Investigating the Psychometric Properties of the Values Wheel with a Clinical Cohort: A Preliminary Validation Study

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Introduction

In order to continue the development of Acceptance and Commitment Therapy (ACT) as a process-based therapy, it is imperative to ensure that the constructs of the psychological flexibility model are accurately conceptualized and can be reliably measured. This requires the continuing development of psychometrically robust measurement instruments.

A number of questionnaires have previously been designed in order to measure the ACT process of valued-living, as well as to clarify individuals' personal values. Examples of such measures include: the *Bulls-Eye Values Survey* (Lundgren et al., 2012), *Engaged Living Scale* (Trompetter et al., 2013), *Valuing Questionnaire* (VQ; Smout et al., 2014) and *Valued Living Questionnaire* (VLQ; Wilson et al., 2010) to name a few.

The *Values Wheel* (VW) is a novel measure, which provides a tactile, idiographic, weighted index of values-directed behavior, and functions across both contexts and languages. It has additionally demonstrated good preliminary psychometric properties (O'Connor et al., in press). However, the psychometric robustness of the VW has yet to be examined with a clinical population. The aim of this study was, therefore, to explore the validity of the VW for use with a clinical cohort. This was done by assessing its construct, discriminant, convergent and incremental validity.
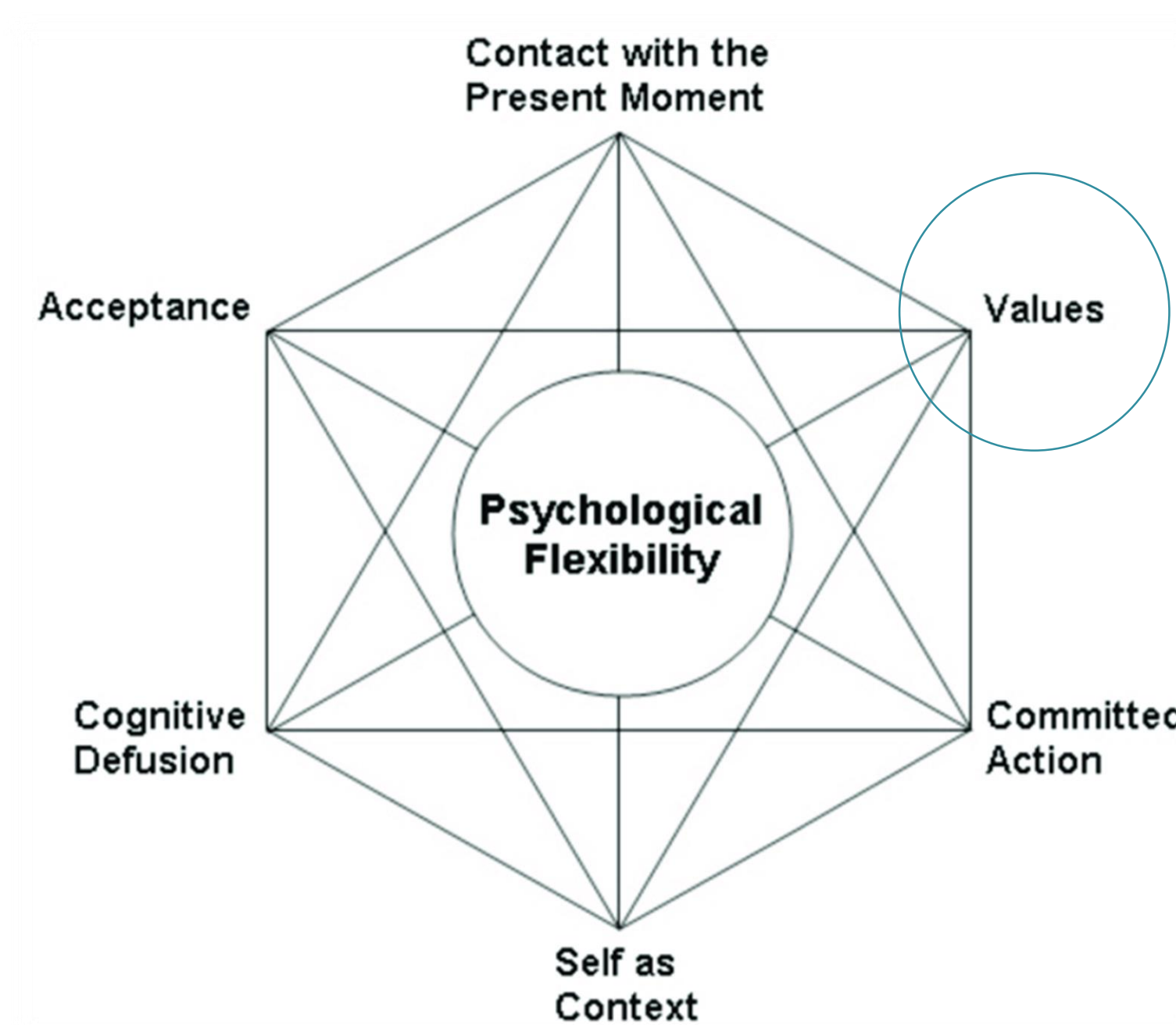

Figure 1. The ACT Model of Psychological Flexibility (Hexaflex).

