EXAMINING THE RELATIONSHIP BETWEEN GRIT AND QUALITY OF LIFE: THE MEDIATING ROLE OF SOCIAL SUPPORT AMONG NURSES

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Abstract: Nurses make up the largest segment of healthcare workforce and find themselves on the front lines of treating patients with various mental and physical ailments. Thus, it can be hard for them to cope with their personal health and life instances. Grit is the term given to a non-cognitive, positive personality trait which is based on a person's individual perseverance of effort combined with the passion for a particular long term goal or end state. Social Support refers to how individuals perceive friends, family members and others as sources available to provide overall support during times of need. The present study focuses on examining the relationship between grit and quality of life among nurses and also the mediating role of social support. A sample of 158 nurses was administered with the Short Grit Scale by Angela Duckworth (2009), Quality of Life Scale by Sharma and Nasreen (2014) and Multidimensional Scale of Perceived Social Support by Zimet, Dahlem, Zimet & Farley (1988). The relationships between grit, social support and quality of life were examined using correlation analysis and hierarchical regression analysis. A positive correlation of grit and social support with quality of life was revealed. Hierarchical regression analysis showed that grit and social support contributes in increasing the levels of quality of life among nurses. Social support was found partially mediating the link between grit and quality of life.

Key Words: Grit, Social Support, Quality of Life, Nurses, Positive Psychology

INTRODUCTION

        "Nurse: just another word to describe a person strong enough to tolerate anything and soft enough to understand anyone"-Medelita (Jacoby, 2018).
Nurses are in an occupation which involves investing a great amount of emotive, physical and psychological energy on taking care of others. They are frequently trapped between the complicated chain of power including the doctors, matrons, caretakers, patients' families and administrative staff. Changeable and vague postings, rules and regulations, interpersonal struggle inside the healthcare team, diminished social observation and respect, beneficial remunerations overseas, reduced family time and insufficient support from family are multiplying the stress levels of a nurse operating in any setup. Ever since the COVID-19 Pandemic outbreak, the hospital staff has been operational under extreme stressful state of affairs that has made them prone to various mental health situations. The Corona Virus outbreak has positioned these healthcare workers in incalculable pressure and overload of work, which can aggravate anxiety and stress, trigger insomnia, lead to depressed temper, irritability and fear **(Geoffroy et al., 2020)**.
Grit is described as the strength of mind to achieve an ambitious, enduring goal regardless of the unavoidable obstacles **(Doskoch & Flora, 2005)**. Characteristics of grit comprises of the behaviors that an individual displays for instance working diligently to go beyond challenges, sustaining prolonged interest, enthusiasm, zeal and effort, whilst overcoming

hardships and failures **(Duckworth et al. 2007)**. Studies on social support conquered the explorations of researchers. Even though social support is a many-sided concept, meanings and types were not classically found in recent investigations. Social support could be recapitulated as the values, assistances, and care received from one's family, friends, and significant others **(Dollete et al., 2006).**

However, the importance of coworker support was verified in one study **(AbuAlRub, 2004)**. Similarly, social support from supervisors or colleagues demonstrated a negative association with work stress **(Muncer, et.al., 2001 & Joiner & Bartram, 2004)**. Quality of life is stated to be a perceived measure of physical and mental health **(Chang, 2000)**. It is subjective dimension of physical and mental health measured under various magnitudes including life satisfaction, happiness, motivation, hopes, stress reduction, anxiety, and wellbeing. Quality of life also includes quality environment in which a person lives. An eminent environment is the one which sufficiently provides for the basic needs of an individual (food, housing, safety), provides for a variety of opportunities according to the individual's capabilities and which also offers control and selection within those surroundings.

To survive with the disputes in the healthcare system and also to assure the quality of treatment delivered and client contentment on the quantity of care received, it is very important to understand the levels of satisfaction of nurses in reference to their quality of life and profession and what characteristics manipulate this quality of life of theirs. **Duckworth and Gross (2014)** highlighted the importance of a goal headed behavior non-cognitive traits like grit during difficult conditions in order to accomplish long-term ambitions. **Mueller et al. (2017)** emphasized the derivation of grit from passion through the process of self-regulation. Grit is equally essential as is intelligence with regard to academic success **(Duckworth et al., 2007)**. Researchers have constantly associated social support with improved mental health. The influence of social support has repeated been inspected in studies especially perceived emotive support. **Dusselier, et al (2005)** supported the research reveals by **Nahid and Sarkis (1994)** regarding social support being helpful for individuals to reduce the stress levels caused by stressful life events and also cope with these situations with greater energy and means. A study by **Hou, et al (2015)** in 1898 rural women examined the relationship between depression and social support. Logistic regression was used to analyze the data obtained and the results suggested that low levels of social support were found to be positively related with depression. The study also revealed that young age and better social support helped in decreasing depression among women.

