

Nursing Students' Academic Motivation and Career Adaptability: Mediating Role of Adversity Quotient

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Abstract: Background: In order to steadily improve nursing students' academic and professional performance, they need to be motivated. Additionally, students must cultivate their adaptive ability to deal with difficulties encountered during the learning process and to adjust to work-related situations, so adversity quotient is necessary. **Purpose:** To assess the mediating role of adversity quotient in the relationship between nursing students' academic motivation and career adaptability. **Design:** A descriptive, correlational research design was utilized. **Sampling:** All nursing student (n= 550) enrolled in 4th academic year in the second semester of academic year 2022- 2023, **setting:** Faculty of Nursing, Tanta University. **Instruments:** Three instruments were used: Academic Motivation Scale, Career Adaptability Scale and Adversity Quotient Scale. **Results:** 35.8% & 35.5% of nursing students had a moderate and high level of academic motivation, 40.2% of them had a moderate level of career adaptability. Meanwhile, 40.7 % had a high level of adversity quotient. **Conclusion:** There was a significant positive correlation between nursing students' academic motivation & adversity quotient, between adversity quotient & career adaptability and between academic motivation & career adaptability. Adversity quotient mediates the relationship between academic motivation and career adaptability. **Recommendation:** Nursing students should be encouraged to participate in volunteer works, and other experiential learning opportunities that can expose them to different aspects of the nursing profession and help them to develop a clearer understanding of their career goals and aspirations.

Key Words: *Academic Motivation, Adversity Quotient, Career Adaptability, Nursing Students.*

Introduction

Nursing as a career seeks to improve people's health and quality of life through care for individuals, families, and communities (Khamaiseh et al.,

2022). Whereas the academic nursing education fundamental goal in current and future is to ensure that professional nurses are adequately prepared to

*Nursing Students' Academic Motivation and Career Adaptability:
Mediating Role of Adversity Quotient*

address the health care needs and aspirations of every individual in a energetic society. Nursing students not only need to acquire the necessary knowledge, abilities, and competences to accomplish this aim, but also experience reinforcement, fulfillment, and motivation (El-Sayed et al., 2021). Motivation is crucial for nursing students who must meet a variety of patient expectations (Kawa, 2020).

Motivation to learn is viewed as the ability to model, communicate, direct instructions, and socialize with others, such as parents, peers, and teachers. Being a prerequisite, motivation rests at the core of learning, which is the aim of education. Academic motivation is a subjective process and the inner energy that is required to produce professional academic work (Rafii et al., 2019). It is the desire to learn what drives one's curiosity and perseverance to take on difficult new tasks (Moayed & Azimi, 2021). High academic motivation affects nursing students' time management abilities, self-worth, optimism, and the ability to cope with anxiety, which ultimately results in improved academic achievement (Taheri-Kharamah et al., 2018).

Academic motivation was categorized into three general forms of intrinsic motivation, extrinsic motivation and amotivation. First: A learner who is motivated by intrinsic factors will work harder since learning has a built-in sense of fulfillment. Self-motivated students will study for personal desires and enjoy autonomy regarding their educational path. Second: Extrinsic motivation where students study to attain college degree or financial compensation, respect and approval from others, such as their family members. The third type of academic motivation is amotivation where students are not actively engaged in

academic work or are only somewhat engaged. Losing academic motivation affects a student's capacity to deal with learning difficulties, self-efficacy in the classroom and to adapt to their future career (Allari et al., 2023; Kotera., et al 2023; & Yurtseven & Dulay, 2022).

Career adaptability refers to a person's psychological preparedness and available resources for managing present, anticipated duties and career transitions (Chen & Zhang 2023; Fang et al., 2018). Career adaptability is an adaptive ability that can be learned via experience. High adaptability students are anticipated to make more deliberate and practical choices than other classmates (Abdelwahid & Attia, 2022). The capacity to change careers positively contributed to the improvement of nursing students' professional competency. These students have a strong desire to study, create learning objectives, and carefully arrange their academic work (Chen & Zhang, 2023) Career. Adaptability is considered one of the most important factors in a person's success in making the transition to business life and in their subsequent career movements (Yurtseven & Dulay, 2022).

