement subscale, so the questionnaire contains elements specific to disengagement and contains global burnout elements as well. However, exhaustion factor does not provide much specific information.

We also explored the associations of MOLBI with mental health and work-family conflict. As described by Bakker et al. (2005), burnout has an

impact on positive feelings in other areas of life. Therefore, we hypothesized that burnout and also its subscales correlate with these constructs. Our results showed that burnout has a negative relationship with different aspects of mental health and work-family balance. The dimension of exhaustion – characterized as an emotional and physical aspect – shows a similar pattern to global burnout. This confirms that (1) the exhaustion dimension is not separated from the whole construct, and (2) its relationship with the work-family balance and mental health dimensions has a complex (emotional and physical) nature. The disengagement's connection with creative, executive individual, and social efficiency confirm the motivational and behavioral aspects of the dimension.

Our study has some shortcuts. Our sample consists of only 406 people. We have administered our questionnaire in an online way with snowball sampling, which can affect the quality of the responses and select the sample in a specific way (to computer users, which significantly limit the generalizability of the results). Only Hungarian people filled in our questionnaires so our sample is culturally homogeneous, results can be conditionally generalized to other cultures. But we believe this analysis can be a first step to introduce a methodically and semantically well designed burnout questionnaire.

5. Conclusions

The focus of our study was to examine whether the MOLBI questionnaire can be used as a whole and whether each dimension – disengagement and exhaustion – has separate meaning as well. We also tested the divergent validity because we wanted to get closer to their meaning. Our analysis showed that the burnout dimension can be used as a whole, and the disengagement dimension also has a significant amount of separate meaning. When testing the divergent validity, it was seen that the relationships of the exhaustion dimension was very similar to the relationships of the global burnout scale, which underpin the similarity to the global phenomenon, and it also became apparent that this dimension covered not only the emotional aspects of the phenomenon but more than that. The relationships of the disengagement dimension suggest that this is primarily a motivational and behavioral aspect of burnout.

References

Ádám, Sz., Mészáros, V., Kövi, Zs., Gustafsson S.M., Tevik Løvseth, L. (2019). A munka és család összeegyeztetésének mérési lehetőségei MPT Nagygyűlés, 2019.05.30.-2019.06.01., Debrecen.

Ádám Sz., Dombrádi V., Mészáros V., Bányai G., Nistor A., & Bíró K. (2020). Az Oldenburg Kiégés Kérdőív és rövidített változatának összehasonlító elemzése. *Ideggyógyászati Szemle, 73*(7–8), 231–240.

Baglin, J. (2014). Improving your exploratory factor analysis for ordinal data: A demonstration using FACTOR. *Practical Assessment, Research, and Evaluation, 19*(1), 1–15.

Bakker, A.B., Demerouti, E., & Schaufeli, W.B. (2005). The crossover of burnout and work engagement among working couples. *Human Relations, 58*(5), 661–689.

Bakker, A.B., Demerouti, E., & Verbeke, W. (2004). Using the job demands-resources model to predict burnout and performance. *Human Resource Management, 43,* 83–104.

Bakker, A.B., Schaufeli, W.B., Demerouti, E., Janssen, P.P.M., Van der Hulst, R., & Brouwer, J. (2000). Using equity theory to examine the difference between burnout and depression. *Anxiety, Stress, and Coping, 13,* 247–268.

Bentler, P.M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*(2), 238–246.

Campos, J.A.D.B., Carlotto, M.S., & Marôco J. (2012). Oldenburg Burnout Inventory – student version: cultural adaptation and validation into Portuguese. *Psicologia: Reflexão e Crítica 25*(4), 709–718.

Carlson, D.S., Kacmar, K.M., Wayne, J.H., & Grzywacz, J.G. (2006). Measuring the positive side of the work–family interface: Development and validation of a work–family enrichment scale. *Journal of Vocational Behavior, 68*(1), 131–164.

Carragher, N., Krueger, R.F., Eaton, N.R., & Slade, T. (2015). Disorders without borders: current and future directions in the meta-structure of mental disorders. *Social Psychiatry and Psychiatric Epidemiology, 50*(3), 339–350.

Cohen, D.S., Colliver, J.A., Robbs, R.S., & Swartz, M.H. (1996). A large-scale study of the reliabilities of checklist scores and ratings of interpersonal and communication skills evaluated on a standardized-patient examination. *Advances in Health Sciences Education, 1*(3), 209–213.

Cordes, C.L., & Dougherty, T.W. (1993). A review and an integration of research on job burnout. *Academy of Management Review, 18*(4), 621–656.

Demerouti, E., Bakker, A.B., Nachreiner, F., & Schaufeli, W.B. (2001). The Job Demands-Resources Model of burnout. *Journal of Applied Psychology, 86,* 499–512.

