

**Benchmark Exploring Reliability and Validity**

Amy G. Sparkman

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School of Behavioral Sciences, Liberty University

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Joy Robertson

### **Types of Reliability and Validity**

The degree to which a test consistently assesses the things it is intended to evaluate is known as its reliability (de Aquino Caluyua Yambi, 2020, p. 5). Stability and internal consistency are the two types of dependability described in the Values and Motives Questionnaire (VMQ). Examining the link between test results and retest scores is the focus of stability, particularly test-retest stability. Internal consistency, often referred to as homogeneity, is the second kind of reliability that is examined. It evaluates whether the scales used to measure the same concept are consistent with one another (Psytech International, n.d., p. 15)

To determine validity, reliability must first be established. How well a test measures what it is supposed to measure is referred to as its validity (de Aquino Caluyua Yambi, 2020, p. 5). Concept validity and criterion validity are the two types of validity. The degree of consistency between the variables being evaluated on one test and those being evaluated on another test that evaluates similar variables is known as construct validity. The term "criterion" describes the expectation of more criteria to be added for measurement. Using Cronbach's alpha, the reliability of internal consistency is evaluated. Construct validity of the VMQ is based on its ability to measure an individual's values and motivations via similar survey administration (Psytech International, n.d., pp. 14-15).

### **Reliability: Cronbach Alpha Coefficients**

Cronbach's alpha, often known as the coefficient alpha, is a technique for estimating dependability and accuracy in internal consistency. The internal consistency reliabilities for a whole standardization sample are determined using Cronbach's Alpha. The data from both men

and females combined are used to determine the coefficients (Psytech International, n.d., pp. 16). This method is used when there are no clear answers to test questions and they cannot be judged as either right or wrong (Sheperis et al., 2020, p. 141).

According to the "What Makes a Good Test" reading, there is a scale from 0 to 1.00 on which 1.00 is considered to be the optimal level of dependability. The reading suggests a clear correlation between the consistency of the test results and a high reliability coefficient value. Moreover, the reading provides general guidelines for comprehending dependability coefficients. Exam criteria include infrequency, achievement, independence, social desirability, morality, ethics, tradition, affiliative, altruism, security, love, aesthetics, and finances. Each scale's Cronbach alpha coefficient determines whether it is classified as low, acceptable, or high.

**Table 1. General Guidelines for Interpreting Reliability Coefficients**

| Reliability Coefficient Value | Interpretation of Reliability  |
|-------------------------------|--------------------------------|
| .90 and up                    | excellent                      |
| .80 – .89                     | good                           |
| .70 – .79                     | adequate                       |
| below .70                     | may have limited applicability |

**Table 2: VMI Internal Consistencies & Item Total Correlations (ITC's) surveys (Psytech International, n.d., p. 17).**

| VMI Scale   | items | Alpha       | ITC | SEm  |
|-------------|-------|-------------|-----|------|
| Affiliative | 11    | <b>0.74</b> | .22 | 1.02 |
| Altruistic  | 12    | <b>0.74</b> | .19 | 1.02 |
| Affection   | 10    | <b>0.79</b> | .28 | 0.92 |
| Achievement | 7     | <b>0.53</b> | .14 | 1.37 |
| Finance     | 12    | <b>0.83</b> | .30 | 0.82 |
| Security    | 6     | <b>0.79</b> | .40 | 0.92 |
| Aesthetics  | 11    | <b>0.83</b> | .32 | 0.82 |
| Moral       | 7     | <b>0.68</b> | .24 | 1.13 |

|              |   |             |     |      |
|--------------|---|-------------|-----|------|
| Traditional  | 9 | <b>0.70</b> | .22 | 1.10 |
| Independence | 6 | <b>0.66</b> | .24 | 1.17 |
| Ethical      | 7 | <b>0.70</b> | .26 | 1.10 |
| S.D.         | 9 | <b>0.64</b> | .16 | 1.20 |
| Infrequency  | 7 | <b>0.52</b> | .15 | 1.39 |

The test aims to quantify each of the constructs (scales) and determine which group of low, acceptable, and high ranges of the Chronbach's alpha coefficients corresponds to each scale. The reliability and validity coefficients may be read using the chart included in the "What Makes a Good Test" handout (Table 1). Compare them with the contents of the handbook and each scale's dependability category. Then, examine which categories have unacceptable internal consistency alpha values in comparison to those with problematic ones.

