
Correlation Between Adversity Quotient® and Leadership Skills of Student Council Officers in Health-Related Education*

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ABSTRACT

Background: The dynamic interaction between man, situations, and environment constitutes an inevitable human challenge. Endowed with the transient nature of change and the quandaries of the work setting, health care practitioners and other caring professionals experience the ill effects of high levels of adversity, with nurses at the top of the list.

Methodology: The researchers utilized a descriptive-correlational research design to identify whether a relationship existed between variables. Using this method, the authors provided the student council officers informed consent form, two survey questionnaires via Google Forms with a link sent to their email addresses and analyzed their Adversity Quotient® and Leadership Skills which enabled the investigators to determine the significant relationship between the variables.

Results: -Based on the data gathered, the scores of student council officers in health-related education in terms of the given AQ® dimensions are as follows: the Control dimension scored Average with a mean of 38.33 and a standard deviation of 6.81 alongside the Ownership dimension in which the respondents scored a mean of 41.26 and a standard deviation of 6.66. It was then followed by a Low score on the Reach dimension with a mean of 21.40 and a standard deviation of 7.48. Lastly, the Endurance dimension scored 'Below Average' with a mean of 29.51 and a standard deviation of 6.45. Thus, the overall Adversity Quotient® is 'Below Average' with a mean of 130.49 and a standard deviation of 17.75.

Conclusion: There is a significant relationship between AQ® and Leadership Skills; this implies that as the leadership skills increase, the Adversity Quotient® moderately increases to a significant extent and vice versa.

Key words: Adversity quotient®, leadership skills, health-related education

In today's fast-paced world, the dynamic interaction between man, situations, and environment constitutes an inevitable human challenge. Endowed with the transient nature of change and the quandaries of the work setting, health care practitioners and other caring professionals experience the ill effects of high levels of adversity, with nurses at the top of the list. Individuals with high Adversity Quotient® are more equipped to deal with challenges and select positive solutions that transform obstacles into opportunities. Hence, AQ® is commonly known as the science of resilience. Resiliency is an essential attribute in effective

leadership.¹ Stoltz emphasized the need to integrate resiliency in the leadership skills of the present. By this, determining the level of scores of student council officers in health-related education in terms of the dimensions of AQ® namely: Control, Ownership, Reach, Endurance and Adversity Quotient® as well as Leadership Skills in terms of: Technical Skill, Interpersonal Skill and Conceptual Skill is the main aim of this research. Furthermore, determining the significant relationship between Adversity Quotient® and Leadership Skills of the student council officers in health-related education lead to awareness that developing a thorough understanding of AQ® and Leadership Skills will not only be an advantage in the success of their careers as future health care providers but also it will enable them to be adaptable in terms of time, progress and change.

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In a study made by Baroa, 2015², the results showed the degree of correlation between Adversity Quotient® and Leadership Skills of the respondents is low. Baroa explained that “as the outcome of Adversity Quotient® is below average, the result of leadership skills is high. Therefore, the respondents’ high leadership skills help them put challenges in perspective, resolving them for learning.” This further implies that the Adversity Quotient® is not yet defined. AQ® fortifies the realization of effective leadership skills and enhances the influence of his subordinates.¹ Hence, it is important to address Adversity Quotient® as an aid for individuals to understand the resilience of being a leader and the application of effective leadership skills as one’s natural self-expression.

The study provided insights’ to the Students Council Officers’ leadership skills. The study aids them with the application of self-development activities to ensure that they will become more knowledgeable and resilient.

MATERIALS AND METHODS

The researchers utilized a descriptive-correlational research design to identify whether a relationship existed between variables. Using this method, the authors provided the student council officers’ informed consent form, two survey questionnaires via Google Forms with a link sent to their email addresses and analyzed their Adversity Quotient® and Leadership Skills which enabled the investigators to determine the significant relationship between the variables.

