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THE PSYCHOMETRIC PROPERTIES OF THE POLISH VERSION OF THE ACCEPTANCE AND ACTION QUESTIONNAIRE-II (AAQ-II)

This research presents the Polish adaptation of the Acceptance and Action Questionnaire-II (AAQ-II). Results collected from two samples ($N_1 = 602$, $N_2 = 70$) show stable structure, strong reliability and convergent, discriminant and incremental validity. Cronbach's alpha for the first sample was .938 [CI (.912; .958)] and for the second .910 [CI (.874; .939)] with test-retest reliability $r = .733$ [CI (.602; .825)]. These results suggest that the AAQ-II can be used as a measure of psychological flexibility in Poland. Moreover, the use of AAQ-II is free of charge further facilitating its usage both in therapy and in research. The research also furthers knowledge of the nature of psychological flexibility and effective coping. The results obtained support the discrepancy between the functional assessment of avoidance as measured by the AAQ-II and topographically-categorized examples of avoidance as measured by the Coping Inventory for Stressful Situations, with only the former having a relation to overall functioning. The research shows that avoidant behaviors bear no meaningful relation to the satisfaction with life or the presence of clinical issues, but they become an issue when they disconnect the person from pursuing valued directions in life.

Keywords: psychological flexibility, acceptance & commitment therapy, mental health, experiential avoidance, coping.

INTRODUCTION

The growing number of psychiatric diagnoses, the prevalence of mental disorders and the limited effectiveness of existing evidence-based methods of treatment leads scientists to search

for better ways of predicting and influencing human behavior (Hayes et al., 2011). One of these strategies has been proposed by Contextual Behavioral Science (CBS). The strategy stems from philosophical roots of functional contextualism and is based on Relational

Frame Theory (RFT; Hayes et al., 2001), a modern behavioral theory of language and cognition. The main focus of CBS is to develop scientific concepts in such a way that will allow the prediction and influence of human behavior with precision, scope and depth to further the understanding and alleviation of human suffering (Hayes et al., 2012). Research based on CBS principles led to the creation of Acceptance and Commitment Therapy (ACT) which is based on a transdiagnostic model of human suffering, with psychological flexibility (PF) as a mediator of change and the target of interventions. ACT offers broad practical applications in clinical (A-Tjak et al., 2014; Hacker et al., 2015), occupational (Bond and Flaxman, 2006) and sports settings (Gardner and Moore, 2012).

PF is defined as an ability to be in full contact with the present moment with all the thoughts, feelings and sensations that it contains, and to act in a way that is consistent with values-based goals, even in the presence of difficult private experiences and external obstacles (Bond et al., 2011). According to ACT, PF underpins mental health. Conversely, a low level of PF, psychological inflexibility, is at the core of psychopathology (Hayes et al., 2006). One key aspect of psychological inflexibility is experiential avoidance, which is the attempt to control, avoid or escape unwanted private experiences (Hayes et al., 1996).

PF is measured by the Acceptance and Action Questionnaire-II (AAQ-II) that consists of 7 items. Higher scores on the AAQ-II indicate greater psychological inflexibility and lower scores indicate greater levels of PF. The revised version was developed to overcome the methodological shortcomings and to conceptually refine the initial 9-items in the original AAQ (Hayes et al., 2004). The preliminary research on the AAQ-II indicated satisfactory internal consistency, alpha coefficients ranging across different samples from .78 to .88. and test-re-

test coefficients at 3-month and 12-month follow-ups of .81 and .79, respectively (Bond et al., 2011). Subsequent item response theory analyses corroborate the one factor hypothesis, showing that the item and person variance is to be attributed to a single latent trait, and ruling out the presence of differential item functioning for gender and within acceptable boundaries for age. These analyses establish that the AAQ-II measures a single, unidimensional construct (Fledderus et al., 2012b). The 7 final items are:

1. My painful experiences and memories make it difficult for me to live a life that I would value.
2. I'm afraid of my feelings.
3. I worry about not being able to control my worries and feelings.
4. My painful memories prevent me from having a fulfilling life.
5. Emotions cause problems in my life.
6. It seems like most people are handling their lives better than I am.
7. Worries get in the way of my success.

The AAQ-II was translated into numerous languages, showing similar relationships to the original clinical measures and similar psychometric properties (Monestès et al., 2016), in Italian (Pennato, et al., 2013), in Dutch (Bernaerts, et al., 2012), in French (Monestès, et al., 2009), in German (Gloster et al., 2011), in Spanish (Ruiz et al., 2013, 2016), in Chinese (Cao et al., 2013), in Romanian (Szabó et al., 2011), in Portuguese (Pinto-Gouveia et al., 2012).

