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Available at: https://scholarsarchive.byu.edu/jur/vol2019/iss2019/50

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Testing the Psychometric Properties of Positive Psychology Measures

JUNE 20, 2019 BY ADMIN

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Introduction

Positive psychology is the rigorous and empirical study of well-being, human strengths, and human flourishing, and the experiences, traits, and institutions that lead to those aims. It began as a rigorous subdomain of psychology in the late 1990’s. Up until this point, the field of psychology had focused largely on pathology and on the weaknesses of the psyche, and positive psychology has shifted to emphasize that psychology has much more it can offer if it looks past just the very worst of human experiences. Positive psychology is rapidly expanding and gaining popularity, and a huge volume of research is being produced, much of it with promising results for increasing well-being in effective ways. However, this research is generally not reaching those who could benefit from it the most – namely, the general public – and ‘self-help’ type myths regarding happiness and positive thinking abound. If it does reach the masses, it often takes years. In response, we are creating a website (mybestself101.org) in order to make positive psychology strategies, information, and resources readily available. Our website consists of 17 modules covering major topics in positive psychology (gratitude, compassion, mindfulness, exercise, etc.). Each module will have a questionnaire specific to that topic that visitors can take before and after they have completed the module to see if they have improved in that area. Because sufficient measures don’t currently exist for all of our topics, and because we are looking for a specific format (short, 6-10 items) and conceptual generalness (covering all facets of the construct), we created all of the measures for the modules ourselves, as opposed to using ones that already exist. This research involved creating these measures and testing their psychometric (statistical) properties so that the items can be refined and the best combination of final items can be chosen for each questionnaire.

Methodology

The first step in our project was the creation of our questionnaires. This involved extensive research on the different theories behind each construct and on successful measures that already exist. After creating and editing our questionnaires, we compiled them into a single Qualtrics survey. Our survey consisted of our Survey on Flourishing (a general measure of well-being that we created), all 17 of our module questionnaires, and 2 previously-validated and widely-used questionnaires (the PERMA Profiler, a measure of flourishing, and the Positive and Negative Affect Schedule, a measure of emotion). Qualtrics distributed our survey to their participant pool, strategically selecting participants so that the final sample was nationally representative in regards to age, sex, race/ethnicity, area of the country in which they reside, and highest completed level of education.

Qualtrics reached out to participants and, if they chose to participate, they were given the link to our study on Qualtrics.com. They were first presented with an information screen that told them what was being studied, how long their participation would take, the risks and benefits involved, the right to withdraw, how they would be identified, two available contact people, and a statement that completion of this survey implied their consent. On the next screen they were given a set of questions to be sure they qualified for the study. (Criteria included being 18 or older, a native English speaker, and a current US resident.) Next they were asked a set of demographic questions and then they were then presented with each of our questionnaires, with one full questionnaire per screen so as to group conceptual questions together. Lastly, they were presented with the PERMA Profiler and then the Positive and Negative Affect Schedule.
Quality checks were placed throughout the study to check participant attention and genuineness of responses. Participants were paid by Qualtrics once their participation was complete. We did not retain any identifiable data, and participants will not be contacted in the future.

**Results**

All data were analyzed using Stata. We assessed each test separately for internal consistency using Cronbach’s alpha. This number shows how well the items in the test relate to each other and are measuring the same thing. Alpha values ranged from 0.79 to 0.95, all of which are very strong. Several questionnaires had one item that, if omitted, would significantly increase the internal consistency; these items are being considered for alteration or removal. Regarding factor analysis, the majority of our questionnaires showed one main factor with some having a second factor consisting of negatively worded test items. This is something that will need to be addressed in future iterations. We ran correlations between all of our questionnaires to see how closely the scores on one questionnaire related to scores on another. The correlations between our Survey on Flourishing and our other questionnaires were all positive, and the correlation coefficients fell between 0.38 and 0.84. Our compassion and meditation questionnaires were the only ones that had relatively weak correlations with both the SOF and the PERMA Profiler. Scores on our Survey on Flourishing correlate highly with scores on the PERMA Profiler ($r = 0.80$). All our correlation coefficients were significant at the 5% level or better ($p \geq .05$), meaning that the correlations are statistically significant, which is what’s desired.

**Discussion**

Initial psychometrics of our measures were better than expected. High alpha levels show that questionnaire items are conceptually consistent. Negatively worded items will need to be altered/addressed so that they perform more consistently with positively worded items; however, this is a common phenomenon which may not be possible to eliminate completely. One goal of the testing was that our tests would correlate highly with our Survey on Flourishing and with the PERMA Profiler, since our tests are all meant to measure aspects of flourishing. This was overwhelmingly the case. Our compassion and meditation questionnaires had the weakest correlations, which may show that these topics contribute less to human flourishing or that we need to adjust how these measures are written. One great strength of this research is that we were able to utilize a nationally representative sample as opposed to a convenience sample, which is most common in early stages of research. This means that the results are more accurate and represent the responses of a variety of people.

**Conclusion**

While the questionnaires we created will certainly require further testing, this pilot study offers very promising results regarding these measures, and shows overall that these questionnaires are worth editing, pursuing, and utilizing. The measures are already beginning to be used in conjunction with our website. Through the creation of these questionnaires, we are contributing to the mission of positive psychology in two ways: by spreading current research and knowledge to the general public and helping people increase their well-being through our website, and by creating high-quality measures that will allow us and others to conduct further high-quality research on these topics. The measures will continue to be adapted, with the long-term goal that we can increase well-being and human flourishing.

**FILED UNDER:** COLLEGE OF FAMILY, HOME, AND SOCIAL SCIENCES, ORCA-2018, PSYCHOLOGY