How Optimism Correlates with Social Anxiety, Arrogance, and Impulsivity: An Assessment of Questionnaire’s Reliability and Validity

Name

Date

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Abstract
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Questionnaires are used to collect data for descriptive purposes. There are several elements to consider when developing surveys, including constructing the survey, administering the survey, and choosing a sample. First, when writing the questions it is important to write in clear and simple language to eliminate any conclusion. A rating scale is commonly used which asks the participants to choose a number that represents the direction and strength of their response. Avoiding misleading question such as those that are loaded, leading or double-barreled is essential to prevent bias. When developing the survey it is important to arrange the questions in an order that will keep the participant focused. Related questions should be presented in subsets, and demographics and sensitive questions should appear toward the end. There are various sampling techniques involved in collecting participants; some are more difficult than others to achieve. Sampling techniques that are more difficult to utilize tend to yield greater reliability and validity, while more convenient sampling methods sometimes lack reliability and validity.

An operational definition defines some construct (e.g. anger, optimism, reinforcement) in terms of the operations used to measure them. Operational definitions are useful because they allow researchers to quantify data to make comparisons and draw conclusions. It also permits replication of scientific studies which increases reliability. The word optimism derives from a French term *optimisme* referring to Libniz’s claim in *Theodicy* that the actual world is the best of all possible worlds because God who created it is the most perfect being. In other words, optimism is a positive and hopeful attitude toward things in the future, claiming that things are better in the long run (Bunnin, Nicholas & Jiyuan, 2008). Optimism is the ability to see the
positive side of things rather than the negative. Optimistic thinkers are usually positive people because they approach life with the expectation that a happy outcome is both desirable and possible.

Literature has been published to explain a few measures, such as the Life Orientation Test (LOT) (Carver, Scheier & Bridges 1994). The LOT (Scheier, et al. 1986) is a test of six questions addressing optimism/pessimism and four filler questions. The scale uses a five point Likert scale with a range from strongly agree to strongly disagree. The alpha reliability for testing optimism/pessimism using this scale was 0.79 (Burke, et al. 2000). The questions for the LOT-R include ten items used to measure the level of optimism and/or pessimism in individuals. The LOT-R is commonly used and well known among researchers in this field due to its strong reliability and validity.

In a previous study that utilized the LOT, Scheier, Carver and Bridges (1994) collected data from over 4,000 participants. Associations were found between optimism and both depression and aspects of coping remain significant even when the effects of neuroticism, as well as the effects of trait anxiety, self-mastery, and self-esteem, are statistically controlled. Thus, the Life Orientation Test does appear to possess adequate predictive and discriminant validity.

In the Big Five Model, a common theory in personality psychology, extraversion is one of five traits. Extroversion is characterized by positive emotions and the tendency to seek out stimulation and the company of others. They tend to be enthusiastic, action-oriented individuals who are likely to say "Yes!" or "Let's go!" to opportunities for excitement (Carver & Sheier, 2000).

The purpose of this study was to identify relationships, if any, between optimism and three other constructs measured in the questionnaire: impulsivity, arrogance and social anxiety.
Based on previous studies of the Big Five Model, three predictions can be made: (a) as optimism increases, arrogance increases (b) as optimism increases, social anxiety decreases (c) as optimism increases, impulsivity increases. Another purpose was to assess the validity and reliability of the impulsivity questionnaire. It is predicted that Cronbach’s alpha will fall in the moderate range (0.3 - 0.69), demonstrating that the measure is reliable. Overall, it is predicted that the optimism questionnaire will accurately predict how optimistic the participant is, demonstrating high criterion validity. Two other relationships were examined with demographic variables of gender and GPS. It is predicted that males will have a higher average score than women because of their dominant role in society. It is also predicted that as GPA increases, optimism will increase too due to motivation from earning high grades.

Method

Participants

The participants in this study consisted of 90 college students (37 males, 53 females) attending Wofford College. The average age of the participants was 19.7 years and the participants ranged from 18-24 years. The ethnic background of the participants varied, with 94.4% being white, 3.3% African American, 1.1% Asian, and 1.1% other. Of the participants 46 graduated in 2012, 18 in 2011, 18 in 2013 and 8 in 2010. Of the participants 28.9% had a GPA of 4 to 3.5 (n_M = 17, n_F = 9), 38.9% had a GPA of 3.4 to 3 (n_M = 15, n_F = 20), 22.2% had a GPA of 2.9 to 2.5 (n_M = 8, n_F = 12), and 10% had a GA of 2.4 to 2.0 or lower (n_M = 5, n_F = 4). Of the participants 27.8% were athletes and 72.2% were non-athletes. There were an equal number of participants earning a Bachelor in Arts and Bachelor of Science, with nine who were undecided and seven pursuing both.

Materials
The materials for the present study consisted of four questionnaires on the following constructs: optimism, arrogance, social anxiety, and impulsivity. The optimism questionnaire, which the current study is examining, was based on a 6-point Likert scale with the anchors being 1 (never true of me) and 6 (always true of me). Questions two, nine and ten were reverse scored to strengthen the reliability of the questionnaire.