A diverse set of findings show that higher levels of PF are related to higher quality of life, more positive emotional experiences, better performance, and greater reductions in clinically-relevant negative outcome measures, such as depression, anxiety disorders, trichotillomania, substance abuse, job burnout, worries, pain, academic procrastination and hoarding severity (Ayers, et al., 2014; Bohlmeijer, et al., 2015; Chawla and Ostafin, 2007; Gaudiano,

2012; Glick et al., 2014; Ruiz, 2010). Moreover, research suggests that PF is a protective factor in the presence of emotionally and physically distressing stimuli (Butler and Ciarrochi, 2007; Kratz et al., 2007; Masuda et al., 2010; Merwin et al., 2009; Meyer et al., 2013). A longitudinal study spanning several years by Spinhoven et al. (2014) shows that higher scores in the AAQ (the former version of AAQ-II) largely predicts changes two years later in major distress and anxiety disorders even when the baseline levels of these disorders are controlled. People who do not exhibit these diagnoses have a greater chance of developing them if they show a higher the level of inflexibility at the baseline. People already experiencing these disorders with lower inflexibility at the baseline had a better chance for remission. The inverse relation – disorders predicting AAQ scores – was significant, but less strong.

Multiple clinical trials have demonstrated that not only can PF be enhanced as a result of ACT (e.g., Fledderus et al., 2010; Pearson et al., 2012; Ruiz, 2010; Weineland et al., 2012), but that the increase in PF mediates treatment outcomes in ACT (Lillis and Kendra, 2014; Lundgren et al., 2008; Wicksell et al., 2013). Although PF originated within the field of CBS and ACT, studies have shown that it is a therapeutically broad construct that mediates outcomes in other behavioral therapies like cognitive behavioral therapy (Arch and Craske, 2008; Arch et al., 2012a; Arch et al., 2012b; Gloster et al., 2014).

Taking that into account, the AAQ-II is a cost-effective and short method of assessment with good preliminary psychometric qualities. In light of the rapid expansion of research on ACT/RFT (Hooper and Larsson, 2015), it is important to further establish the psychometric properties of the AAQ-II and the cross-cultural generalizability of findings obtained thus far. The overarching aim of the studies presented in this paper is to provide information on the

psychometric properties of the Polish version of the AAQ-II. Thus, the dimensionality, convergent, discriminant and incremental validity, internal consistency, test-retest reliability of the scale was addressed.

Regarding the construct validity, if PF reflects the ability of individuals to successfully cope in emotionally demanding situations, we hypothesized that higher scores in AAQ-II should amount to more daily distress and less behavioral activity in the presence of those situations. We expected to obtain positive correlations with trait anxiety (STAI-X2), general mental health dysfunction as well as its subscales (GHQ-28), thought suppression (WBSI), neuroticism (NEO-FFI N) and emotion-oriented stress coping (CISS-EOS). This is in line with the available research that shows significant positive correlations with these or closely related constructs, such as $r = .57$ to $.63$ for thought suppression, $r = .47$ to $.71$ for depression and anxiety-related constructs, and $r = .30$ to $.51$ for general mental health. We expected negative correlations with quality of life (SWLS), task-oriented stress coping (CISS-TOS), avoidance stress coping and its subscales (CISS-AS, DS, SDS), extraversion (NEO-FFI E) and conscientiousness (NEO-FFI C). Again, this reflects the observations in international samples, with negative correlations shown for constructs related to the quality of life and personal wellbeing (e.g. Bond et al., 2011; Gloster et al., 2011; Hayes et al. 2006; Levin et al., 2014; Monestès et al., 2016; Pennato et al., 2013).

While the correlations with neuroticism, extraversion and conscientiousness tend to go in directions assumed by the model, there is a lack of agreement on how PF relates to openness and agreeableness (Gloster et al. 2011, Masuda and Latzman, 2012). While Gloster et al. report a negative correlation with openness and no significant correlation with agreeableness, Masuda and Latzman (2012) report inverse results, no correlation with openness

and negative with agreeableness. Due to these discrepancies, the authors of this study expected either negative or no correlations.

The AAQ-II's incremental validity, based on Haynes and Lench (2003), was defined as the degree to which the questionnaire can predict certain phenomenon, over and above other measures, which usually are well established predictors. Indeed, one of the areas of controversy is whether PF offers anything new (e.g. Hofmann and Asmundson, 2008). According to theoretical assumptions, PF is a predictor of quality of life and ways of altering the frequency or forms of one's experiences such as suppression, as it emphasizes the link between one's approach to private events and important life outcomes. Gloster et al. (2011) cited earlier confusing reports, with acceptance (an important component of PF) having no relation to multiple clinically relevant and possibly close constructs such as worry, anxiety in social interactions, personal growth and purpose in life, nor predicting variance above and beyond a measure of obsessive beliefs (Abramowitz et al., 2009; Kollman et al., 2009). The Gloster et al. (2011) study yielded partially inconsistent outcomes. While the study showed incremental validity in terms of neuroticism, depressive symptoms, anxiety sensitivity, functioning and impairment in panic disorder and social phobia, it did not show incremental validity with agoraphobic avoidance. There are also two consistent studies showing AAQ-II predicting unique variance above and beyond two separate mindfulness measures, in a Dutch sample in positive mental health and symptoms of depression and anxiety (Fledderus et al., 2012a), and in a Chinese sample in positive and negative affect, subjective well-being, anxiety and depression (Zhang et al., 2014). These mixed results might point to a conclusion theoretically consistent with PF that AAQ-II score should not be used as a predictor for constructs that

are more focused on bare, decontextualized existence of private events or tendencies.