Hypotheses

It was hypothesized that higher levels of values-directed behavior would be positively correlated with life satisfaction and well-being scores, and negatively related to psychological inflexibility, and anxiety, stress and depression scores. It was also anticipated that no significant correlations would be seen between valued-living and unrelated constructs (i.e. age, education and social desirability). VW scores were expected to demonstrate positive correlations with existing values measures (the VQ Progress Subscale, and VLQ). Finally, it was hypothesized that the VW would demonstrate incremental validity in predicting emotional, social, psychological and global well-being, depression, anxiety, stress and life satisfaction outcomes, beyond the variance accounted for by psychological flexibility.

Method

51 adult clients (Mean age = 42 years, 71% female) who were actively engaged with the mental health services in Ireland attended an assessment session comprising a battery of questionnaires, including: the *Acceptance and Action Questionnaire-II* (Bond et al., 2011), *Mental Health Continuum Short-Form* (Keyes, 2009), *Depression, Anxiety and Stress Scale* (Lovibond & Lovibond, 1995), *Satisfaction with Life Scale* (Diener et al., 1985), *Marlow-Crowne Social Desirability Scale* (Crowne & Marlow, 1960), *VQ* (Smout et al., 2014), *VLQ* (Wilson et al., 2010) as well as completing a values card sort task, and the *Values Wheel*.
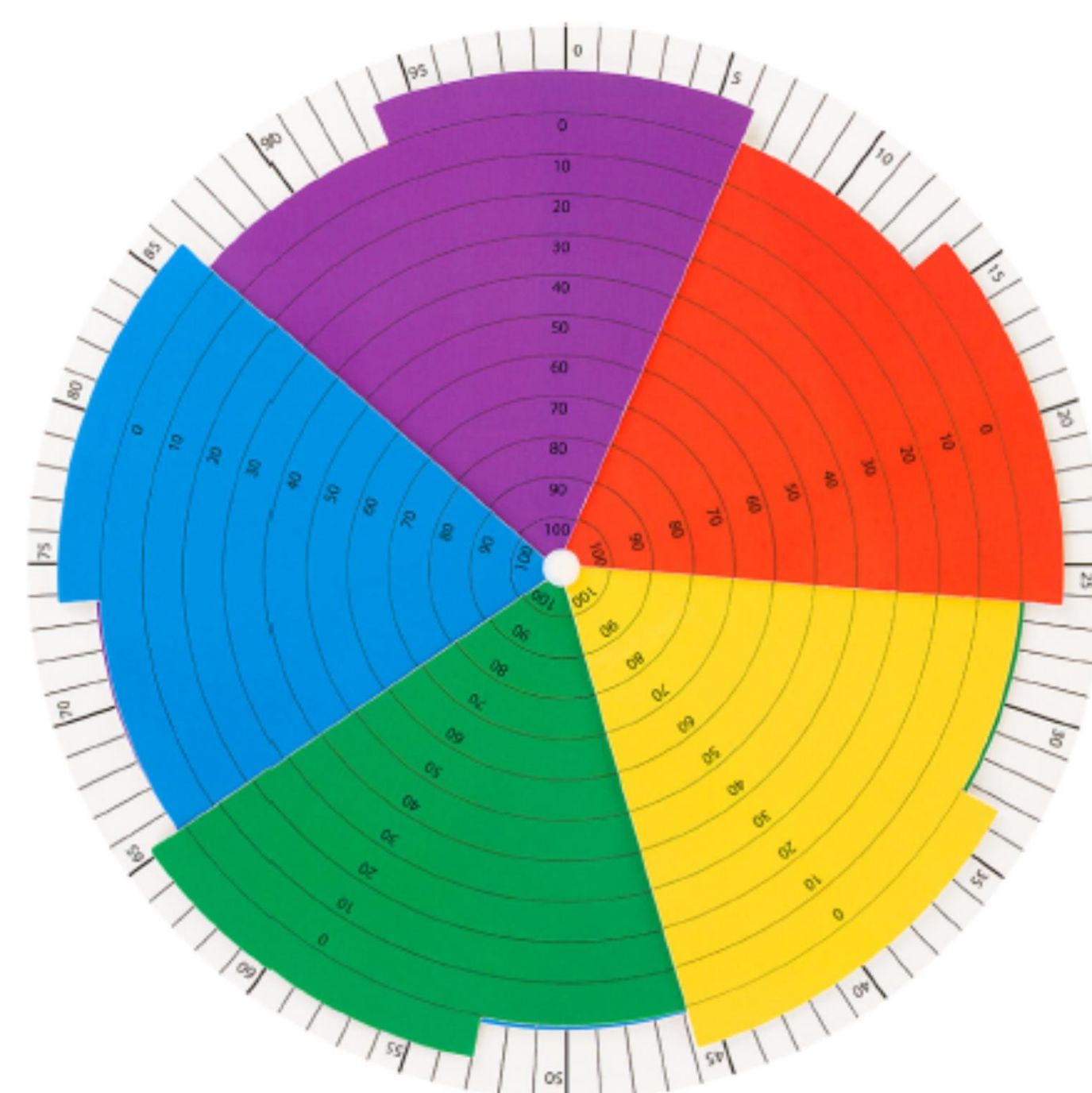