Procedure

In a class of 15 researchers, each researcher completed the questionnaire themselves and used convenience sampling to collect data from five people each. This resulted in a total of 90 completed questionnaires. The questionnaires were not distributed or completed in any systematic manner. The questionnaire was completed individually. Most participants completed the questionnaire packet in approximately 15 minutes. The participants were asked to complete a section on demographics and to sign the informed consent form. Excel was used to input data and SPSS was used for data analysis.

Results

Descriptive information about the questionnaire

The demographic portion of the questionnaire was also used in descriptive analysis to make inferences about optimism. Males scored an average of 45.16 and females scores an average of 43.68 (see Figure 5). Participants with a GPA in the 3.5-4.0 range scored the highest average score on the questionnaire (see Figure 6).

Internal consistency and reliability of the measure

The reliability of the measure was analyzed. The Cronbach’s alpha was calculated to assess the internal consistency of the questionnaire. The Cronbach’s alpha fell into the moderate category with an alpha value of .575. If question number one was deleted the Cronbach’s alpha
would decrease to .491, which means question one was a good question. If question number ten was deleted the Cronbach’s alpha would increase to 0.615, which means question 10 was a good question (see Figure 3). The Spearman-Brown prophecy coefficient was also calculated to estimate full test reliability based on split-half reliability measures. Coefficient fell into the moderate reliability category ($r < 0.70$) with a coefficient of 0.601. By removing questions nine and ten the coefficient would increase to 0.653 bringing the value closer to the 0.70-1.00 range, which demonstrates strong reliability.

Convergent and discriminant validity of the measure

The scores from the questionnaire were analyzed to determine any significant differences or correlations that might exist between the optimism questionnaire and the other three questionnaires. The correlation between total arrogance score and total optimism score was found to be statistically significant, $r (89) = +0.353$, $p < .05$, two-tailed. This suggests that the more optimistic an individual is, the more likely they are to be arrogant (see Table 1). The correlation between total social anxiety score and total optimism score was found to be statistically significant, $r (89) = -0.312$, $p < .05$, two-tailed. This suggests that the more optimistic an individual is, the less likely they are to experience anxiety in a social setting (see Table 2). There was no significant relationship between optimism and impulsivity.

Discussion

The primary purpose behind these analysis consisted of the following: to identify any relationships between optimism and the other four constructs, to assess the validity and reliability of the impulsivity questionnaire, and to make comparisons based on demographics.

The three-part hypothesis is based on the Big Five theory was partially supported. As optimism score increased, arrogance increased and social anxiety scores decreased. An increase
in arrogance associated with high optimism may suggest that optimists may have more confidence in their actions causing them to succeed frequently. As success becomes more frequent one might develop overconfidence causing arrogance over time. For example, take a student who has a high GPA. The results demonstrate a correlation between GPA and optimism suggesting that a student with a higher GPA is more optimistic. This student has become accustomed to receiving high grades, causing them to have more confidence in their school work and performance. They continue receiving the best grades in the class which may lead them to display arrogance towards their peers. This varies with temperament, or the innate aspects of one’s personality. Similarly, an increase in optimism is associated with a decrease in social anxiety. Carver and Sheier (1994) found a significant effect of acceptance on optimism ($r = .19$, $p<.001$). There was also a strong negative correlation between depression and optimism suggesting that if an individual is more depressed it is likely that they are less optimistic.

Increase in depression, acceptance, and social anxiety are all related. Someone that becomes anxious in social situations may become depressed due to a lack of social interaction. One who is accepted by their peers is more likely experiences less social anxiety. There was no significant relationship between optimism and impulsivity. This was the only construct in the questionnaire that optimism did not share a significant relationship with. Overall, these results demonstrate high convergent validity with the other constructs in the questionnaire. No relationship with impulsivity may illustrate divergent validity as well.

The hypothesis that the questionnaire will display strong reliability and validity were partially supported. The Cronbach's alpha will generally increase as the intercorrelations among test items increase, and is thus known as an internal consistency estimate of reliability of test scores. Because intercorrelations among test items are maximized when all items measure the
same construct, Cronbach's alpha is widely believed to indirectly indicate the degree to which a set of items measures a single unidimensional construct. The questionnaire resulted in a moderate alpha value of .575 which suggests that if we took certain questions out the questionnaire may become more reliable. Sheier and Carver (1994) found in their study that the LOT-R was reliable and valid in making correlations with various factors. The LOT-R is different than the questionnaire in the current study because only 6 of the 10 items on the revised LOT are used to derive an optimism score. Four of the items are filler items and are not used in scoring. Of the 6 items that are scored, 3 are keyed in a positive direction and 3 are keyed in a negative direction (see Appendix 2). This way there is no bias while the participant completing the questionnaire causing an increase in reliability. Adjusting the content of the questionnaire, and throwing out the questions identified by the Cronbach’s alpha, will aid in increasing validity as well.

