

**Validation of the Findings of an Appreciation of Diversity Inventory Conducted
in the United Arab Emirates**

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Abstract

The implementation of a rapidly emerging global economy emphasizes acceptance of human diversity as a means of expanding problem-solving and empowering creativity through new ways of knowing. With this increased emphasis on the appreciation of diversity few assessment instruments currently exist. Many of the existing assessment instruments require validation. This study examined the Waller Appreciation of Diversity Inventory as implemented to the student body of a public university in the Emirate of Ras Al Khaimah for the purpose of establishing the validity of the instrument. Relationships between or among the responses were identified using the Bartlett's test of sphericity. The responses were subsequently subjected to factor analysis techniques after

establishing required protocols for implementation. Ten factors were identified. These ten factors aligned with the initial dimensions utilized to construct the Inventory. The research supported the validity of the Inventory. The ten factors identified in the study provide further insight into the dynamics associated with describing an appreciation of diversity. Additionally, the ten factor topics are deemed to be appropriate for guiding instruction to improve the appreciation of human diversity.

Introduction

Rapid increases in technological capabilities coupled with intensified human migratory patterns have created a tremendous need for the ability to understand and work with those different from ourselves (Lumadue & Waller, 2013a). The implementation of a rapidly emerging global economy further emphasizes acceptance of human diversity as a means of expanding problem-solving and empowering creativity through new ways of knowing. Life in a global society is changing standard methodologies of operating and conducting many, if not most, aspects of human endeavor. Certainly, human interaction has expanded and broadened. Business and educational entities often find themselves as global enterprises upon which the sun never sets (Lumadue & Waller, 2013b). Accordingly, the ability to identify, attract and retain human capital capable of embracing and maximizing human diversity is essential if business and educational entities are to survive in this modern world (Lumadue & Waller, 2013c).

The value of human capital is fluid and may be increased with meaningful professional development (Lumadue & Waller, 2013d). Appropriate professional development is founded upon defining the problem in alignment with analysis and synthesis of the abilities and needs associated with those who are intended to benefit from the training (Lumadue & Waller, 2013e). Defining the need for training in the area of appreciation of human diversity is much easier than assessing appreciation of human diversity. Yet, these skills sets are essential in an interconnected and rapidly shrinking global world. Accordingly, assessment methodologies rise to the forefront and are of paramount importance for empowering meaningful professional development in this area of endeavor.

A comprehensive search for an appropriate tool yielded few results. The researchers identified a dearth of available tools with the exception of the Waller Appreciation of Diversity Inventory as described below.

The Waller Appreciation of Diversity Inventory

The Waller Appreciation of Diversity Inventory was developed in 2006. During construction of the Inventory, content validity was established via the utilization of a 20-member team composed of human resource directors and educational leaders. These participants founded the Inventory on three major dimensions delineated into eight sub-dimensions. The major dimensions included 1) self-actualization, 2) cultural awareness and 3) socialization patterns. The first dimension of self-actualization was delineated into four sub-dimensions of 1) clear perception of personal strengths and weaknesses, 2) willingness to examine personal value system, 3) reality of self-perception, and 4) ethical practice and behavior. The second dimension of cultural awareness was delineated into two sub-dimensions: 1) tolerance and handling of different views and 2) willingness to examine other points of view. The third and last dimension was delineated into the two sub-dimensions of 1) avoidance of stereotyping and 2) willingness to interact with those different from self. Questions were developed for each sub-dimension and employed a 4-point Likert scale response ranging from a response of four for "almost always" to a response of one for "almost never."

The Need for Establishing Construct Validity

While content validity of the Inventory was established via utilization of a group of content experts, the construct validity of the instrument required further evaluation in order to determine the construct validity of the Inventory prior to broad utilization within the region. The identification of the construct validity required a more extensive statistical examination to ascertain what the Inventory was actually measuring within the context of the responses of the student population at a selected institution of higher education within the UAE (Lumadue & Waller, 2013f). The identification of an appropriate level of construct validity for the Inventory would afford the opportunity for broader utilization and serve to establish that the instrument was actually measuring what it purported to measure within the given cultural context.

Design

The study was designed to ascertain the construct validity of the Waller Appreciation of Diversity

Inventory via analysis of findings associated with the administration of the Inventory to the student population at a public institution of higher education within the Ras Al Khaimah Emirate. The study involved a cross-disciplinary approach involving two researchers from the School of Business and two researchers from the School of Engineering. The two researchers from the School of Business guided the rationale for and utilization of the evaluation. The two researchers from the School of Engineering provided the statistical expertise to operationalize the research methodology employed in the study.