It has not yet been established if PF could be reduced to a coping style, which would reflect no additional variance above and beyond task, emotions and avoidance-oriented scales of the Coping Inventory for Stressful Situations (CISS). Our hypothesis is that PF is not a simple coping style defined by topographically categorized actions such as finishing a task, being focused on emotions or looking for distractions, nor it is a simple prescription to do more, avoid and distract less or pay less or more attention to internal stimuli no matter the circumstance. So, contrary to such seemingly similar construct as psychological resilience, the emphasis is not on straightforward behavioral variability or maintenance of action despite unfavorable, highly stressful circumstances, nor on feeling positive emotions or having a phenomenological experience of choice (Gow and Celinski, 2011; Heszen and Sęk, 2007).

According to ACT, it is impossible to say whether any response is adaptive just by looking at its topography because life events might require dramatically different approaches, and similar actions in varying context can have reverse consequences on the quality of life. Adaptive behaviors can happen also through the restriction of behavioral variability due to rule-governed behavior (a student following school regulations to obtain better grades), without aversive control (addiction to cocaine can be controlled by positive reinforcement) or in absence or despite the presence of emotions labeled by the society as positive. The content of an action is secondary to its function and, since PF measures the function of behaviors of clinical interest, not specifying what kind of action would be best given the individual context, we expect weak correlations between PF and task-oriented, emotion-oriented and avoidance coping styles. This would point to the functional character of AAQ-II, theoret-

ically distinct from the topographic scales of CISS or similarly defined constructs.

METHOD

Participants

All ethical procedures were in line with the guidelines of the Ethical Committee of the University of Silesia in Katowice. Informed consent was gathered before the experiment, and participants were not reimbursed for their participation in the study. Each sample was collected using an online ad that was also shared using social media.

Sample 1 completed the AAQ-II online and included 602 participants who were contacted through a social media event lasting two days. In all, 213 males and 389 females participated, with 374 people aged 18-25, 214 aged 26-45, 9 aged 46 to 65, and 5 aged over 65. The initial sample was screened to find multivariate outliers with Mahalanobis distance measure, and 44 participants were excluded from the main analyses. The significance criterion for multivariate outlier was set to $p < 0.05$. The following analyses were performed on the remaining 558 participants.

To ensure and check the validity and the test-retest stability of the construct, sample 2 was collected by randomly selecting the participants from sample 1 and asking if they could

complete a broader questionnaire package, and then 2 weeks later, complete the AAQ-II again. Not all participants were invited to fill out the scales due to logistical concerns and ethical considerations. The final group included 113 participants (26 males and 87 females). Sixty-four were aged 18 to 25 (56.6%), 44 (38.9%) were 26 to 45, 5 (4.4%) were over 45. One person did not complete the CISS questionnaire, and four the WBSI questionnaire. Due to the longitudinal nature of test-retest procedure and exclusion of participants undergoing psychological or psychiatric treatment, 70 participants of the Sample 2 completed the AAQ-II two weeks later.

Procedure

Both samples were collected through an advertisement on the internet. The participation was optional and unpaid, and all participants were informed about the opportunity to quit at any time. Neither samples were screened for mental disorders. In Sample 1, the participants were informed about the anonymity of the research. In Sample 2 the data was collected directly by the first author and since anonymity was not possible, the research was conducted after the participant's written consent was received.

Translation

The initial Polish version of the scale was translated by four professionals trained in ACT and

Table 1. The translated items of the AAQ-II

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1. Bolesne doświadczenia i wspomnienia sprawiają, że trudno mi żyć w sposób, który uznałbym za wartościowy.
 2. Boję się swoich uczuć.
 3. Martwię się, że nie będę w stanie kontrolować swoich zmartwień i uczuć.
 4. Bolesne wspomnienia stoją na przeszkodzie temu, żebym wiódł satysfakcjonujące życie.
 5. Emocje są przyczyną problemów w moim życiu.
 6. Wydaje mi się, że większość ludzi radzi sobie ze swoim życiem lepiej niż ja.
 7. Zamartwianie się przeszkadza mi w odniesieniu sukcesu.
-

RFT. Each expert translated the questionnaire independently. In the next step, the translations for each item were grouped together and rated by each expert on a 4-point Likert scale. Items with the highest combined scores were chosen for the translation. Then the scale was translated back into English by an independent translator. After the discussion of discrepancies of both versions, experts decided on the one that most corresponded to the original English language version of the questionnaire. The final items are presented in Table 1.

Measurement Tools

The AAQ-II (Acceptance and Action Questionnaire-II, Bond et al., 2011) consists of 7 items measuring psychological flexibility. Participants rated each statement on a 7-point scale ranging from 1 = never true to 7 = always true. Higher scores indicated lower psychological flexibility.

The Satisfaction With Life Scale (SWLS; Diener et al, 1985). To assess global satisfaction with life we used 5-item SWLS. Participants were required to rate each item (e.g. “If I could live my life over, I would change almost nothing”) on 7-point scale that ranges from 7 = strongly agree to 1 = strongly disagree. Higher scores indicated a greater level of life satisfaction. The SWLS has favorable psychometric properties, including high internal consistency and test-retest reliability (Pavot and Diener, 2008).