The student council officers of FEU-NRMF serving in the school year of 2020-2021 from the programs: Medical Laboratory Science, Nursing, Pharmacy, Nutrition and Dietetics, Physical Therapy, Radiologic Technology, and Respiratory Therapy were included in the study. The research excluded the Doctor of Medicine students because they belong to the post-graduate degree. The limitations to the research included: the information of the respondents may not be precise as to what they think their actual skills are. Another is considering that some are newly appointed, it is difficult to determine their leadership skills since their abilities are only emerging. Moreover, the data gathering was not commenced in person due to the COVID 19 pandemic. Hence, the researchers opted for the collation of data online.

This study employed a purposive sampling technique. Ames (2019) stated that purposive sampling was a non-probability method and one way of achieving a manageable amount of data. The respondents were specifically selected as they fit in a particular profile required in the study. Total enumeration was utilized based on 75 listed student council officer positions to be elected from Far Eastern University-Nicanor Reyes Medical Foundation. Out of the 75 target participants, only 43 student council officers responded to the study.

The Online Adversity Quotient Profile® 10.1 and modified Leadership Skills Questionnaire answerable in approximately 30 minutes was utilized in the study. The Online AQ Profile® 10.1 was established by Dr. Paul G. Stoltz. The tool was adapted by PEAK Learning, Inc. This tool is a 14-item online self-evaluation questionnaire to measure the level of Control, Origin and Ownership, Reach and Endurance of an individual. The profile’s version was the latest and most reliable version of this assessment.

Control: 48-50 (Very High); 43-47 (Above Average); 36-42 (Average); 30-35 (Below Average); 10-29 (Low);
Ownership: 50 (High); 47-49 (Above Average); 41-46 (Average); 31-40 (Below Average); 10-30 (Low);
Reach: 43-50 (High); 38-42 (Above Average); 30-37 (Average); 25-29 (Below Average); 10-24 (Low);
Endurance: 44-50 (High); 39-43 (Above Average); 32-38 (Average); 26-31 (Below Average); 10-25 (Low);
Adversity Quotient®: 176 - 200 (High), 158 - 175 (Above Average); 136 - 157 (Average); 119 - 135 (Below Average); 40 - 118 (Low)

Control Dimension measures the level of perceived control over the adverse situation, i.e., how an individual deals with adversities instead of showing negative behavior because of the situation. Origin and Ownership measures the level perceived ownership of the outcome of adversity. It is focused on an individual’s accountability, responsibility, and the ability to find the cause of the problem, and in turn, resolve it. Reach measures the level of perceived scope of the adversity. It focuses on the ability of an individual to be professional in times of adversity and not be negatively affected by it. Endurance measures

the level of perceived duration in adversity. It focuses on how an individual remains hopeful in times of adversity and if they are still able to encourage and motivate others until the situation is resolved.

On the other hand, the researchers modified the Leadership Skills questionnaire developed by Peter G. Northouse which is a free to use tool. The questionnaire measures the strengths and the weaknesses of the person in terms of leadership skills. It is a self-rating type of questionnaire consists of 18 items that require the respondent to rate their own ability by checking and scoring it from 1-5, composed of three (3) different types of leadership skills such as Interpersonal skills, Technical skills, and Conceptual skills. The validation of the tool was done by experts and was subjected to pilot testing with a Cronbach alpha of .951. It was interpreted as Excellent.

- 1.01-1.49 (Not True)
- 4.50-5.00 (Very True);
- 3.50-4.49 (Somewhat True);
- 2.50-3.49 (Occasionally True);
- 1.50-2.49 (Seldom True);

Interpersonal skill is defined as the skills of a student council officer or a leader to interact, communicate and ability to socialize with their members and fellow students. Technical skill is focused on the skill of said officers in terms of being responsible in organizing, managing, filing paperwork, creating decisions, handling people's concerns and inquiries and effectiveness and efficiency in giving solutions and responsibility itself. Conceptual skills are skills focused on the ability of these leaders to think creatively in solving problems, creating plans and solutions, new ideas and strategic plans for new programs that they will implement.