Concern, control, curiosity, and confidence are the four adapt-abilities that make up career adaptability. Concern is staying conscious of and preparing for the requirement of a future career path. Students who feel in control take responsibility for self-control and decisiveness in planning for a future career journey using self-discipline, effort, and persistence. Curiosity refers to the investigation of prospects for job advancement and self-fulfillment by an individual. This experience of exploration and information-seeking activity generates aspirations and builds student's sense

***Nursing Students' Academic Motivation and Career Adaptability:
Mediating Role of Adversity Quotient***

of confidence in overcoming potential career obstacles (Yurtseven & Dulay, 2022; Chen & Zhang 2023; Sulistiani & Handoyo 2018; Rivera et al., 2021). Nursing students meet various adversities and difficulties during their study as psychological distress, poor adjustment during their training, lack competence, harmful and unmanageable relationships with patients. Nursing students who become easily overwhelmed and emotionally distressed, they withdrawal, stop trying and learning. In addressing the needs and being prepared to handle the difficulties at work, nursing student adversity quotient is required. Adversity is a frustrating occurrence, scenario, or ongoing, extreme difficulty. The Adversity Quotient (AQ) is the capacity to confront, manage, and transform problems into opportunities for success (Shalihah et al., 2018; Matore et al., 2020; Tian & Fan, 2014; Rokayah et al., 2023). There are four sub-constructs, which measure AQ including control, ownership, reach, and endurance. Control, refers to the perceived degree of capacity to change the situation. Ownership is the degree to which people accept personal accountability for enhancing their current circumstances. Reach refers to the extent to which adversity might spread into other spheres of life and endurance implies the perception of how long adversity will last (Wang et al., 2022; Biswas & Banerjee, 2020; Wang et al., 2021).

Significance of the study

After COVID-19 and continuous economic changes that occur all over the world, the healthcare landscape is constantly changing to involve new technologies, treatments, and policies. Nursing students especially students in last academic year need to be prepared

to adapt to these changes and thrive in their careers. Academic nursing staff can play a critical role in supporting students during this time, providing resources, and supporting to help them maintain their motivation and achieve their academic goals. Adversity quotient is an important concept for nursing students because it helps them to successfully overcome difficulties, adapting to the challenges they face (Kim & Shin, 2020). Therefore, this study aimed to assess the mediating role of AQ in the relationship between academic motivation and career adaptability among nursing students.

Purpose of the study:

The purpose of this study was to assess the mediating role of adversity quotient in the relationship between nursing students' academic motivation and career adaptability.

Research questions:

- 1) What is the mediating role of adversity quotient in the relationship between nursing students' academic motivation and career adaptability?
- 2) Is there a relationship between nursing students' academic motivation and career adaptability?

Methods

Research design:

The study employed a descriptive, correlational research design.

Setting:

The research was carried out at Faculty of Nursing, Tanta University that is affiliated to the Ministry of Higher Education and Scientific Research.

Sample:

ALL nursing student (n= 550) enrolled in 4th academic year 2022-2023 (second semester) were selected.

*Nursing Students' Academic Motivation and Career Adaptability:
Mediating Role of Adversity Quotient*

Instruments:

Data was collected using three instruments.

Instrument one: Academic Motivation Likert Scale

It was developed by Vallerand et al., (1992) and modified by the researchers based on relevant related literature (Khamaiseh et al., 2022; Moayed & Azimi, 2021) to assess the academic motivation of nursing students. It contained two parts;

- **Part (1):** Personal data of nursing student such as age, sex, marital status, residence, income and previous academic achievement.
- **Part (2):** Academic motivation scale. It is a five points Likert Scale. It contains 18-item which assess three types of academic motivation: Intrinsic motivation includes 6 items which assess motivation to know, to accomplish, and to experience stimulation. Extrinsic motivation included 10 items such as external regulation, introjected regulation, & identified regulation and Amotivation included 2 items.

Scoring System:

1 degree represented "strongly disagree," 2 degrees indicated "disagree," 3 degrees reflected "slightly agree," 4 degrees represented "agree," and 5 degrees denoted "strongly agree." The total score was obtained by adding up the scores from all categories. Subsequently, the scores were classified based on a statistical cut-off point into three levels of academic motivation: high (>75%), moderate (60% to <75) and low (< 60%).

Instrument Two: Career Adaptability Likert Scale

It was developed by Savickas & Porfeli (2012) and utilized by researchers to assess career adaptability of nursing student. It contained 24 items. Each sub-scale (career concern, control, curiosity and confidence) contained six items.

Scoring system:

Nursing students' responses were measured on five-point Likert scale ranging from 1 not strong to 5 strongest. Total score was categorized according to the statistical cut-off point into high level of career adaptability >75%, moderate level of career adaptability 60% – <75 and Low level of career adaptability < 60%.

Instrument three: Adversity Quotient Likert Scale

This instrument was developed by Matore, Khairani & Razakc (2020) and adopted by researchers to assess the adversity quotient of nursing students. It includes 16 items under four dimensions: control (6 items), ownership (4 items), reach (4 items), and endurance (2 items).

Scoring system:

Nursing students rated their responses by using a five-point Likert scale ranging from (1-5) where (1) was given for strongly disagree and (5) was given for strongly agree. The levels of adversity quotient were classified statistically based on a cut-off point into three categories: a high level of adversity quotient (>75%), a moderate level of adversity quotient (60% – <75%), and a low level of adversity quotient (<60%).