The Coping Inventory for Stressful Situations (CISS; Endler and Parker, 1990a). The Coping Inventory for Stressful Situations (CISS) is 48-item questionnaire that assesses the individual's general style of coping with stressful situations across three scales: the Task-Oriented Scale (TOS), the Emotion-Oriented Scale (EOS) and the Avoidance Scale (AS) which is further divided into two subscales: the Distraction Scale (DS) and the Social Diversion Scale (SDS). Responses are marked on the 5-point scale, and scores for each question are sum-

marized to obtain a score for each subscale, which may range from 16 to 80. CISS has been reported to have satisfactory reliability and structural, diagnostic and construct validity (Cosway et.al. 2000; Endler and Parker, 1990b; Strelau et al., 2005).

The General Health Questionnaire-28 (GHQ-28; Goldberg and Hillier, 1979). GHQ-28 consists of four 7-item scales: somatic symptoms (GHQ-A), anxiety and insomnia (GHQ-B), social dysfunction (GHQ-C) and depressive symptoms (GHQ-D). It allows for mental health assessment on four dimensions corresponding with these four scales. The validation studies of GHQ-28 show satisfactory internal consistency and criterion-related validity (Goldberg et al., 1997; Makowska and Merez, 2001).

The Neo Five-Factor Inventory (NEO FFI; Costa and McCrae, 1985). NEO FFI was designed to measure the 5 major personality factors: neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness. It consists of 60 items with answers rated on a 5-point scale (from 1 = strongly disagree to 5 = strongly agree), and has satisfactory validity and reliability (McCrae and Costa, 1987; Zawadzki et al., 1998).

The State-Trait Anxiety Inventory (STAI X-2; Spielberger et al., 1970). In this research, we assessed only trait anxiety, which consisted of 20 items. All items are rated on a 4-point scale (from “Almost Never” to “Almost Always”). Higher scores indicate greater anxiety. STAI has satisfactory validity and internal consistency (Spielberger, 1983; Spielberger et al, 1987).

The White Bear Suppression Inventory (WBSI; Wegner and Zanakos, 1994). The White Bear Suppression Inventory that consists of 15 items designed to measure an inclination toward thought suppression. Each item is rated on a 5-point scale, with higher total scores indicating higher tendency for thought suppression. The scale has acceptable internal

consistency, high test-retest reliability, and concurrent validity with measures of depression, anxiety, and obsessions (Muris et al., 1996).

Statistical Analyses

The one-factor structure of AAQ-II was analyzed using Confirmatory Factor Analysis with Amos 22.0. The model was estimated using the Maximum Likelihood Method, for which the assumptions were met. Model fit was assessed with the Normed Fit Index (NFI; Bentler and Bonnet, 1980), the Comparative Fit Index (CFI; Bentler, 1990), and the Root Mean Square Error of Approximation (RMSEA; Browne and Cudeck, 1993). According to the literature, we assumed that, respectively, values above .90 on the CFI and the NFI indicated a good fit, and values less than .05 indicated a good fit, and below .8 an acceptable fit on the RMSEA (Browne and Cudeck, 1992; Hu and Bentler, 1999). We report also the discrepancy chi-square goodness-of-fit statistic, in which a statistically significant value indicates a poor fit. In testing measurement invariance, we relied primarily on criteria suggested by Byrne (2010). She suggests two criteria for establishing the measurement and structural invariance, i.e. a non-significant chi square dif-

ference, and, with further reference to Cheung and Rensvold (2002), an arbitrary recommendation of ΔCFI values to not exceed 0.01.

To further establish the questionnaire's properties Cronbach's alpha was computed to assess internal consistency. Test-retest reliability was also calculated for the Sample 2. The construct validity i.e. convergent and discriminant validity was examined with Pearson correlation coefficients. To measure incremental validity we used hierarchical multiple regression analysis as advised by Haynes and Lench (2003).

RESULTS

Psychometric properties

Factor structure. The discrepancy χ^2 test indicated a poor fit of the model ($\chi^2_{14} = 174.69$, $p < 0.001$). Although two statistics indicate a good model fit (NFI = 0.918; CFI = 0.923), the RMSEA = 0.144 suggests a poor fit. The relatively high RMSEA can be due to small number of degrees of freedom in the model (see: Kenny et al., 2015). Table 2, section A presents the standardized and unstandardized path estimates for this solution. Factor loadings (λ) are moderate and high.