According to the article "What Makes a Good Test," a scale may be less effective if its reliability coefficient is less than .70. Table 2's "Alpha" column shows that the independence scale, morality, achievement, infrequency, and social desirability all have low reliability, as shown by their individual correlation coefficients of  $r = .66$ ,  $r = .64$ ,  $r = .68$ ,  $r = .53$ , and  $r = .52$ . According to the handout, a dependability coefficient between .70 and .79 is deemed adequate, and between .80 and .89 is deemed good. This perspective states that the following traits would be deemed sufficient: affiliative ( $r = .74$ ), altruistic ( $r = .74$ ), affection ( $r = .79$ ), security ( $r = .79$ ), traditional ( $r = .70$ ), and ethical ( $r = .70$ ). Both finance ( $r = .83$ ) and aesthetics ( $r = .83$ ), if this interpretation is correct, would be categorized as good.

### Sample Size and Nature of the Population

#### Validity

The validity and reliability of the VMQ can only be applied to that specific group of students, since it was only given to a sample of 159 students who were majoring in MBA and psychology. Of the eleven measures used to differentiate between 68 men and 87 females, four had a significant gender component (Psytech International, n.d., p. 17). If the sample had been drawn from a more diverse population with a wider range of educational attainment, the validity and reliability would most likely differ. Additional details like socioeconomic background, religion, age, marital status, and other pertinent criteria should be included in order to appropriately evaluate reliability and validity. If not, you might end up with a test that is biased in favor of a certain population.

### **VMQ Norming Population**

It is not possible to assess the norming population of the VMQ's representation for the population I would use it for without further descriptive data. In terms of demographic data, the VMQ simply highlights the number of male and female participants, which is insufficient to draw conclusions beyond the two gender groups stated. There isn't enough information provided to determine if the results of the groups that underwent the VMQ are thorough enough to be applied to other demographics. Applying the results to demographics other than students may also provide difficulties due to the focus on student populations. I don't think the VMQ's findings cover a big enough population.

### **Your Opinion of the VMQ**

Cronbach's alpha was used by the authors as a dependability metric, although the data did not seem to be very trustworthy. The exam was found to be untrustworthy because of its alpha value of 84.7%, which indicates adequacy or below sufficiency. Only two of the scores were categorized as good, and no scores were categorized as excellent. In order to demonstrate the

VMQ's validity and dependability, I believe that some of its components should have been more thoroughly explored by the authors. Since college students are legally considered adults, the test was designed with those who had attained maturity in mind. In my opinion, a more thorough examination of cultural history and other factors is required.

### References

- de Aquino Caluyua Yambi, T. (2020). Assessment and Evaluation in Education. *ResearchGate*, 1–9. <https://doi.org/https://www.researchgate.net/publication/342918149>
- Psytech International. (n.d.). *Values and Motives Questionnaire - the technical manual*. Psytech International - online psychometric assessment of ability, personality and 360 degree Apraisal. global leaders in local assessment solutions. <https://psytech.com/Resources/TechnicalManuals>
- Sheperis, C., Drummond, R. J., & Jones, K. D. (2020). *Assessment procedures for counselors and helping professionals* (9th ed.). Pearson.

# BENCHMARK INITIAL INTERVIEW

## **Benchmark Initial Interview**

Amy G. Sparkman

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School of Behavioral Sciences, Liberty University

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### **Identifying Information**

The student that I interviewed is Paola Smith. Her birthday is March 1, 2010, and he is a freshman (9<sup>th</sup> grade) at Somerset Canyons Academy, 9385 Boynton Beach Blvd., Boynton Beach, Florida 33472. The school contact number is 561-732-8252. Paola's emergency contact is her mother, Irene and her phone number is 561-562-6655. I interviewed her on January 25, 2024.

### **Reason for Referral**

Paola was referred by the Student Council advisor, Ms. Green, to be interviewed because of her interest in joining the 9<sup>th</sup> grade student council at the school. Because of Paola's history of anxiety and depression, Ms. Green is concerned about Paola's well-being and wants to make sure that she would be a good candidate for this position.

### **Current Situation and Functioning**

Paola lives with her mother and one sister. Her parents were divorced two years ago, and Paola has had a tough time dealing with the separation. She sees her father every other week, but she told me that she really doesn't like to stay the night at his house, because she has to share a room with her sister and there is very little to do there. At first, her parents would make her go for the weekend, but recently they have begun to let her decide if she wants to just go for the day or stay the night. Most of the time she chooses just to spend Saturday's and then go back home to her mom's house.

Paola is a Somerset Academy Canyons 9<sup>th</sup> grader and she's indicated that she'd like to join the student government. She mentioned how tough it had been for her to make friends since starting at this school this year, and she thinks that being a part of the student council will give her more opportunities to make friends outside of class. Paola performs well academically, with a

3.1 GPA. She has had problems in the past with anxiety and she has a 504 in place to help her deal with her diagnosis of generalized anxiety. When asked about this, she stated that she feels like she is becoming better at controlling her anxiety and stress levels with the number of things she is doing now, even if she occasionally still has anxiety at times.