*Nursing Students' Academic Motivation and Career Adaptability:
Mediating Role of Adversity Quotient*

Ethical considerations:

Approval of Faculty of Nursing, Tanta University Scientific Research Ethics' Committee was obtained (code number 228 on March 2023). A written consent regarding acceptance to participate was obtained from nursing student after providing them with information regarding the purpose and nature of the study. Their anonymity was considered, and students were assured that all data was used for research purposes only and they had the right to withdraw from study at any time.

Validity and reliability

Five experts in the field of nursing administration revised the instruments for their validity and necessary modifications were done according to their directions. The Cronbach Alpha Coefficient test was used to assess reliability of instruments. Their values were 0.915, 0.830, 0.781 for instruments one, two and three, respectively.

Pilot study

A pilot study was done on 10% of nursing students (55) to assess clarity of tools, items' sequence, applicability, and relevance of questions. This number of nursing students were included in the sample because there were simple modifications.

Procedure:

Approval for data collection was obtained after submitting an official letter to the dean of the Faculty of Nursing including the purpose and methods of data collection. Data was collected from nursing students in their classrooms after finishing their lectures. The researcher explained the purpose and methods of data collection. Students who accepted to engage in data collection did not leave the class. The researchers were present

during data collection to provide nursing students with guidance and clarification for any questions. The data was collected over a period of two months, from the beginning of April 2023 until the end of May 2023. Each student took 20 minutes to fill each instrument.

Statistical analysis of the data

Data was entered into the computer and analyzed using IBM SPSS software package version 20.0, developed by IBM Corp. Qualitative data were presented in terms of numbers and percentages. The normality of the distribution was assessed using the Kolmogorov-Smirnov test. Quantitative data were summarized using the range, mean, standard deviation, and median. The statistical tests included the Pearson coefficient for assessing the correlation between two normally distributed quantitative variables, the Mann's Whitney test for comparing two groups when the quantitative variables were not normally distributed, and the Kruskal Wallis test for comparing more than two groups when the quantitative variables were not normally distributed. A statistical significance was considered if $P < .05$, a highly statistical significance was considered if $P < .01$ and a very highly statistical significance was considered if $P < .001$.

Results

Table 1: Shows nursing students' personal characteristics. It was observed that more than two-thirds (73.6%) of nursing students were ≥ 22 year with mean age 21.98 ± 0.75 . The majority (83.8, 83.6%) of nursing student were females and single. More than two thirds (73.5, 72.7%) of them were residents in a rural area and had only enough income. Regarding previous academic achievement, 70 %

*Nursing Students' Academic Motivation and Career Adaptability:
Mediating Role of Adversity Quotient*

of nursing students had excellent grades and only 1.3% had satisfactory grade.

Table 2 illustrates levels, mean score and mean percentage of nursing students' academic motivation. It was observed that more than one third (35.8%, 35.5%) of nursing students had a moderate and high level of academic motivation. Regarding intrinsic motivation dimension, more than one third (37.3, 37.1, 32.9 %) of nursing students had moderate levels of intrinsic motivation to know, towards accomplishment, and to experience stimulation with the highest mean percent score (72.91 ± 23.16) of intrinsic motivation towards accomplishment. Regarding extrinsic motivation dimension, 43.3%, 39.5% & 36.9 % of nursing students had high levels of external, introjected and identified regulation respectively with the highest mean percent (77.97 ± 19.32) of external regulation dimension. Regarding amotivation dimension, above half (26.9, 26.5 %) of nursing students had a moderate to a high level of amotivation with a mean percentage of 61.43 ± 27.89 .

Table 3:- reveals levels and means score of nursing students' career adaptability. As noticed in the table 40.2% of nursing students had moderate level of career adaptability. Concerning career adaptability dimensions, more than one third (40.0, 38.7, 38.2, 37.5 %) of nursing students had moderate levels of career control, confidence, concern and curiosity with the highest mean percent (71.73 ± 19.70) was for career control while the lowest mean percent (67.11 ± 18.85) was career concern.

Table 4:- represents levels mean score and mean percentage of nursing students' adversity quotient. The table showed that 40.7 % of nursing students had a high level of adversity quotient.

Regarding adversity quotient dimensions, 45.3 & 40.4 % of nursing students had a moderate level of adversity endurance and ownership. While more than one third (39.3, 36.9%) of them had a high level of adversity reach and control. As well, the table illustrated that the highest mean percent (75.09 ± 18.30) was for adversity ownership while the lowest mean score (71.83 ± 19.21) was for adversity control.