Figure 2. The Values Wheel.

Results

Negative correlations were seen between values-congruent living and psychological inflexibility, depression and the *Obstruction* subscale of the VQ. Positive correlations were found between VW scores and global, psychological, emotional and social well-being, and life satisfaction. Contrary to hypotheses, positive correlations were seen between VW scores and anxiety and stress scores. No significant correlations were found between VW and social desirability scores or age; however, a negative correlation was found between VW outcomes and years of education. Positive correlations were seen between the VW and VLQ and VQ *Progress* subscale. In three of the eight models, the VW provided a statistically significant increment of variance, and added incrementally to the variance accounted for in 7 of 8 regression equations. Scores are displayed in Tables 1 and 2.
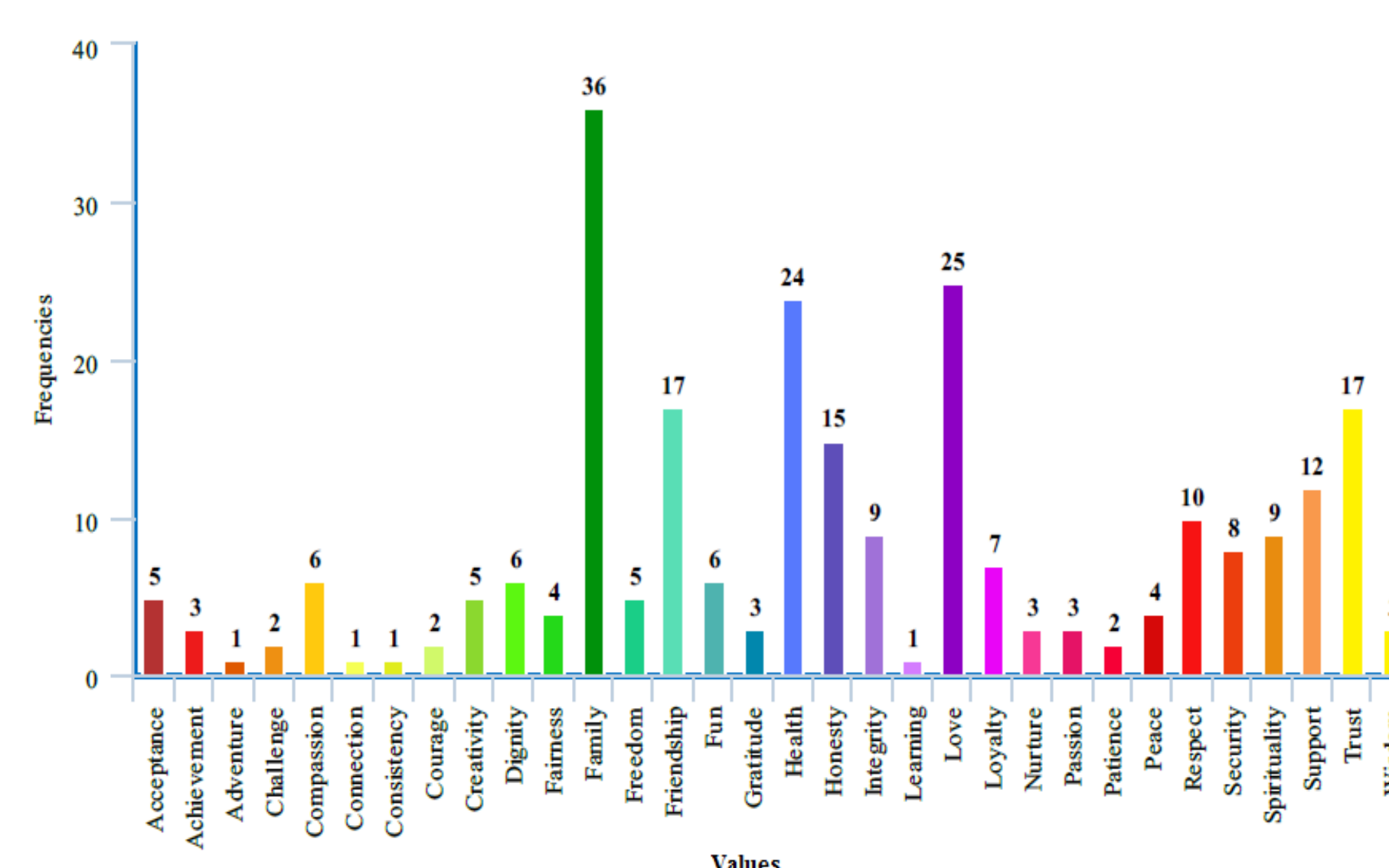