### **Relevant Medical and Mental Health Treatment History**

Last year, in 8<sup>th</sup> grade, Paola had some troubles with depression and anxiety. She was in the habit of wearing long-sleeved shirts, even on hot days, and when her teachers pressed her about this, it was discovered that she was cutting herself on her arms. Soon after this discovery, she threatened to kill herself, which resulted in her being Baker-Acted and hospitalized in a psychiatric hospital for 3 days. Since then she has been taking anti-depressants to help control her moods. She began seeing a therapist after her hospitalization, but when I asked her how her therapy is going, she stated that she hasn't been going since last summer. She was vague about why she stopped seeing her therapist, but she did say that it was a man and that she would prefer talking with a woman about her problems. She hasn't been cutting herself since her hospitalization and hasn't threatened suicide, and she feels like she has that under control.

Paola's mother and grandmother have both struggled with depression and anxiety, as well. There is no history of serious physical illness in her family. I couldn't find out much about her father's side of the family, though. Her sister is seven years old and seems like she does well emotionally.

### **Family History**

As previously stated, Paola lives with her mother and younger sister, and her parents were divorced two years ago. Paola is mixed race, as her mother is Caucasian, and her father is African American. She stated that she used to be close to her mother, but that she hadn't been

very close to her since the divorce. She also said that she has a very “rocky” relationship with her father and that she doesn’t feel like either of them understand her. Her father lives only a few blocks from her mother’s house, so she sees him pretty often, although she doesn’t like to spend the night at his house. Paola gets along with her little sister. She says that her sister is the only person in her immediate family that she really feels close to.

### **Social and Developmental History**

During her pregnancy, Paola's mother was diagnosed with depression. Paola's mother claims that because she reached each developmental milestone at the proper age, there was never a cause for concern regarding her progress. Paola has never been shy and is rather gregarious. Paola has done better academically ever since she moved to Somerset Canyons. She had to enroll in summer school prior to starting this new academic year and her summertime medication adjustments for depression resulted in a significant behavioral shift that improved her grades.

Although Paola has a history of being rather defiant with adults, this hasn’t seemed to be an issue since moving to Somerset Canyons. When I asked her about this change in attitude and behavior, she said that she used to think that her teachers were “out to get her” but that she now realizes that’s not true, and she’s decided to make an effort to get along with them. She commented that it’s amazing how a little shift in mindset can make such a huge difference.

### **Educational and Occupational History**

Paola attended Franklin Academy in Boynton Beach, Florida, from kindergarten through 8<sup>th</sup> grade. She has lived in the same house since birth. Her plan is to attend Somerset Academy Canyons through high school. She isn’t sure what she wants to do when she graduates from high school, but she would like to go to a university somewhere in Florida.

### **Cultural Influences**

As previously stated, Paola's mother is Caucasian, and her father is African American. She says that, although she lives most of the time with her mother, she identifies as "black". Somerset Canyons is a very culturally diverse school, with a large population of African American, Haitian, Hispanic, and Asian students, and many of them are mixed-race, as well. Although she recognizes that her race could be an issue at some other schools, she says that she is happy that she goes to a school with many other mixed-race kids and that they seem to understand her here. She also stated that she feels accepted by her teachers, as well, and that she doesn't feel that her race is an issue.

### **Plan of Action**

Based on the information gathered in my interview with Paola, I would recommend her for admittance into student council, as I think that the social and leadership components of student council would be good for her. I would recommend, however, that she resume her weekly therapy sessions, but with a female counselor, as well as begin regular one-on-one sessions with her school counselor.

In speaking with Paola, it is obvious that she has made great strides with her studies, as well as her emotions, but I'm not convinced that she's being completely honest about her ability to deal with her anxiety. Apparently, she was very secretive when she was cutting last year, and I think that it would be prudent to keep an eye on her behavior and for her to have a support network that she can rely on if her anxiety begins to get worse in the future.

I would like to continue working with Paola on a regular basis, using a combination of Cognitive Behavior Therapy and Person-Centered Therapy. The goal of cognitive behavioral therapy (CBT) is to recognize and alter harmful thinking patterns and actions that result in self-

harm. Person-centered therapy, on the other hand, can offer Paola a secure environment in which she may develop more self-awareness and learn to solve problems on her own.

First, I would like to give Paola's mother a list of local female therapists, so that she can choose one that will fit her budget and schedule. Once she has chosen a therapist, I will contact her and give her Paola's background information so that she can effectively work with Paola on a regular basis. I think that it's a good idea for Paola to find a female therapist that she can feel comfortable sharing with.

I would also like to schedule regular meetings with Paola, so that we can work through her issues. To help meet her specific needs, I will offer person-centered therapy and cognitive behavioral therapy. These therapies can assist in lessening her symptoms, such as emotional stress, and teach her problem-solving and relaxation skills.