Figure 1:- shows correlation between nursing students' academic motivation and adversity quotient. As detected in the figure, there was a very highly statistical significant positive correlation between overall nursing students' academic motivation and adversity quotient (0.783) where $p < 0.001$.

Figure 2:- represents correlation between nursing students' adversity quotient and career adaptability. The figure shows that there was a very highly statistical significant positive correlation between overall nursing students' adversity quotient and career adaptability (0.746) where $P < 0.001$.

Figure 3:- shows correlation between nursing students' academic motivation and career adaptability. As observed in the figure, there was a very highly statistical significant positive correlation between overall nursing students' academic motivation and career adaptability (0.596) where $P < 0.001$.

Table 5:- shows the relation between nursing students' personal characteristics and mean score of academic motivation, career adaptability and adversity quotient. Regarding academic motivation, there were statistically significant differences between nursing students' sex, previous academic achievement, and their academic motivation ($P < 0.05$). Regarding career adaptability,

***Nursing Students' Academic Motivation and Career Adaptability:
Mediating Role of Adversity Quotient***

statistically significant differences were observed between nursing students' sex, marital status, residence and income and their career adaptability ($P < .05$). While there were no statistically significant differences between nursing students' personal characteristics and their adversity quotient $P > .05$.

Table 6:- shows the mediating role of adversity quotient in the relationship between academic motivation and career adaptability. The results

revealed a significant indirect effect of academic motivation on career adaptability ($B = 0.531$, $t = 13.815$, $P < 0.05$). Furthermore, the direct effect of academic motivation on career adaptability in presence of the mediator was found insignificant ($B = 0.029$, $p = 0.505$). Hence, full complementary mediation throughout the adversity quotient that mediated the relationship between academic motivation and career adaptability.

Table (1): Nursing Students' Personal Characteristics (n = 550)

	No.	%
Age (years)		
<22	145	26.4
≥22	405	73.6
Min. – Max.	20.0 – 24.0	
Mean ± SD.	21.98 ± 0.75	
Median	22.0	
Sex		
Male	89	16.2
Female	461	83.8
Marital status		
Single	460	83.6
Married	90	16.4
Residence		
Rural	404	73.5
Urban	146	26.5
Income		
Not enough	98	17.8
Enough only	400	72.7
Enough and more	52	9.5
Previous academic achievement		
Satisfactory	7	1.3
Good	21	3.8
Very good	137	24.9
Excellent	385	70.0

SD: Standard deviation

***Nursing Students' Academic Motivation and Career Adaptability:
Mediating Role of Adversity Quotient***

Table (2): Levels, Mean Score and Mean Percentage of Nursing Students' Academic Motivation (n = 550).

Academic Motivation dimensions	Low (<60%)		Moderate (60% – <75)		High (≥75%)		Total Score	% Score
	No.	%	No.	%	No.	%	Mean ± SD.	Mean ± SD.
Intrinsic motivation								
Intrinsic motivation to know	156	28.4	205	37.3	189	34.3	7.59 ± 2.05	69.93 ± 25.66
Towards accomplishment	142	25.8	204	37.1	204	37.1	7.83 ± 1.85	72.91 ± 23.16
To experience stimulation	232	42.2	181	32.9	137	24.9	7.23 ± 1.94	65.34 ± 24.22
Extrinsic motivation								
External regulation	98	17.8	214	38.9	238	43.3	12.36 ± 2.32	77.97 ± 19.32
Introjected regulation	151	27.5	182	33.1	217	39.4	15.61 ± 3.62	72.56 ± 22.64
Identified regulation	182	33.1	165	30.0	203	36.9	11.66 ± 2.76	72.15 ± 22.99
A motivation	256	46.6	148	26.9	146	26.5	6.91 ± 2.23	61.43 ± 27.89
Overall	158	28.7	197	35.8	195	35.5	69.19 ± 12.65	71.10 ± 17.57

SD: Standard deviation

Table (3): Levels, Mean Score and Mean Percentage of Nursing Students' Career Adaptability (n = 550).

Career Adaptability dimensions	Low (<60%)		Moderate (60% – <75)		High (≥75%)		Total Score	% Score
	No.	%	No.	%	No.	%	Mean ± SD.	Mean ± SD.
Career Concern	191	34.7	210	38.2	149	27.1	22.11 ± 4.52	67.11 ± 18.85
Career Control	135	24.5	220	40.0	195	35.5	23.22 ± 4.73	71.73 ± 19.70
Career curiosity	188	34.2	206	37.5	156	28.3	22.29 ± 4.79	67.86 ± 19.98
Career confidence	168	30.6	213	38.7	169	30.7	22.90 ± 4.92	70.40 ± 20.50
Overall	144	26.2	221	40.2	185	33.6	90.51 ± 15.82	69.28 ± 16.48