Last the prediction that people who have a higher optimism score have higher GPA’s was entirely supported. Students who are more optimistic will spend more time studying because they know that longer hours studying is predictive of a better outcome in the future. More time studying leads to better grades which lead to higher GPA’s. This supports Aspinwall and Taylor’s (1992) findings that higher levels of optimism are associated with better grades. The prediction that men demonstrate higher levels of optimism based on their dominant role in society was also supported. In our society men take on leadership roles, executive positions more frequently than women. This may cause them to develop optimism over time as they are held responsible for making major decisions; whereas, women make less important decisions in their workplace. Reinforcements of their ideas in the work place may cause higher levels of optimism.
In conclusion, the development of the four part questionnaire drew several inferences which can potentially be useful in adjusting the questionnaire and conducting future research.
References


Appendix A

Please answer the questions below using the following scale:
1. Never true of me
2. Almost never true of me
3. Rarely true of me
4. Sometimes true of me
5. Often true of me
6. Always true of me

1. In a class outside of my major, I am certain that I will succeed.
   (Never true of me) 1 - -2- - -3- - -4- - -5- - -6- - -7 (Very true of me)

2. Generally life has a tendency to be unfair.
   (Never true of me) 1 - -2- - -3- - -4- - -5- - -6- - -7 (Very true of me)

3. In a situation when I get a bad grade, I am confident I can improve.
   (Never true of me) 1 - -2- - -3- - -4- - -5- - -6- - -7 (Very true of me)

4. When I think of my future, I foresee happiness in 10 years.
   (Never true of me) 1 - -2- - -3- - -4- - -5- - -6- - -7 (Very true of me)

5. In a new situation, I always expect a positive outcome.
   (Never true of me) 1 - -2- - -3- - -4- - -5- - -6- - -7 (Very true of me)

6. I often participate in raffle contests.
   (Never true of me) 1 - -2- - -3- - -4- - -5- - -6- - -7 (Very true of me)

7. I think there will be good weather on my birthday.
   (Never true of me) 1 - -2- - -3- - -4- - -5- - -6- - -7 (Very true of me)

8. When I applied to Wofford, I was sure I would be accepted.
   (Never true of me) 1 - -2- - -3- - -4- - -5- - -6- - -7 (Very true of me)

9. I’m always worried I won’t get my first choices in class schedules.
   (Never true of me) 1 - -2- - -3- - -4- - -5- - -6- - -7 (Very true of me)

10. If I don’t get my first choice of roommate, I won’t be happy.
    (Never true of me) 1 - -2- - -3- - -4- - -5- - -6- - -7 (Very true of me)
### Table 6
*Items Composing the Revised Life Orientation Test*

<table>
<thead>
<tr>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In uncertain times, I usually expect the best.</td>
</tr>
<tr>
<td>2. It's easy for me to relax. (Filler item)</td>
</tr>
<tr>
<td>3. If something can go wrong for me, it will.*</td>
</tr>
<tr>
<td>4. I'm always optimistic about my future.</td>
</tr>
<tr>
<td>5. I enjoy my friends a lot. (Filler item)</td>
</tr>
<tr>
<td>6. It's important for me to keep busy. (Filler item)</td>
</tr>
<tr>
<td>7. I hardly ever expect things to go my way.*</td>
</tr>
<tr>
<td>8. I don't get upset too easily. (Filler item)</td>
</tr>
<tr>
<td>9. I rarely count on good things happening to me.*</td>
</tr>
<tr>
<td>10. Overall, I expect more good things to happen to me than bad.</td>
</tr>
</tbody>
</table>

* These items were reverse scored before scoring and analyses.
Figure Captions

Figure 1. Correlation illustrating the relationship between total arrogance score and total optimism score.

Figure 2. Correlation illustrating the relationship between total social anxiety score and total optimism score.

Figure 3. Bar graph illustrating the inter-scale reliability of the optimism questionnaire.

Figure 4. Bar graph illustrating the optimism score for each question on the questionnaire.

Figure 5. Bar graph illustrating the relationship between gender and optimism score.

Figure 6. Bar graph illustrating the relationship between GPA and optimism score.
Figure 1.

![Figure 1](image1.png)

Figure 2.

![Figure 2](image2.png)
Figure 3.

![Graph showing inter-scale reliability with question numbers on the x-axis and Cronbach's Alpha on the y-axis.]

Figure 4.

![Graph showing mean optimism with question numbers on the x-axis and different categories on the y-axis.]
Figure 5.

![Bar chart showing optimism scores by gender.]

<table>
<thead>
<tr>
<th>Gender</th>
<th>Series1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>45.16</td>
</tr>
<tr>
<td>Female</td>
<td>43.68</td>
</tr>
</tbody>
</table>

Figure 6.

![Bar chart showing optimism scores by GPA.]

<table>
<thead>
<tr>
<th>GPA Range</th>
<th>Series1</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0-3.5</td>
<td>47.27</td>
</tr>
<tr>
<td>3.0-3.4</td>
<td>43.06</td>
</tr>
<tr>
<td>2.5-2.9</td>
<td>44.15</td>
</tr>
<tr>
<td>&lt;2.4</td>
<td>40.78</td>
</tr>
</tbody>
</table>