Permission to conduct the study was obtained from respective Deans of the Institution, Data Privacy Officer and Ethics Committee.

Data were collected, computed and recorded using Statistical Package for the Social Sciences (SPSS) Software and Microsoft Excel. Percentage was used to determine the distribution of responses per question; Weighted mean to determine the average responses per each question so as to measure the Adversity Quotient® and Leadership Skills of the Respondents; Standard Deviation to measure the amount of variation or dispersion of a set of values; and Pearson r Correlation to measure the degree of association between Adversity Quotient® and Leadership Skills.

RESULTS

Level of Scores of Student Council Officers in Health-related Education in Terms of the Given AQ Dimensions

Table 1 shows the level of scores of FEU-NRMF student council officers. Based on the table, control has a mean of 38.33 with standard deviation of 6.81 or interpreted as 'average'. Ownership has a mean of 41.26 with standard deviation of 6.66 or interpreted as 'average'. Reach has a mean of 21.40 with standard deviation of 7.48 or interpreted as 'low'. Endurance has a mean of 29.51 with standard deviation of 6.45 or interpreted as 'below average'. Lastly, Adversity Quotient® has a mean of 130.49 with standard deviation of 17.75 or interpreted as 'below average'.

Presentation of Leadership Skills of the Student Council Officers in Health-related Education in Term of Technical Skills

Table 2 shows the technical skills of FEU-NRMF student council officers. Based from the table, taking full responsibility of actions without trying to shift blame to others has the highest mean equivalent to 4.60 or interpreted as 'very true' while obtaining and allocating resources is a challenging aspect of a job that has the lowest mean equivalent to 3.65 or interpreted as 'somewhat true'. In summary, the technical skills have a grand mean of 4.17 or interpreted as 'somewhat true'.

Table 1. Level of scores

Dimensions	Mean	SD	Interpretation
Control	38.33	6.81	Average
Ownership	41.26	6.66	Average
Reach	21.40	7.48	Low
Endurance	29.51	6.45	Below Average
Adversity Quotient®	130.49	17.75	Below Average

Legend: Control: 48-50 (Very High); 43-47 (Above Average); 36-42 (Average); 30-35 (Below Average); 10-29 (Low); Ownership: 50 (High); 47-49 (Above Average); 41-46 (Average); 31-40 (Below Average); 10-30 (Low); Reach: 43-50 (High); 38-42 (Above Average); 30-37 (Average); 25-29 (Below Average); 10-24 (Low); Endurance: 44-50 (High); 39-43 (Above Average); 32-38 (Average); 26-31 (Below Average); 10-25 (Low); Adversity Quotient®: 176 - 200 (High); 158 - 175 (Above Average); 136 - 157 (Average); 119 - 135 (Below Average); 40 - 118 (Low)

Table 2. Technical skills

Technical	Not True	Seldom True	Occasionally True	Somewhat True	Very True	Mean	Interpretation
I am effective with the detailed aspects of my work.	0	0	5	24	14	4.21	Somewhat True
	0%	0%	12%	56%	33%		
Filling out forms and working with details comes easily for me.	0	0	8	22	13	4.12	Somewhat True
	0%	0%	19%	51%	30%		
Managing people and resources is one of my strengths.	0	2	10	15	16	4.05	Somewhat True
	0%	5%	23%	35%	37%		
In my work, I enjoy responding to people's requests and concerns.	0	0	8	11	24	4.37	Somewhat True
	0%	0%	19%	26%	56%		
Obtaining and allocating resources is a challenging aspect of my job.	0	6	13	14	10	3.65	Somewhat True
	0%	14%	30%	33%	23%		
I am effective at obtaining resources to support our program.	0	3	14	14	12	3.81	Somewhat True
	0%	7%	33%	33%	28%		
I take full responsibility of my actions without trying to shift the blame to others.	0	0	5	7	31	4.60	Very True
	0%	0%	12%	16%	72%		
I listen to others opinion before taking an action.	0	1	4	7	31	4.58	Very True
	0%	2%	9%	16%	72%		
Grand Mean						4.17	Somewhat True