Table 2. Unstandardized and standardized estimates in CFA of the AAQ-II items, and latent factor for: A) raw model; B) model with correlated error terms

A. Raw model, without correlated error terms

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7
Unstandardized estimates	1.02	0.91	1.15	1.30	1.17	1.24	1.30
Standardized estimates	.71	.63	.75	.83	.77	.74	.77

B. Second model with correlated error terms

Unstandardized estimates	0.89	0.94	1.23	1.36	1.29	1.29	1.37
Standardized estimates	.66	.60	.75	.81	.80	.72	.76

Similar to previous research, (Bond et al., 2011; Ruiz et al., 2016) we analyzed the modification indices (MI) and correlated the following item errors: 1 and 4 (MI = 60.793), 2 and 3 (MI = 43.679) and 6 and 7 (MI = 26.385). This was done on the basis of the semantic equivalence of items 1 and 4 and 2 and 3. The first pair of items relates to the adjective *painful* and the relationship between memories and quality of life. The second pair uses the same word *feelings* and partially might relate to the same phenomenon of negatively-valenced anticipation. The relation between items 6 and 7 is less pronounced. In terms of the wording, these items might look distinct, but functionally they seem to represent the same issue of dealing with difficulties and achieving good life-related outcomes. Correlating these two sets of error terms resulted in improved discrepancy χ^2 test ($\chi^2_{11} = 22.661$, $p = 0.020$). Although this test indicated a poor fit, all other measures suggested a good or excellent model fit (NFI = .989; CFI = .994; RMSEA = 0.044). Table 3 presents the descriptive statistics of the sample used in CFA. It can be seen that the scores are symmetrically distributed over the mean as shown by skewness.

Internal consistency. The internal consistency of the AAQ-II, as indicated by Cronbach's alpha for the first and second measurement was .938 [CI (.912; .958)] and .910 [CI (.874; .939)] respectively. The Single Measure Interclass Correlation Coefficient was .731 [CI (.600; .824)], which can be interpreted as moderate to high.

Test-retest reliability. The test-retest two week stability was $r(68) = .733$ [CI (.602; .825)], which suggests acceptable reliability for group research. Furthermore, we tested test-retest

invariance to provide further support for stability of measurement. The analysis showed that there was no statistically significant difference ($t(69) = 0.762$; $p = .449$; $d = 0.091$) between first ($M = 20.61$; $SD = 8.87$) and second ($M = 21.43$; $SD = 9.52$) measurement.

Demographic differences. For the purposes of comparing results we have also analyzed the gender differences in the AAQ-II scores. Because of large and significant difference ($\chi^2(1, N = 558) = 55.513$; $p < .001$) between the number of males and females, we weighted the data to make comparisons possible using the standard parametric approach. Weighting the data by factor of 1.46 for males and 0.76 for females resulted in equal gender proportions in the sample, maintaining the sample size. This operation did not influence the conclusions drawn from this analysis. The analysis indicated that there are significant gender differences in the AAQ-II scores ($t(556) = 5.782$; $p < .001$; $d = 0.490$). Females had significantly higher scores ($M = 25.35$; $SD = 8.28$) than males ($M = 21.26$; $SD = 8.45$). Such difference indicate a moderate effect of gender on the AAQ-II scores. No other demographic differences reached statistical significance.

Such gender differences might indicate possible different factor structure between different groups. To test this hypothesis, additional analyses testing model invariance across gender were performed to determine if AAQ-II items have the same meaning to members of different groups (Cheung and Rensvold, 2002). We tested for invariance in a model with and without correlated errors. In testing measurement invariance, the baseline model and constrained model were compared and the

Table 3. Descriptive statistics of the AAQ-II (N=558).

Statistic	Mean	SD	Skewness	Kurtosis	Min.	Max.
Value	23.95	8.608	.155	-.607	7	47

Table 4. Measurement invariance across gender without and with correlated errors.

Model	X^2	Df	NFI	CFI	$RMSEA$
Measurement invariance across samples					
Baseline model	186.1	28	.905	.921	.101
Constrained model	193.2	35	.90	.921	.900
Measurement invariance across samples with correlated errors					
Baseline model	30,203	22	.985	.996	.026
Constrained model	35,979	28	.982	.996	.023

chi-square difference statistic was computed, which is treated as a primary criterion (Table 4). In both cases, when not including the correlated errors in the model, the chi-square difference test ($\Delta X^2(7) = 7.1$; $p = .419$) did permit to assume the measurement invariance, and also, when including modification indices, the measurement invariance can be assumed ($\Delta X^2(6) = 5,776$; $p = .449$). Furthermore, ΔCFI did not exceed 0.01 in both models. The differences can be computed by subtracting values from the baseline and constrained model from Table 4. To summarize, we conclude that there is measurement invariance across gender.

Tests of construct and incremental validity

Construct validity. The results were mostly congruent with our hypotheses as shown in Table 5, suggesting its theoretical validity. An inflexible person will suffer through more stress, anxiety and depressive symptoms, reflected also as a personality trait of neuroticism. Such a person, while under pressure, will tend less to the external events and more to their emotions in a controlling way, rather than concentrating on the task at hand and taking steps that could in the long run improve his or her quality of life. Correlations with the personality traits of agreeableness and openness were both significant and negative. Strikingly,

the correlations with GHQ-28 subscales were of a different magnitude, with average sizes for anxiety ($r(111) = .400$, $p < .001$) and insomnia and depressive symptoms ($r(111) = .433$, $p < .001$), but small sizes for somatic symptoms ($r(111) = .237$, $p < .011$) and social dysfunctions ($r(111) = .217$, $p = .021$). Contrary to our hypotheses, there was no significant correlation between the AAQ-II and the CISS scale of avoidance and its two subscales of distraction and social diversion ($r(110) = .009$, $p = .922$).

