

Exploring Reliability and Validity

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Reliability and validity are paramount when it pertains to acceptable assessment instruments. Reliability refers to dependable, consistent, and reproducibility of results, while validity of an assessment indicates it measures what it is intended to measure (Sheperis et al., 2020). This holds true for all precise measurements including the Values and Motives Questionnaire (VMQ). This inventory is intended to measure an individual's motivations to identify the amount of effort they are likely to expend in three specific value categories: interpersonal, intrinsic, and extrinsic.

Types of Reliability and Validity

According to the VMQ, two measures of reliability refer to its stability of scale scores over time and its internal consistency (Values and Motives Questionnaire, n.d.). Test-retest reliability indicates that individuals can receive similar results after repeated testing with no carry over or practice effect. High stability coefficients indicate results remain consistent over time. Another measure of reliability involves internal consistency. Internal consistency indicates interrelatedness of items within the inventory (scale homogeneity). To determine internal consistency on the VMQ, Cronbach's alpha was utilized on the total standardization sample.

Although reliability is generally determined before validity, this does not undermine the importance of validity. If the instrument successfully measures what it is intended to measure, it has high validity. According to Clark et al. (2019), construct validity is the foundation of clinical utility since it has the capability to influence real-world decisions. Construct validity indicates evidence that the interpretations of the inventory results are valid based on the construct being measured. The VMQ manual states that criterion validity shows an effective translation of

assessment scores into predictions on what could be expected in the future (predictive) or in can measure criterion during the time an individual takes the test (concurrent).

Reliability: Cronbach Alpha Coefficients

Of the scales measured on the VMQ, there are no scales with excellent reliability (0.90 and up). Two items received a reliability coefficient of 0.83, good, which are finance and aesthetics. Those ranking in the adequate range of reliability (0.70-0.79) are affiliative, altruistic, affection, security, traditional, and ethical. Scales that may have limited applicability scored below 0.70: achievement, moral, independence, social desirability, and infrequency. Interestingly, those with lower reliability coefficients also tend to be lower in item numbers. Inversely, those with higher items numbers have higher coefficient values. To increase reliability/precision, one can increase the number of items on the scale.

Sample Size and Nature of the Population

Validity

As part of a Personnel Assessment course, 159 psychology majors and students seeking their master's in business administration (MBA) completed the VMQ. When evaluating the validity of the VMQ and MAPP (and the OPP), 59 psychology students volunteered in exchange for feedback on their results. While both populations incorporate college students, a weakness is the validation study uses over sixty percent less participants and utilizes only psychology undergraduates. However, there is high correlation among MAPP's material wealth and VMQ's financial scale. This alternate form reliability indicates they could be used interchangeably. Additional strengths include correlations found between VMQ's affiliation and OPP's gregarious as well as VMQ's aesthetics and OPP's abstract-pragmatic. Furthermore, 100 MBA students completed the VMQ and the 16PF version 5, at a prestigious business school in London. The

correlations are considered modest, yet meaningful, but unfortunately measure different personal characteristics.

VMQ Norming Population

The population tested consisted of college students, specifically psychology students and those seeking their MBA. If the VMQ intends to use this inventory for the general population, to represent occupationally relevant value items, then utilizing high achieving college bound psychology and business graduates does not fulfill the intent. In addition, four of 11 scale values, 36%, show significant differences between male (68) and female (87) respondents. There is approximately 13% more females in the study and no cultural status of participants was given. There is not enough cultural information to generalize among the population in its entirety. It would be a challenge to generalize this inventory with the intended population.

Your Opinion of the VMQ

The VMQ used Cronbach's alpha as is reliability coefficient for internal consistency. Of the 13 different value scales, nearly 62% of them showed adequate or better reliability. Alarming, this leaves 38% that may have limited applicability. Notably, those with less than a 0.70 reliability coefficient also had less test items than those with a higher reliability coefficient value. Perhaps more test items on those lower scoring scaled values could increase the reliability. Based on the definition of validity, does the VMQ measure what it is intended to measure? On some level, yes. According to alternate forms, there are many scales that correlate among the VMQ and the MAPP, OPP, and 16PF version 5. However, there are many scales that simply measure different characteristics therefore they have no correlation. In addition, high achieving college students, typically in early adulthood, were the base population. This does not represent

the population, so generalizations cannot be made. Although the VMQ shows promise, it does not yet sufficiently establish concrete reliability and validity.

References

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