Legend: Grand mean is interpreted as follows: 4.50-5.00 (Very True); 3.50-4.49 (Somewhat True); 2.50-3.49 (Occasionally True); 1.50-2.49 (Seldom True); 1.00-1.49 (Not True)

Table 3 shows the interpersonal skills of FEU-NRMF student council officers. Based from the table, understanding the social fabric of the program is important, honoring moral and ethical principles in workplace and to fellow group members, and believing that the key to successful conflict resolution

is communication have the highest mean equivalent to 4.63 or interpreted as 'very true' while knowing ahead of time how people will respond to a new idea or proposal has the lowest mean equivalent to 3.70 or interpreted as 'somewhat true'. In summary, the interpersonal skills had a grand mean of 4.30 or interpreted as 'somewhat true'.

Table 3. Interpersonal skills

Interpersonal	Not True	Seldom True	Occasionally True	Somewhat True	Very True	Mean	Interpretation
I usually know ahead of time how people will respond to a new idea or proposal	1	2	15	16	9	3.70	Somewhat True
	2%	5%	35%	37%	21%		
Understanding the social fabric of the program is important to me	0	0	3	10	30	4.63	Very True
	0%	0%	7%	23%	70%		
I am able to sense the emotional undercurrents in my group.	0	3	11	20	9	3.81	Somewhat True
	0%	7%	26%	47%	21%		
I use my emotional energy to motivate others.	0	1	5	15	22	4.35	Somewhat True
	0%	2%	12%	35%	51%		
The key to successful conflict resolution is respecting my opponent.	0	2	5	7	29	4.47	Somewhat True
	0%	5%	12%	16%	67%		
I work hard to find consensus in conflict situations.	0	0	12	10	21	4.21	Somewhat True
	0%	0%	28%	23%	49%		
I honor my moral and ethical principles in my work place and to my fellow group members.	0	0	4	8	31	4.63	Very True
	0%	0%	9%	19%	72%		
I believe that the key to successful conflict resolution is communication.	0	0	4	8	31	4.63	Very True
	0%	0%	9%	19%	72%		
Grand Mean						4.30	Somewhat True

Legend: Grand mean is interpreted as follows: 4.50-5.00 (Very True); 3.50-4.49 (Somewhat True); 2.50-3.49 (Occasionally True); 1.50-2.49 (Seldom True); 1.00-1.49 (Not True)

Table 4 shows the conceptual skills of FEU-NRMF student council officers. Based from the table, analyzing and evaluating not only plans and goals but also group members to achieve excellence in organization has the highest mean equivalent to 4.42

or interpreted as ‘somewhat true’ while effective at problem solving has the lowest mean equivalent to 3.74 or interpreted as ‘somewhat true’. In summary, the conceptual skills has a grand mean of 4.14 or interpreted as ‘somewhat true’.

Table 4. Conceptual skills

Conceptual	Not True	Seldom True	Occasionally True	Somewhat True	Very True	Mean	Interpretation
I am effective at problem solving	0	2	11	26	4	3.74	Somewhat True
	0%	5%	26%	60%	9%		
When problems arise, I immediately address them	0	0	7	17	19	4.28	Somewhat True
	0%	0%	16%	40%	44%		
Seeing the big picture comes easily for me	0	0	10	25	8	3.95	Somewhat True
	0%	0%	23%	58%	19%		
Making strategic plans for my program appeals to me.	0	0	6	17	20	4.33	Somewhat True
	0%	0%	14%	40%	47%		
I enjoy discussing our program's values and philosophy.	1	2	7	19	14	4.00	Somewhat True
	2%	5%	16%	44%	33%		
I am flexible about making changes in our organization.	0	0	15	12	16	4.02	Somewhat True
	0%	0%	35%	28%	37%		
I analyze and evaluate not only my plans and goals but also my group members to achieve excellency in my organization.	0	0	8	9	26	4.42	Somewhat True
	0%	0%	19%	21%	60%		
I think of creative and innovative methods to conduct organization meetings and activities to render the highest standards in my group and adhere to moral and ethical values.	0	0	5	17	21	4.37	Somewhat True
	0%	0%	12%	40%	49%		
Grand Mean						4.14	Somewhat True