SD: Standard deviation

Table (4): Levels, Mean Score and Mean Percentage of Nursing Students' Adversity Quotient (n = 550)

Adversity Quotient dimensions	Low (<60%)		Moderate (60% – <75)		High (≥75%)		Total Score	% Score
	No.	%	No.	%	No.	%	Mean ± SD.	Mean ± SD.
Adversity Control	171	31.1	176	32.0	203	36.9	23.24 ± 4.61	71.83 ± 19.21
Adversity Ownership	113	20.5	222	40.4	215	39.1	16.01 ± 2.93	75.09 ± 18.30
Adversity Reach	165	30.0	169	30.7	216	39.3	15.69 ± 3.13	73.07 ± 19.59
Adversity Endurance	130	23.6	249	45.3	171	31.1	7.82 ± 1.63	72.70 ± 20.37
Overall	145	26.4	181	32.9	224	40.7	62.76 ± 10.94	73.06 ± 17.09

SD: Standard deviation

*Nursing Students' Academic Motivation and Career Adaptability:
Mediating Role of Adversity Quotient*

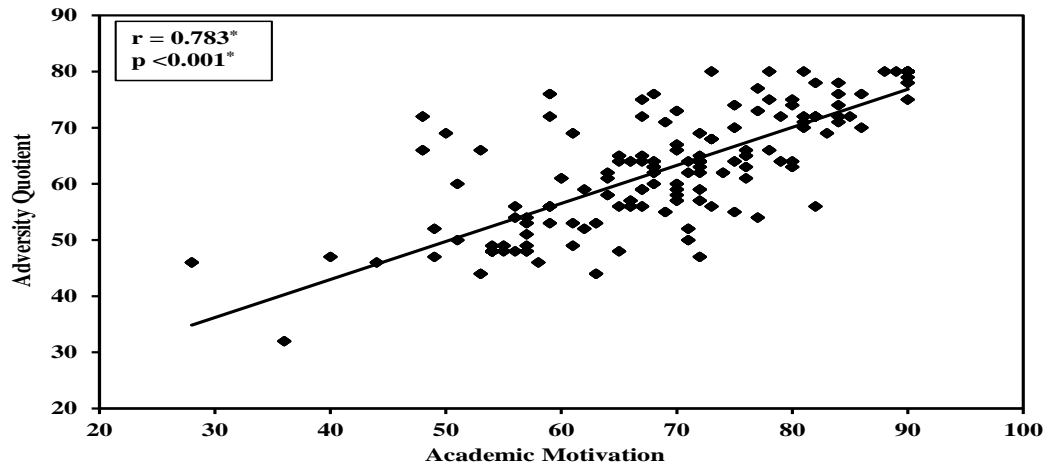


Figure (1): Correlation between nursing students' academic motivation and adversity quotient (n = 550)

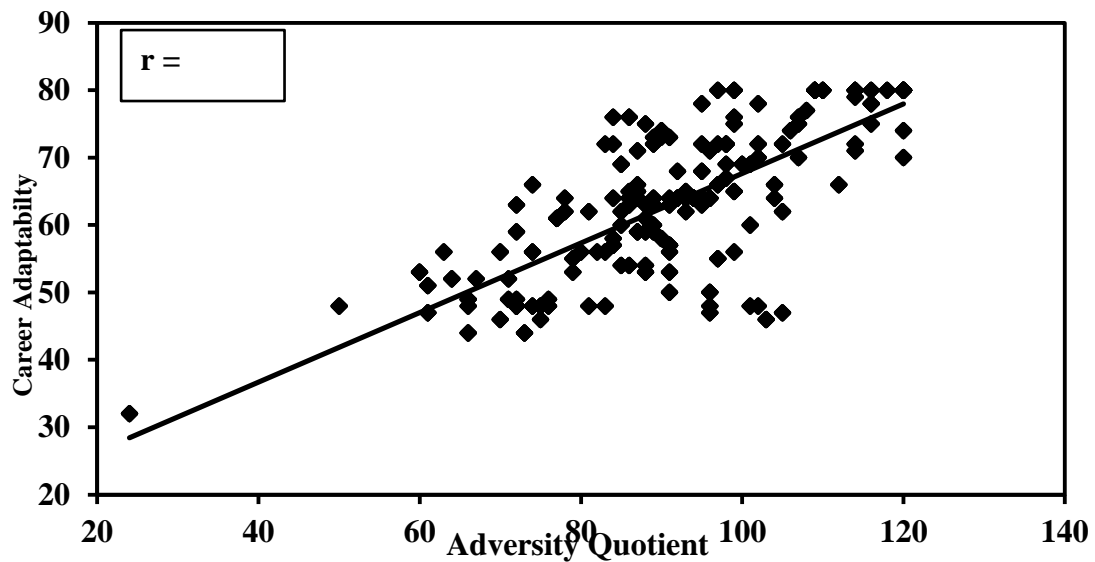


Figure (2): Correlation between Nursing Students' Adversity Quotient and Career Adaptability (n = 550)