Research Questions

Two research questions guided operationalization of the study. The first was designed to collect the statistical descriptives associated with implementation of the Inventory. The second was designed to establish the presence or lack of relationships between or among the various responses. The research questions follow.

1. What are the responses to the Waller Appreciation of Diversity Inventory conducted at an institution of higher education in the Emirate of Ras Al Khaimah in Fall 2015?
2. Do relationships exist between or among the responses to the Waller Appreciation of Diversity Inventory conducted at an institution of higher education in the Emirate of Ras Al Khaimah in Fall 2015?

Hypotheses

Response to Research Question 1 required the collection of the various responses to the Inventory and, as such, did not require the utilization of research hypotheses. However, response to Research Question 2 required the utilization of more advanced statistical analyses. This analysis required the development of null and alternate hypotheses. The research hypotheses utilized in support of Research Question 2 follow.

Ho: No relationships exist between or among the responses to the Waller Appreciation of Diversity Inventory conducted at an institution of higher education in the Emirate of Ras Al Khaimah in Fall 2015.

Ha: Relationships exist between or among the responses to the Waller Appreciation of Diversity Inventory conducted at an institution of higher education in the Emirate of Ras Al Khaimah in Fall 2015.

Methodology

The number of responses, mean and standard deviation for each of the responses was collected in support of Research Question 1. The Bartlett's Test of Sphericity was utilized to examine the research hypotheses associated with Research Question 2 utilizing significance at or below .05. Upon establishing significance, the study conducted factor analysis on the various responses with factors posting Eigenvalues at or above 1.0 being deemed as significant. Factor loadings were obtained utilizing a Varimax rotation. Those with associated values at or above .400 were examined to determine the nature of each identified factor. The sample adequacy and response reliability were also examined at a significance of .05. The utilization of factor analysis to examine construct validity and the establishment of the indicated levels of significance was deemed to fall within the standard statistical methodologies for examining construct validity (Waller & Lumadue, 2013).

Findings

The Inventory was administered to the student body in Fall 2015 via digital survey delivery software. Responses were collected and tabulated for further analysis. The findings follow.

Research Question 1

Research Question 1 examined the responses to the Inventory to ascertain the descriptives of number, mean and standard deviation. The survey garnered a total of 267 responses out of 731 potential responses for a response rate of 36.5%. Scores ranged from a high of 3.53 on question 10 to a low of 2.77 on question 28. The findings for each question on the Inventory are provided in Table 1.

Table 1. *Question responses on the Waller Appreciation of Diversity Inventory Administered in Fall 2015*

Question	Number	Mean	Standard Deviation
1. I am aware of my own strengths and potential areas of growth.	267	3.17	0.702
2. I assess my strengths and weaknesses and try to improve myself.	267	3.19	0.711
3. I feel comfortable in expressing my ideas even if they are in the minority.	267	2.89	0.840
4. I evaluate criticism to determine how it can be useful to me.	267	3.00	0.808
5. My success depends on my competence and hard work.	267	3.47	0.747
6. The degree to which I am acceptable to others depends on my behavior towards them.	267	3.26	0.736
7. I am able to set clear, realistic, and demanding goals for myself.	267	3.06	0.763
8. When something goes wrong, I take responsibility for my decisions.	267	3.47	0.687
9. My behavior is consistent with my belief system.	267	3.43	0.744
10. I act in an ethical manner.	267	3.53	0.584
11. I practice principles of self-accountability.	267	3.28	0.713
12. I am patient when working with the problems and concerns of others.	267	3.11	0.699
13. I am tolerant and accepting of the feelings of other people.	267	3.21	0.806
14. I can disagree with others without being rude or offensive.	267	3.23	0.666
15. I think of the impact of my comments and actions before I speak or act.	267	3.04	0.779
16. I refrain from repeating rumors that reinforce prejudice and bias.	267	3.17	0.940
17. I recognize and avoid using language that reinforces stereotypes.	267	3.26	0.871
18. I recognize and respond to the feelings of others	267	3.06	0.818
19. I like to solicit ideas from others.	267	2.91	0.880
20. I read opinions contrary to my own to learn what others are thinking.	267	3.34	0.788
21. I am committed to respecting the beliefs and opinions of others.	267	3.47	0.747
22. I am interested in the ideas of people who don't think as I do.	267	3.17	0.816
23. I recognize that I am a product of my background: my way isn't the only way.	267	3.49	0.748
24. I am aware of my prejudices and try to control my assumptions about people.	267	3.32	0.755
25. I disregard physical characteristics when making decisions about the abilities of others.	267	3.23	0.865