Incremental validity. To assess incremental validity, we conducted a series of hierarchical multiple regression analyses for seven dependent variables, in each analyses adding AAQ-II in the second step. The results shown in Table 6 provide evidence that PF predicts unique variance above and beyond satisfaction with life (SWLS, according to our hypothesis), thought suppression (WBSI, according to our hypothesis) and trait anxiety (STAI X-2, contrary to our hypothesis). According to our hypotheses, PF did not predicted unique variance obtain above and beyond general health functioning (GHQ-28), neuroticism (NEO-FFI N), task-oriented (CISS TOS) nor emotion-oriented coping style (CISS EOS). The model for avoidance-oriented coping (CISS AS) style was not statistically significant, preventing us from conducting the statistic and giving further

Tabela 5. Współczynniki korelacji Pearsona dla wszystkich zmiennych

	AAQ-II	SWLS	CISS-TOS	CISS-EOS	CISS-AS	CISS-DS	CISS-SDS	GHQ-A	GHQ-B	GHQ-C	GHQ-D	GHQ-28	NEO-FFI N	NEO-FFI E	NEO-FFI O	NEO-FFI A	NEO-FFI C	STAI X-2	WBSI	
SWLS	-.64**	1																		
CISS TOS	-.31**	.34**	1																	
CISS EOS	.67**	-.50**	-.42**	1																
CISS AS	.01	.06	.06	.07	1															
CISS DS	.18	-.15	-.13	.20*	.79**	1														
CISS SDS	-.18	.24**	.23*	-.10	.78**	.23*	1													
GHQ A	.24*	-.24*	-.16	.36**	.06	.14	-.06	1												
GHQ B	.40**	-.39**	-.15	.41**	.13	.25**	-.05	.48**	1											
GHQ C	.22*	-.17	-.13	.09	.02	.02	.01	.37**	.15	1										
GHQ D	.43**	-.47**	-.32**	.33**	-.12	.03	-.22*	.33**	.52**	.30**	1									
GHQ-28	.45**	-.44**	-.26**	.41**	.03	.16	-.11	.74**	.76**	.63**	.75**	1								
NEO-FFI N	.73**	-.58**	-.49**	.82**	-.04	.14	-.21*	.42**	.49**	.16	.51**	.55**	1							
NEO-FFI E	-.36**	.45**	.36**	-.36**	.32**	.01	.49**	-.19*	-.22*	-.07	-.30**	-.27**	-.48**	1						
NEO-FFI O	-.20*	.16	.11	-.13	.11	.03	.15	-.22*	-.11	-.07	-.00	-.14	-.15	.16	1					
NEO-FFI A	-.28**	.21*	.05	-.25**	-.02	-.07	.04	-.29**	-.28**	-.18	-.25**	-.35**	-.28**	.31**	.17	1				
NEO-FFI C	-.26**	.33**	.42**	-.30**	.03	-.16	.22*	-.13	-.20*	-.15	-.33**	-.28**	-.34**	.36**	-.13	.19*	1			
STAI X2	.78**	-.70**	-.42**	.76**	-.00	.18	-.19*	.33**	.55**	.19*	.56**	.58**	.84**	-.52**	-.09	-.36**	-.36**	1		
WBSI	.67**	-.45**	-.31**	.61**	.07	.16	-.05	.22*	.36**	.09	.35**	.35**	.64**	-.24*	-.10	-.32**	-.16	.68**	1	

Note: AAQ-II= Acceptance and Action Questionnaire II (N=113); CISS TOS = Coping Inventory for Stressful Situations Task Oriented Scale (N = 113); CISS EOS = Coping Inventory for Stressful Situations-Emotion Oriented Scale (N = 113); CISS AS = Coping Inventory for Stressful Situations Avoidance Scale (N = 113); CISS DS = Coping Inventory for Stressful Situations Distraction Scale (N = 113); CISS SDS = Coping Inventory for Stressful Situations Social Diversion Scale (N = 113); GHQ A = General Health Questionnaire Somatic Symptoms (N = 113), GHQ B = General Health Questionnaire Anxiety and Insomnia (N = 113), GHQ C = General Health Questionnaire Social Dysfunction (N = 113), GHQ D = General Health Questionnaire Depressive Symptoms (N = 113), GHQ-28 = General Health Questionnaire-28 (N = 113); NEO-FFI N = Neo Five-Factor Inventory Neuroticism (N = 113), NEO-FFI E = Neo Five-Factor Inventory Extraversion (N = 113), NEO-FFI O = Neo Five-Factor Inventory Openness (N = 113); NEO-FFI A = Neo Five-Factor Inventory Agreeableness (N = 113), NEO-FFI C = Neo Five-Factor Inventory Conscientiousness (N = 113), STAI X-2 = State-Trait Anxiety InventoryX2 (N = 113), WBSI = White Bear Suppression Inventory (N = 104).