Legend: Grand mean is interpreted as follows: 4.50-5.00 (Very True); 3.50-4.49 (Somewhat True); 2.50-3.49 (Occasionally True); 1.50-2.49 (Seldom True); 1.00-1.49 (Not True)

Table 5 shows the Leadership skills of FEU-NRMF student council officers. Based from the table, the highest dimension is interpersonal skills with a mean equivalent to 4.30 followed by technical

skills with a mean equivalent to 4.17 and conceptual skills with a mean equivalent to 4.14. Thus, it can be concluded that the leadership skills have a mean of 4.20 or interpreted as 'somewhat true'.

Table 5. Leadership skills summary

Dimensions	Weighted Mean	Interpretation
Technical Skills	4.17	Somewhat True
Interpersonal Skills	4.30	Somewhat True
Conceptual Skills	4.14	Somewhat True
Leadership Skills	4.20	Somewhat True

Legend: Weighted mean is interpreted as follows: 4.50-5.00 (Very True); 3.50-4.49 (Somewhat True); 2.50-3.49 (Occasionally True); 1.50-2.49 (Seldom True); 1.00-1.49 (Not True)

Table 6 shows the correlation statistics between Adversity Quotient® and leadership skills of the FEU-NRMF student council officers. Based from the table, Pearson R has a value of 0.37 with p-value of 0.02 or interpreted as moderate positive correlation. Since p-value is less than the significance level of 0.05, then the researchers conclude that there is a significant positive relationship between Adversity Quotient® and leadership skills. Therefore, as the leadership skills increase, the Adversity Quotient® moderately increases on a significant extent and vice versa.

Table 6. Correlation between adversity quotient® and leadership skills

Pearson R	0.37
p-value	0.02
Observations	43

Legend: Correlation Coefficient Value (r_s) is interpreted as follows: -1 (Perfectly negative); -0.8 (Strongly negative); -0.5 (Moderately negative); -0.2 (Weakly negative); 0 (No association); 0.2 (Weakly positive); 0.5 (Moderately positive); 0.8 (Strongly positive); 1 (Perfectly positive)

DISCUSSION AND CONCLUSION

Based on the data gathered, the scores of student council officers in health-related education in terms of the given AQ® dimensions are as follows: the Control dimension scored Average with a mean of 38.33 and a standard deviation of 6.81 alongside the Ownership dimension in which the respondents scored a mean of 41.26 and a standard deviation

of 6.66. It was then followed by a Low score on the Reach dimension with a mean of 21.40 and a standard deviation of 7.48. Lastly, the Endurance dimension scored 'Below Average' with a mean of 29.51 and a standard deviation of 6.45. Thus, the overall Adversity Quotient® is 'Below Average' with a mean of 130.49 and a standard deviation of 17.75. The FEU-NRMF student officers showed that the Ownership dimension scored the highest with an interpretation of 'Average' while the reach dimension was the lowest with an interpretation of 'Low'. The overall result of AQ® is interpreted as "Below Average" level. In accordance to this, Below Average and Low scores were defined in a previous study as having "low levels of motivation, energy, performance, and persistence." It also stated that individuals with this score have a tendency to give up and lose hope easily when they are confronted or experienced adverse situations" (Bautista, Pascua, Tiu and Vela, 2016).