Demerouti, E., & Bakker, A.B. (2008). The Oldenburg Burnout Inventory: A good alternative to measure burnout and engagement. In J. R.B. Halbesleben (ed.), *Handbook of stress and burnout in health care* (65–78). Hauppauge, NY: Nova Science Pub Inc

Gil-Monte, P.R. (2005). Factorial validity of the Maslach Burnout Inventory (MBIHSS) among Spanish professionals. *Revista De Saude Publica, 39*(1), 1–8.

Halbesleben, J.R.B., & Demerouti E. (2005). The construct validity of an alternative measure of burnout: investigating the English translation of the Oldenburg Burnout Inventory. *Work Stress, 19*(3), 208–220.

Kiss, T., Polonyi, T., Imrek, M. (2018). Munkahelyi stressz és egészség. A burnout szindróma a 21. században – Kutatás, mérés, elmélet és terápia. *Alkalmazott Pszichológia, 18*(2), 75–103.

Lorenzo-Seva, U. (1999). Promin: A method for oblique factor rotation. *Multivariate Behavioral Research, 34*(3), 347–365.

Mahadi, N.F., Chin, R.W.A., Chua, Y.Y., Chu, M.N., Wong, M.S., Yusoff, M.S.B., et al. (2018). Malay language translation and validation of the Oldenburg Burnout Inventory measuring burnout. *Education in Medicine Journal*, *10*(2), 27–40.

Mäkikangas, A., Hätinen, M., Kinnunen, U., & Pekkonen, M. (2011). Longitudinal factorial invariance of the Maslach Burnout Inventory-General Survey among 96 employees with job-related psychological health Problems. *Stress and Health*, 27(4), 347–352.

Maslach, C., & Jackson, S.E. (1981). The measurement of experienced burnout. *Journal of Occupational Behaviour*, *2*(2), 99–113.

Maslach, C., & Jackson, S. (1986). *Maslach Burnout Inventory Manual* (2nd Ed.). Palo Alto, CA: Consulting Psychologists Press

Mészáros, V., Ádám, S., Szabó, M., Szigeti, R., & Urbán, R. (2014). The bifactor model of the Maslach Burnout Inventory–Human Services Survey (MBI-HSS) – An alternative measurement model of burnout. *Stress and Health*, *30*(1), 82–88.

Muthén, L.K., & Muthén, B.O. (2019). *Mplus 8.4*. Los Angeles, CA: Muthén & Muthén

Pines, A. (1993). *Burnout – an existential perspective*. Philadelphia, PA, US: Taylor & Francis

Reise, S.P., Bonifay, W.E., & Haviland, M.G. (2013). Scoring and modeling psychological measures in the presence of multidimensionality. *Journal of Personality Assessment*, *95*(2), 129–140.

Schuster, M.D.S., & Dias, V.D.V. (2018). Oldenburg Burnout Inventory-validação de uma nova forma de mensurar Burnout no Brasil. *Ciencia & Saude Coletiva*, *23*, 553–562.

Sedlar, N., Šprah, L., Tement, S., & Sočan, G. (2015). Internal structure of an alternative measure of burnout: Study on the Slovenian adaptation of the Oldenburg Burnout Inventory (OLBI). *Burnout Research*, *2*(1), 1–7.

Schonfeld, I.S., Verkuilen, J., & Bianchi, R. (2019). An exploratory structural equation modeling bi-factor analytic approach to uncovering what burnout, depression, and anxiety scales measure. *Psychological Assessment*, *31*(8), 1073–1079.

Shirom, A. (2003). Job related burnout. In J.C. Quick & T.E. Tetrick (Eds.), *Handbook of occupational psychology* (245–264). Washington DC: American Psychological Association

Subburaj, A., & Vijayadurai, J. (2016). Translation, validation and psychometric properties of Tamil version of Oldenburg Burnout Inventory (OLBI). *Procedia-Social and Behavioral Sciences*, *219*, 724–731.

Szigeti, R., Balázs, N., Bikfalvi, R., & Urbán, R. (2017). Burnout and depressive symptoms in teachers: Factor structure and construct validity of the Maslach Burnout inventory-educators survey among elementary and secondary school teachers in Hungary. *Stress and Health*, *33*(5), 530–539.

Thun, S., Fridner, A., Minucci, D., & Løvseth, L. T. (2014). Sickness present with signs of burnout: The relationship between burnout and sickness presenteeism among university hospital physicians in four European countries, *Scandinavian Psychologist*, *1*. Retrieved from: https://psykologisk.no/sp/2014/11/e5/ 02.01.2020.

Vanheule, S., Rosseel, Y., & Vlerick, P. (2007). The factorial validity and measurement invariance of the Maslach Burnout Inventory for human services. *Stress and Health*, *23*(2), 87–91.