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

Table 6. Hierarchical multiple regression results for seven predicted variables. In the first step we predicted dependent variable (DV) scores based on listed predictors, and in the second step the AAQ-II scores were added to the regression, to assess the incremental validity of this measure. The significance of the change in explained variance is given by *p* of ΔR^2

Dependent variables and predictors	Step 1			Step 2			<i>p</i> of ΔR^2
	β	B (SE)	R ²	B	B (SE)	R ²	
DV: SWLS			.486			.511	.018
STAI X-2	-.697	-.377(.037)		-.499	-.270 (.057)		
AAQ-II				-.254	0.165		
DV: GHQ-28			.369			.370	.796
NEO-FFI N	.230	0.264 (.162)		.238	.273 (.176)		
NEO-FFI A	-.164	-0.274 (.136)		-.165	-.274 (.137)		
STAI X-2	.324	0.369 (.166)		.342	.390 (.185)		
AAQ-II				-.032	-.044 (.169)		
DV: NEO-FFI N			.801			.805	.184
CISS EOS	.432	.394 (.060)		.415	.378 (.061)		
STAI X-2	.455	.451 (.073)		.398	.394 (.084)		
GHQ-28	.109	.094 (.046)		.108	.093 (.045)		
AAQ-II				.092	.109 (.082)		
DV: WBSI			.027			.453	< .001
NEO-FFI C	-.164	-.245 (.145)		-.016	-.023 (.112)		
AAQ-II				.670	.887(.100)		
DV: STAI-X2			.816			.825	.027
SWLS	-.259	-.488 (.105)		-.208	-.393 (.112)		
CISS EOS	.133	.125 (.071)		.113	.106 (.070)		
NEO-FFI N	.402	.412(.088)		.355	.363(.088)		
NEO-FFI E	-.122	-.183 (.078)		-.128	-.192 (.076)		
WBSI	.196	.177 (.053)		.150	.135 (.055)		
AAQ-II				.165	.196 (.087)		
DV: CISS TOS			.317			.323	.335
NEO-FFI N	-.397	-.351 (.074)		-.477	.422 (.105)		
NEO-FFI C	.288	.328 (.096)		.287	.330 (.096)		
AAQ-II				.112	.117 (.121)		
DV: CISS EOS			.692			.695	.285
NEO- FFI N	.635	.697(.110)		.612	.672(.112)		
STAI X-2	.222	.241(.109)		.170	.184(.121)		
AAQ-II				.093	.120(.112)		

Note: ANOVA summaries for all dependent variables in step 1 and 2:

- SWLS: Step 1 F(1;111) = 104.759; *p* < .001; Step 2 F(2,110) = 57.552; *p* < .001
- GHQ-28: Step 1 F(3;109) = 21.257; *p* < .001; Step 2 F(4,108) = 15.823; *p* < .001
- NEO-FFI N: Step 1 F(3;108) = 145.207; *p* < .001; Step 2 F(4,107) = 110.143; *p* < .001
- WBSI: Step 1 F(1;102) = 1.834; *p* = .095; Step 2 F(2,101) = 41.844; *p* < .001
- STAI – X2: Step 1 F(5;97) = 86.146; *p* < .001; Step 2 F(6;96) = 75.600; *p* < .001
- CISS TOS: Step 1 F(2;111) = 25.280; *p* < .001; Step 2 F(3;111) = 17.156; *p* < .001
- CISS EOS: Step 1 F(2;111) = 122.199; *p* < .001; Step 2 F(3;111) = 81.967; *p* < .001

evidence for no relation between the two, similarly named constructs.

DISCUSSION

The AAQ-II demonstrated stable structure, strong reliability and convergent, discriminatory and incremental validity, thus providing an initial indication that it can be used as a psychological flexibility measure in Poland. Moreover, the use of the AAQ-II is free of charge, further facilitating its use both in therapeutic practice and in research.

Even though most of the results relate well to the data obtained in other international samples, there were a few peculiarities observed. The biggest difference between the English (Bond et.al., 2011) and German studies (Gloster et.al., 2011) were the different means between genders – males scored on average 3.5 points lower than females. The authors have no simple explanation for this. This might indeed reflect a real discrepancy in PF between males and females in Poland or might mean that there is a gender-driven tendency either to conceal (for men) or overstate (for women) their present difficulties.

Regarding construct validity, the biggest surprise was the insignificant correlation approaching zero between the AAQ-II and the avoidant coping with stress scale of the CISS, and subsequent no statistical significance for the relation of PF and the CISS avoidance in terms of incremental validity. One would think that since inflexibility is fundamentally defined by avoidance, we would obtain highly correlated results. The authors suggest that this can be explained by distinguishing between topographical, symptom-like avoidance in the CISS and the functional avoidance measured by the AAQ-II. The distinction has been undergoing scientific scrutiny, each time pointing to a limited relationship between the presence

of symptoms and subsequent impairment, and stressing the importance of adding functional assessment to the diagnosis (McKnight and Kashdan, 2009; McKnight et al., 2015). PF always considers private events such as worrying, suppression, difficult thoughts, emotions and the attitude towards own somatic states in relation to successful living. So, in the AAQ-II, emotions are always related to the effectiveness of one's life; thus, 'emotions cause problems in my life'. This is how the AAQ-II gets at functionality, not just topography. Just saying that you worry or that you call your friends in the presence of stress does not get at how the internal event functions, you have to assess it in relation to workability, which is what the AAQ-II does. This is an important caveat for the clinical work where the distinction it often neglected. The findings are further emphasized by no significant correlations of the avoidant coping with stress between CISS' scale with any other clinically related measure in this study, clearly showing the superiority of the AAQ-II usage in clinical and performance settings.