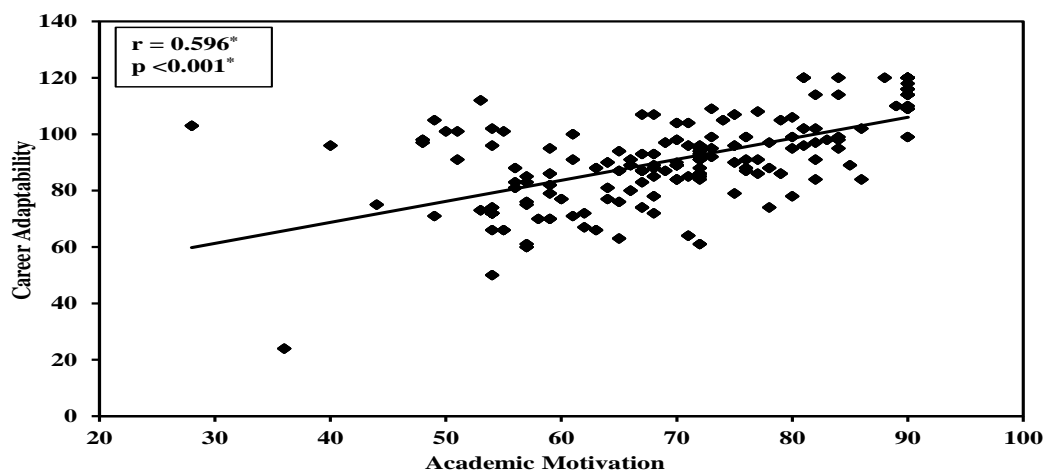


Figure (3): Correlation between Nursing Students' Academic Motivation and Career Adaptability (n = 550)

**Nursing Students' Academic Motivation and Career Adaptability:
Mediating Role of Adversity Quotient**

Table (5): Relation between Nursing Students' Personal Characteristics and Mean Score of Academic Motivation, Career Adaptability and Adversity Quotient (n = 550)

Nursing students' personal characteristics	N	Academic Motivation	Career Adaptability	Adversity Quotient
		Mean ± SD.	Mean ± SD.	Mean ± SD.
Age (years)				
<22	145	72.53 ± 17.14	67.22 ± 19.20	73.18 ± 17.48
≥22	405	70.59 ± 17.71	70.02 ± 15.35	73.02 ± 16.97
t(p)		1.141 (0.255)	1.581 (0.115)	0.095 (0.924)
Sex				
Male	89	65.67 ± 21.14	77.25 ± 11.11	75.02 ± 14.88
Female	461	72.15 ± 16.62	67.74 ± 16.91	72.69 ± 17.48
t(p)		2.734* (0.007*)	6.709* (<0.001*)	1.315 (0.191)
Marital status				
Single	460	70.52 ± 17.90	69.94 ± 16.40	72.93 ± 17.09
Married	90	74.07 ± 15.55	65.91 ± 16.58	73.75 ± 17.20
t(p)		1.759 (0.079)	2.124* (0.034*)	0.416 (0.678)
Residence				
Rural	404	70.16 ± 16.70	68.30 ± 15.18	72.27 ± 16.38
Urban	146	73.70 ± 19.60	71.99 ± 19.45	75.27 ± 18.81
t(p)		1.939 (0.054)	2.075* (0.039*)	1.823 (0.069)
Income				
Not enough	98	73.95 ± 22.43	73.99 ± 18.16	76.53 ± 19.65
Enough only	400	70.69 ± 16.36	67.80 ± 15.98	72.41 ± 16.56
Enough and more	52	68.86 ± 15.84	71.76 ± 15.26	71.58 ± 15.34
F (p)		1.827 (0.162)	6.317* (0.002*)	2.523 (0.081)
Previous academic achievement				
Satisfactory	7	68.45 ± 15.17	69.94 ± 15.54	72.32 ± 15.72
Good	21	76.06 ± 14.30	71.97 ± 18.75	74.48 ± 15.62
Very good	137	66.95 ± 20.69	68.53 ± 17.65	70.77 ± 18.86
Excellent	385	72.36 ± 16.32	69.39 ± 15.98	73.82 ± 16.51
F (p)		3.873* (0.009*)	0.290 (0.833)	1.124 (0.339)