Vargha (2019). *Többváltozós statisztika dióhéjban: Változó orientált módszerek.* Budapest: Pólya Kiadó

Vargha A. (2016). A ROPstat statisztikai programcsomag. *Statisztikai Szemle*, *94*(11-12), 1165–1192.

Vargha, A., Zábó, V., Török, R., & Oláh, A. (2020). A jóllét és a mentális egészség mérése: a Mentális Egészség Teszt. *Mentálhigiéné és Pszichoszomatika, 21*(3), 281–322.

Watkins, M.W. (2013). Omega. Retrieved from: http://edpsychassociates.com/Software/ Omega.zip 09.04.2013.

Westman, M. (2001). Stress and strain crossover. *Human Relations*, *54*(6), 717–751.

Westman, M., & Vinokur, A.D. (1998). Unraveling the relationship of distress levels within couples: Common stressors, empathic reactions, or crossover via social interaction?. *Human Relations*, *51*(2), 137–156.

Zábó, V., & Vargha, A. (2019) Újabb eredmények az Élet Értelme Kérdőív magyar változatának validálásához. *Alkalmazott Pszichológia*, *19*(2), 77–98.

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Authors Contribution

Veronika Mészáros: developing hypotheses, data collection, statistical analyses, interpretation of results, writing up the paper. Szabolcs Takács: statistical analyses, interpretation of results. Zsuzsanna Kövi: interpretation of results/findings, writing up the paper. Máté Smohai: interpretation of results. Zoltán Gergely Csigás, Zsuzsanna Tanyi, Edit Jakubovits, Dóra Kovács, Ilona Szili, Andrea Ferenczi: writing up the paper. Szilvia Ádám: interpretation of results, writing up the paper.

Conflict of Interest

The authors declare that they have no conflict of interest.

A kiégés multidimenzionális természetének vizsgálata a Mini Oldenburg Kiégés Kérdőív pszichometriai elemzésének tükrében

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Elméleti háttér: A kiégés kutatása széleskörű érdeklődésre tart számot a mentális- és egészségtudományokban. A kutatásban új irányt képvisel a kiégés Követelmény-Erőforrás Modellje, amely a fogalom legnépszerűbb modelljéhez, a Multidimenzionális modellhez hasonlóan szervezeti keretbe ágyazza a kiégés jelenségét. *Cél:* Tanulmányunk célja a kiégés Követelmény-Erőforrás Modelljéhez mérőeszközként illeszkedő Mini Oldenburg Kiégés Kérdőív (MOLBI) pszichometriai elemzése. Munkánk kiemelten vizsgálja a multidimenzionális teória egyik alapvető állítását, miszerint a kiégés dimenziók egymástól függetlenek és nem alkotnak egy globális kiégés faktort. *Módszer:* A vizsgálatban 406 fő vett részt (59,1% nő). Átlagosan 39,4 (SD = 11,06) évesek és legtöbbjük felsőfokú végzettségű. A résztvevők

a MOLBI kérdőív mellett a Munkahely-Család Egyensúly és a Mentális Egészség Kérdőívet is kitöltötték. A MOLBI struktúrájának elemzésére parallel analízist és feltáró faktoranalízist alkalmaztunk. A globális és specifikus faktorok létjogosultságának elemzésére bifaktor elemzést és modellfüggő megbízhatósági vizsgálatokat végeztünk. A MOLBI kapcsolat-rendszerét Kendall *tau-b* korrelációval elemeztük. *Eredmények:* Eredményeink azt mutatták, hogy a kérdőív kétfaktoros eredeti faktorstruktúrája megerősíthető (χ^2 = 78,489, DF = 26, *p* < 0,001; CFI = 0,977; NNFI = 0,960; RMSEA = 0,068 ; RMSEA CI$_{90}$:0,066–0,070). A dimenziók megfelelő reliabilitás értékekkel rendelkeztek. Emellett a bifaktor elemzés eredményei szerint a kérdőív két faktorának összege – a teljes kiégés dimenzió – is megfelelő magyarázó erővel bírt. A kiégés kimerülés faktora elsősorban a munka-család egyensúllyal, valamint a rezilienciával mutatott közepes erősségű kapcsolatot. *Követ-keztetések:* A MOLBI megfelelő pszichometriai paraméterekkel rendelkező mérőeszköz, amelynek alkalmazásával mind a teljes kiégés, mind a kiábrándultság megbízhatóan mérhető. Ezáltal jól illeszkedik a klinikai diagnosztikában jelenleg uralkodó dimenzionális szemlélethez. A vizsgálatban használt konstruktum és divergens validitás elemzését figyelembe véve, a kimerültség és a teljes kiégés hasonló korrelációs mintázatot mutat, a kiábrándultság viszont a jelenség motivációs és cselekvéses aspektusát méri.

Kulcsszavak: Mini Oldenburg Kiégés Kérdőív, validitás, dimenzionalitás