We have also observed discrepancies between the GHQ-28 subscales and the AAQ-II as the subscales of somatic symptoms and social dysfunction had only a small correlation with PF. Both can be explained by limited theoretical overlap with the construct. It is possible to be highly flexible and experience unrelated health problems or behave rigidly and still be of acceptable physical health. Additionally, some items on the social dysfunction scale relate to the appraisal or expected emotional states connected to one's performance, a matter unrelated to PF.

Regarding the personality traits of agreeableness and openness, the results partially contradicted both mentioned former studies (Gloster et.al, 2011; Masuda and Latzman, 2012). Obtained correlations were both significantly negative, although the effect size was in

both instances small. It is possible that these constructs are largely superfluous to the theory and will give randomly either significant or insignificant correlations.

Although we provided evidence for incremental validity above and beyond two related measures, the satisfaction with life and thought suppression, the relationship with trait anxiety contradicts our hypothesis. Looking at the items in STAI X-2, trait anxiety is not only defined by the existence of anxiety and similar private events, but also as a tendency to react to life events and private events in an unworkable way, which is similar to what the AAQ-II measures. Since currently the AAQ-II incremental validity research yields ambiguous results, one of the avenues for the interpretation of existing and future research is looking to what extent does a related questionnaire measure a construct topographically or functionally.

The research was conducted on a non-clinical sample, making it impossible to compare means of scores between healthy adults and those currently in psychological or psychiatric treatment. According to the theory, we should expect higher means among clinical samples that has already been confirmed by numerous studies from other countries (e.g. Bond et al., 2011; Ruiz et al., 2016). There are two further interesting hypotheses to explore in the future research. First, one could replicate the results by Gloster et al. (2011) that the AAQ-II will differentiate between healthy and clinical samples, but not between two clinical samples with different DSM-V-TR diagnoses. For example, between major depressive disorder and social anxiety disorder. Second, one could assess whether there is significant difference between Axis I (anxiety, mood etc.) and Axis II (personality disorders). Therefore, further studies on the AAQ-II validity should not only include one clinical sample, but at least two with different primary diagnoses.

In further studies, models based on a SEM and multiple-groups CFAs approach should be conducted to provide deeper understanding of the constructs and would account for correlated outcomes or measurement error. Due to sample size and different sizes between the groups, we decided to use the traditional approach of multiple hierarchical regressions.

The research checked only whether the participant was in treatment during the time of the study and did not ask about the participant's treatment history. As the Polish sample in general scored a few points higher than the western European sample, it might be that the high mean score in the general sample was skewed by persons who actually should be under clinical supervision, but never began or discontinued therapy due to financial constraints or cultural preconceptions about mental health care. Altering the specificity of data collected should allow such considerations to be taken into account.

PF should increase during the course of a successful therapy or psychological training. As it is not rigidly connected only to acceptance and commitment therapy, reflecting rather a dimensional functionally-defined coping skill, it is expected that PF should increase during a successful intervention even when it is not explicitly targeted in therapy or training. A future therapy effectiveness study could include the Polish AAQ-II as one of the process measures, providing further evidence for its validity.

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WŁAŚCIWOŚCI PSYCHOMETRYCZNE POLSKIEJ WERSJI KWESTIONARIUSZA AKCEPTACJI I DZIAŁANIA (AAQ-II)

STRESZCZENIE

Badanie prezentuje wyniki polskiej walidacji Kwestionariusza Akceptacji i Działania-II (AAQ-II). Wyniki z dwóch prób (N1-602, N2 = 70) wskazują na stabilną strukturę, wysoką rzetelność oraz trafność zbieżną, różnicową i przyrostową. Alfa Cronbacha dla pierwszej próby wyniosła .938 [CI (.912; .958)], dla drugiej .910 [CI (.874; .939)]. Stabilność dwutygodniowa wyniosła $r = .733$ [CI (.602; .825)]. Wyniki pokazują, że AAQ-II może zostać wykorzystane w Polsce jako miara elastyczności psychologicznej. Ponadto, wykorzystanie AAQ-II jest bezpłatne, ułatwiając prowadzenie badań i psychoterapii. Badanie poszerza także wiedzę o istocie elastyczności psychologicznej oraz efektywnego radzenia sobie. Pozyskane dane wskazują na rozbieżność między funkcjonalną diagnozą AAQ-II a zorientowaną objawowo diagnozą kwestionariusza Coping Inventory for Stressful Situations, gdzie tylko pierwszy w istotny sposób wyjaśniał aspekty ogólnego funkcjonowania.

Badanie wskazuje, że zachowania unikowe nie wiążą się w znaczący sposób z satysfakcją z życia lub obecnością problemów klinicznych, ale zaczynają takimi być, gdy oddzielają osobę od realizowania własnych wartości i sensu życia.

Słowa kluczowe: elastyczność psychologiczna, terapia akceptacji i zaangażowania, zdrowie psychiczne, unikanie doświadczania, coping.