SD: Standard deviation

t: Student t-test

F: F for One way ANOVA test

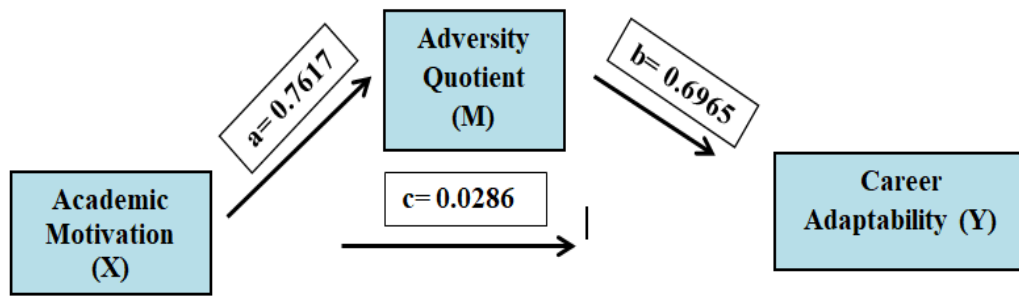
p: p value for comparing between the studied categories

*: Statistically significant at $p \leq 0.05$

Table (6): The Mediating Role of Adversity Quotient in the Relationship between Academic Motivation and Career Adaptability

Relationship	Total Effect	Direct Effect	Indirect Effect	95% CI		t-statistics	Conclusion
				LL	UL		
Academic Motivation → Adversity Quotient → Career Adaptability	0.559	0.0286	0.531	0.4576	0.6074	13.815 (>1.96) (sig <0.05)	Full complementary Mediation

*Nursing Students' Academic Motivation and Career Adaptability:
Mediating Role of Adversity Quotient*



Discussion

Nursing students face a lot of situations and challenges in their daily life. They need to be equipped with necessary knowledge, skill and motivation to overcome these challenges. Academic motivation is considered a focal ingredient in academic success, satisfaction, engagement, and achievement of nursing students. Also, adversity quotient helps them to solve problems and deal with the adversities in their career (Berdida, 2023; Li et al., 2022). Motivated nursing students with a proactive mindset and a strong drive for action are carefully exploring opportunities for career development and actively working towards creating work environments that align with their career goals (Rudolph et al., 2017). Thus, our study aimed to assess the mediating role of adversity quotient in the relationship between nursing students' academic motivation and career adaptability.

Concerning nursing students' academic motivation; this study revealed that over one-third of nursing students had moderate levels of academic motivation and also more than one-third had high level in total. This finding aligns with results of Adib et al., (2019) who found that nursing students had high motivation and academic motivation influences self-directed learning. Also, Berestova et al., (2022) found a moderate level of

academic motivation in nearly half of the students and Ramos &, Habig (2019) found that students scored high in external motivation. Nursing student are motivated by personal satisfaction, desire to learn, and external incentives such as rewards, grades, or recognition. When students are motivated, they are more likely to engage in learning activities, persist in the face of academic challenges, and achieve their academic goals.

However, the study also found that above half of the nursing students had a moderate to a high level of a motivation dimension. Mahmood & Frolova, (2021) found a negative correlation between amotivation and deep learning approach and considered it from barriers of good learnings. This may be due to nursing students experiencing burnout or fatigue from the demands of their academic and clinical work, which can lead to a lack of motivation to continue their studies. Amotivation is a significant challenge in academic settings as it is associated with poor academic performance and disengagement from learning activities. Concerning nursing students' career adaptability; the findings of this study revealed that above forty percent of nursing students had a moderate level of career adaptability in total, with career control being the dimension with the highest mean percent and

***Nursing Students' Academic Motivation and Career Adaptability:
Mediating Role of Adversity Quotient***

career concern being the dimension with the lowest mean percent. This study is supported by Salim et al., (2023) who found that students had a moderate level of career adaptability due to several factors such as work experience, and culture. In contrast Stead et al. (2022) who appraised that career adaptability scores of students were low. Also, Kim and Shin (2020) detected that the students' levels of concern, curiosity, and confidence showed an increase, while there was no significant change in their sense of career control. This is due to nature of nursing field that exposed nursing student to a variety of experiences and opportunities during their education adding to this nearly three quadrant of nursing students live in urban areas that give them more opportunities for career development and advancement than those who live in rural areas.

For nursing students' adversity quotient; The results of the study revealed that in overall, above forty of nursing students had a high level of adversity quotient in total with adversity ownership being the dimension with the highest mean percent and adversity control being the dimension with the lowest mean percent.

This may be due to the high percentage of nursing students working in private hospitals during their studies. They are equipped with the necessary skills to deal with the challenges they may face during their academic and professional careers. A student with a higher AQ is less likely to attribute blame to external parties for the problems they encounter, instead taking responsibility for solving the problem. This result is supported by Zulkifli et al., (2018) who found that nursing students in Malaysia had a high level of AQ. While result of Rokayah et al., (2023), Wang et al., (2021) and Kuo et al., (2015) found

that AQ of nursing students were moderate and recommend about the importance to improve nursing student ability to overcome setbacks.