Thereby, findings revealed that Adversity Quotient® was lacking in the current universe of potential future students for FEU-NRMF's Health Education programs. As a result of this inherent trait, future graduates will likely be disadvantaged resulting in deficient job innovation and ability to deal with modern ever changing health care initiatives. Equipping graduates with the best skills and abilities available has always been a benchmark of distinction for FEU-NRMF. Doing so attracts the finest underclassmen from all over the globe but most importantly from the best of Philippine's educational "the best of the best". So constant evaluation of new ideas and techniques that result from the plethora of ongoing research and discoveries that occur in this modern fast paced environment of today's health care culture is vital.

In terms of the summary of the Leadership Skills, the results show that Interpersonal Skills scored the highest with a grand mean of 4.30 and Conceptual Skills scored the lowest with a grand mean of 4.14. In terms of the Technical Skills (Table 2), Interpersonal Skills (Table 3), and Conceptual Skills (Table 4), the majority had their Leadership Skills as 'somewhat true'. Hence, the Leadership Skills of the student council officers when taken as a whole are 'somewhat true' with an average mean of 4.20 (Table 5).

The three areas having the same "somewhat true" interpretation are in line with Katz' Skills model theory (1955)³ which states that these three skill areas are the most important skills that leaders have in common.

According to Whitehead, Weiss, & Tappen (2017), leadership skills that determine a person's level of effectiveness, specifically "setting specific goals, thinking critically, solving problems, respecting people, communicating skillfully, communicating a vision for the future, and developing oneself and others."

These findings suggest that Nurses, as part of the interdisciplinary health team, obtain strong interpersonal skills and coordination of collaborative treatment. This knowledge implies that student leaders, as part of the student council, interact with each other effectively thereby facilitating a coherent teamwork approach. This finding would be deemed quintessential for students in health education to deliver quality patient care. On the contrary, student leaders need to better understand complex scenarios and develop creative solutions in lieu of rendering health care services.

With regards to the significant relationship between Adversity Quotient® and Leadership Skills of the student council officers in health-related education, the Pearson R test showed that the Adversity Quotient® and Leadership Skills have a moderate positive correlation with a value of 0.37 and a p-value of 0.02. Moreover, there is a significant positive relationship between Adversity Quotient® and Leadership Skills since p-value is less than the significance level of 0.05 thus there is enough evidence to reject the hypothesis. (Table 6).

In line with this, the research findings of Bautista, et al. (2016) resulted in a "positive strong correlation" between the two variables. They showed a significant relationship between AQ® and Leadership Skills; this implies that as the leadership skills increase, the Adversity Quotient® moderately increases to a significant extent and vice versa.

This outcome supports the statement of Dr. Paul G. Stoltz¹ that the level of AQ® may possibly predict the success of how a leader handles an organization. Cline (2015)⁵ stated that resiliency is necessary for a leader to survive and thrive in an increasingly complex health care environment. It is important to determine the level of resiliency of each leader as this

will reflect the effectiveness of the leadership they can set forth.

Moreover, it implies that if the Leadership skills of student council officers are enhanced, then their Adversity Quotient® moderately increases as well, and vice versa. Similarly, since both factors have a relationship, as the students in health education's Adversity Quotient® declines then their Leadership skills decline in the same manner. This concept will be more appreciated as student leaders are subjected to more adversities in their lives thereby, improving their Adversity Quotient®.

To be able to have more worthwhile results, it is essential for schools to conduct a Leadership Skills training program to increase the leadership capabilities of student council officers in health-related education and to improve their Adversity Quotient® or measure their resiliency or ability to put setbacks in perspective and utilize them for learning and become effective leaders in a health care environment. Lastly, future researchers must conduct the study to leaders of higher age groups working in a more complex administrative setting and must take into consideration the measurement of other variables that may affect the Adversity Quotient® and Leadership skills of the respondents such as their demographic profiles and occupational status.

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