Figure 3. The frequencies with which values were endorsed by participants.

Table 1.
Descriptive Statistics and Pearson's Correlation Coefficients for the VW and Measures Considered to be Theoretically Related and Unrelated in a Clinical Cohort.

Measure	Mean (SD)	Correlation with VW
AAQ-II	32.14 (10.11)	-0.12
MHC-SF (Global Well-being Composite)	37.67 (12.68)	0.36**
Emotional Well-being	8.80 (2.34)	0.45**
Social Well-being	11.71 (5.53)	0.13
Psychological Well-being	17.16 (6.50)	0.43**
DASS		
Stress	21.14 (10.20)	0.04
Depression	19.18 (12.31)	-0.31
Anxiety	15.29 (11.82)	0.04
SWLS	16.12 (6.95)	0.27*
MCSD-SF	5.96 (2.27)	0.22
Age (Years)	42.51 (13.32)	0.03
Education (Years)	14.92 (3.18)	-0.37**
VQ		
Obstruction	17.08 (6.57)	-0.18
Progress	17.22 (6.24)	0.33**
VLQ	40.92 (16.61)	0.32**

Note. N = 51; VW = Values Wheel; AAQ-II = Acceptance and Action Questionnaire; MHC-SF = Mental Health Continuum-Short Form; DASS = Depression, Anxiety and Stress Scale; SWLS = Satisfaction with Life Scale; MCSD-SF = Marlowe-Crowne Social Desirability Scale-Short Form; VQ = Valuing Questionnaire; VLQ = Valued Living Questionnaire.
*p ≤ .05. **p ≤ .01.

Table 2.
Hierarchical multiple regression analyses of psychological flexibility and values-consistent behaviour on well-being, mental health and life satisfaction outcomes.

Predictors	β	ΔR²	R²
Emotional Well-being			
1. AAQ-II	-.50***	.30***	
2. VW	.39**	.15**	.45***
Social Well-being			
1. AAQ-II	-.36*	.14**	
2. VW	.09	.01	.15*
Psychological Well-being			
1. AAQ-II	-.41**	.21**	
2. VW	.38**	.14**	.35***
Global Well-being			
1. AAQ-II	-.46***	.25***	
2. VW	.30*	.09*	.34***
DASS Depression			
1. AAQ-II	.72***	.52***	
2. VW	-.05	.00	.52***
DASS Anxiety			
1. AAQ-II	.57***	.31***	
2. VW	.11	.01	.32***
DASS Stress			
1. AAQ-II	.65***	.41***	
2. VW	.12	.01	.42***
SWLS			
1. AAQ-II	-.46**	.23***	
2. VW	.21	.04	.27***

Note. N = 51; VW = Values Wheel; AAQ-II = Acceptance and Action Questionnaire; DASS = Depression, Anxiety and Stress Scale; SWLS = Satisfaction with Life Scale.
*p ≤ .05. **p ≤ .01.

Discussion

The construct validity of the VW was found to be acceptable, with seven out of nine hypotheses demonstrating correlations in the expected directions. While the relationship between VW and anxiety and stress outcomes were not in line with hypotheses, it had been noted that such outcomes were more likely to vary independent of scores on values measures (Smout et al., 2014). Results partially supported the discriminant validity of the VW, though a significant negative correlation was seen in the relationship between VW and years of education. While not in line with expectations, this could be understood in the context of behavioral mechanisms such as pliance and tracking. Evidence was also found for both the convergent and incremental validity of the VW, with outcomes indicating significant levels of convergence with alternative measures of values, and a negative relationship between VW composite scores and the VQ *Obstruction* subscale; implying that all three measures relate to the same construct. In terms of incremental validity, the VW was found to contribute to various aspects of client functioning.

Conclusion

Outcomes of this study tentatively suggest the VW may provide utility as a measure of values-consistent behavior with clinical populations.

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