Regarding the relation between study variables; the findings of the study revealed a statistically significant positive correlation between nursing students' academic motivation and adversity quotient. This result is supported by Berdida (2023) who found that resilience directly influences academic motivation. This positive correlation highlights the importance of enhancing students' motivation and resilience to prepare them for successful and fulfilling careers in nursing.

For the relation between nursing student's adversity quotient and career adaptability, the results of the study showed a statistically significant positive correlation between nursing students' adversity quotient and career adaptability. This finding is supported by Tian & Fan (2014) who found student nurses' adversity quotients associated positively with their degree of career adaptability. In contrast the study done by Shalihah et al., (2018) in Indonesia who found no correlation between these two variables generally. Adversity quotient is positively associated with individuals' ability to cope with stress, adapt to change, and achieve their goals (Stoltz, 2015).

Besides, the relation between nursing student's academic motivation and career adaptability, confirms the positive correlation between nursing students' academic motivation and career adaptability. This finding is consistent with Petrolia (2022), Hirschi (2019) and Fang et al., (2018) who found a positive correlation between academic motivation and career adaptability. This positive correlation suggests that students who are more motivated academically are more likely

***Nursing Students' Academic Motivation and Career Adaptability:
Mediating Role of Adversity Quotient***

to possess the skills and competencies required for successful career development.

Concerning the relation between nursing students' personal characteristics and study variables, statistical significant differences were observed between nursing students' sex and their academic motivation. This result is consistent with a study done by Cabras et al., (2023) and Karabulut & Dicle (2018) who showed gender differences in academic motivation in the entire sample. But not consistent with Abdelrahman (2020) who found no differences between female and male in their academic intrinsic motivation. Also, Ramos & Habig (2019) mentioned that gender has no noteworthy consequence on academic motivation.

Result showed statistically significant differences between nursing students' sex, marital status, residence, and income and their career adaptability. This finding highlights the importance of considering individual differences and characteristics when examining career adaptability in nursing students. Study result found that male and single nursing student had the highest mean percent. But study done by Zhu et al., (2020) found that female nursing students had higher levels of career adaptability than male nursing students. Moreover, Huang, Huang & Chen (2021) found that marital status positively associated with career adaptability in nursing students and income is affected nursing student ability to acquire more resources and support.

The finding revealed that there were no statistically significant differences between nursing students' personal characteristics and their adversity quotient. This is supported by a study done by Kim et al., (2019) and found that there were no statistical significant

relationships between gender, age and adversity quotient in nursing students. However, other studies of Liao (2018), Chen et al., (2018) and Kuo et al., (2015) had found significant associations between personal characteristics and adversity quotient in various domains.

For the mediating role of adversity quotient, the study results revealed that adversity quotient mediates the relationship between academic motivation and career adaptability in nursing students. Specifically, the study found a significant indirect effect of academic motivation on career adaptability through adversity quotient. These findings are consistent with previous research showing that adversity quotient plays an important role in the development of career adaptability and success in various domains, including education and the workplace (Stoltz, 2015). The result highlights the importance of adversity quotient in success of nursing profession as it improves nursing student resilience, adaptability, and success in the face of challenges and uncertainty. Also, it sheds light on the importance of academic motivation in developing career adaptability in nursing students.

Conclusion

In total more than one third of nursing students had moderate and high level of academic motivation, more than forty percent had moderate level of career adaptability and above forty had a high level of adversity quotient. There was a significant positive correlation between nursing students' academic motivation & adversity quotient, between adversity quotient & career adaptability and between academic motivation & career adaptability. Adversity quotient mediates the relationship between

***Nursing Students' Academic Motivation and Career Adaptability:
Mediating Role of Adversity Quotient***

academic motivation and career adaptability in nursing students.

Recommendations

In practice, nursing students should be encouraged to participate in volunteer work, and other experiential learning opportunities that can expose them to different aspects of the nursing profession and help them develop a clearer understanding of their career goals and aspirations. In education, seminars or workshops should be held to prepare students looking for their jobs as how to pass job interviews, write CV and job application letters. Speakers who can provide an overview of the job market and a picture of the nursing industry, whether from an academic or professional perspective should be invited to faculty conferences.

Implement interventions such as goal setting, feedback, and recognition programs to increase student motivation and engagement. Educator should consider individual differences and characteristics when examining career adaptability in nursing students. Further research should be done on relation between adversity quotient and personality traits of nursing students and factors affecting on career adaptability and academic motivation of nursing students.

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