26. I avoid generalizing the behavior or attitudes of one individual to an entire group.	267	3.34	0.668
27. I recognize that others may stereotype me and try to overcome incorrect assumptions they may make.	267	3.32	0.726
28. I take the initiative in making new friends.	267	2.77	1.047
29. I interact willingly and cooperatively with people who are different from me.	267	3.13	0.900
30. I can communicate with and positively influence people who are different from me.	267	3.26	0.765
31. I include people who are different from me in informal networks and events.	267	3.11	0.866

Research Question 2

Research Question 2 required examination of a null and alternate research hypotheses established early in the study using the Bartlett's Test of Sphericity. Prior to conducting Bartlett's test, the reliability was established at .931 using the Cronbach's Alpha. The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.439 which falls within an acceptable range. The Bartlett's Test of Sphericity returned a significance < .001 requiring rejection of Ho in favor of Ha. Relationships were found to exist between or among the various responses. Factor analysis was then conducted since the number of variables was sufficient to exceed the number of identified factors (Waller & Lumadue, 2013). The results of the factor analysis are provided in the Table 2.

Table 2. *Total Variance Explained*

Initial Eigenvalues			
Component	Total	% Variance	% Cumulative
1	7.683	24.785	24.785
2	2.722	8.782	33.567
3	2.478	7.994	41.561
4	2.313	7.460	49.021
5	1.776	5.728	54.749
6	1.554	5.013	59.762
7	1.383	4.463	64.225
8	1.228	3.962	68.187
9	1.170	3.775	71.962
10	1.047	3.376	75.338

Note: Extraction Method: Principle Component Analysis

As indicated in Table 2, ten factors were identified with Eigenvalues above 1.0. Cumulatively these ten factors explained 75.338% of the variance in the data set. Individually these ten factors ranged from a high of explaining 24.785% of the variance to a low of explaining 3.376%. Factor loadings for the ten factors were extracted using a Varimax rotation with a Kaiser normalization to maximize their differences and make them easier to interpret. The factor loadings converged in 36 iterations. The indicated factor loadings are provided in Appendix 1. Factor loadings with values above .400 were deemed to contribute sufficiently to the formation of the identified factor (Waller & Lumadue, 2013).

Analysis of the component matrix led the researchers to name the ten identified factors as follows: 1) Willingness to examine personal value system at 24.785%, 2) Reality of self-perception at 8.782%, 3) Avoidance of stereotyping at 7.994%, 4) Interaction with those different from self at 7.460%, 5) Perception of the impact of personal experience at 5.728%, 6) Tolerance and handling of differing views at 5.013%, 7) Ethical practice and consistency of standards at 4.463%, 8) Acceptance of responsibility for consequences of own behavior at 3.962%, 9) Self-awareness of personal strengths and weaknesses at 3.775%, and 10) Taking responsibility for personal actions at 3.376%.

Conclusions and Recommendations

While the ten identified factors aligned closely with the initial dimensions and sub-dimensions of the Inventory, their order of importance is of significant note. The first four factors fall under all three of the major dimensions of self-actualization, cultural awareness and socialization patterns leading to the conclusion that all three of these dimensions are influential in guiding the responses to the Inventory. Though all eight of the initial sub-dimensions were paralleled by the identified factors, two new sub-dimensions came to light: 1) Perception of the impact of personal experience at 5.728% and 2) Accepting responsibility for the consequences of own behavior at 3.962%. These two sub-dimensions further strengthen the assessment of one's appreciation of diversity. Their inclusion in the Waller Appreciation of Diversity Inventory would improve the instrument. Even in light of these observations, the parallel between the initial dimensions and sub-dimensions of the inventory with the ten identified factor indicate that the Inventory is valid and that it measures that which it claims to measure.

The researchers note the importance of the identified factors as a road map for guiding professional development and training in the UAE for the purpose of enhancing the appreciation of human diversity.

Further research is recommended to expand the generalizability of these findings. The Inventory should be administered to a broader segment of the population within the UAE to expand the generalizability of the findings. Additionally, further research should be conducted utilizing the Inventory in different international settings. Such would serve to strengthen the broader utilization of this study.

The researchers also recommend the development of a general scoring methodology and scale for the Inventory now that the initial construct validity of the instrument has been established.

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