CONCEPTUAL FRAMEWORK

Figure 1: Conceptual framework of the relationship between grit, social support and quality of life.

The conceptual framework reveals the research design and stratagem for the single-mediator model by McKinnon (2008). The researcher focused on understanding whether any relationship exists among the variables (grit, social support and quality of life). The researcher would also examine how well social support mediates the relationship between grit and quality of life.

METHOD

Problem

To study the inter-relationship among grit, social support and quality of life among nurses.

Objectives

- To study the association of grit with quality of life.
- To study the association of grit with social support.

- To study the association of social support with quality of life.
- To study the mediating role of social support between the association of grit and quality of life among nurses.

Hypotheses

- Grit will be positively associated with quality of life.
- Grit will be positively associated with social support.
- Social Support will be positively associated with quality of life.
- Social Support will fully mediate the association of grit and quality of life.

Design

Correlational Design was used to study the relationship among grit, social support and quality of life.

Sample

158 nurses (48 males, 110 females) belonging to the age group 25 to 45 years from various hospitals of Agra, Mathura and Delhi. Convenient Sampling technique was used.

Variables

- **INDEPENDENT VARIABLE**
  - ❖ Grit

- **DEPENDENT VARIABLE**
  - ❖ Quality of Life

- **MEDIATING VARIABLE**
  - ❖ Social Support

Tools

- ◉ **The Grit Scale**: The Grit Scale developed by Duckworth (2007) was used to measure the grittiness of the participants. The scale has 12 items divided into 2 areas- perseverance and passion, rated on a five point likert scale. Reliability range from 0.77 to 0.89 (Cronbach's α) and has high predictive validity.

- ◉ **Self-Report Altruism Scale**: Self Report Altruism Scale developed by Rushton (2009) was used to measure altruism of the participants. The scale has 20 items with a 0-4 rating. Reliability being 0.80 and high predictive validity assured.

- ◉ **Quality of Life:** The quality of life scale by Sharma and Nasreen (2014). It contains 42 items divided into eleven areas—I. Life Satisfaction, II. Goals and Motivation, III. Spirituality, IV. Happiness, V. Hopes and Wishes, VI. Stress reduction, VII. Frustration Depression/Anxiety, VIII. Adjustment, IX. Physical Well-being and Self Care, X. Effectiveness/Efficiency of myself, XI. Personal Development/Personal Evolution. Reliability being 0.80 and the face and construct validity assured.

Statistical Technique

Relationship between the three variables (Grit, Social Support and Quality of Life) was tested using Pearson Product Moment Correlation Coefficient and Mediation analysis.

RESULTS

Inter-correlations and Descriptive Statistics

Table 1 shows the correlation among the independent and the dependent variables. It also shows the inter-correlation among grit, social support and quality of life.

Table 1
Correlation Matrix

	Mean	SD	GRIT	Social Support	Quality of Life
GRIT	41.09	7.886	1		
SOCIAL SUPPORT	64.85	14.102	0.320**	1	
QUALITY OF LIFE	103	12.474	0.467**	0.642**	1

**p < 0.01

The correlation matrix reveals a positive relationship between grit and social support (r=0.320) which is found to be significant at 0.01 level. This shows that an increase in grit scores have a tendency to increase the scores of social support. A positive relationship was established between the scores of grit and quality of life (r=0.467) and statistically significant at 0.01 level. The relationship between social support and quality of life scores was found positive and significant at 0.01 level. This indicates that an increase in the scores of social support tends an increase in the scores of quality of life. An evidence of a significant positive correlation was found between grit and social support (r=0.320). This suggests that an increase in the scores of grit would induce a change in the scores of social support in the same direction.

Mediation Analysis

The mediation analysis is represented through the mediation model that clarifies as how and why there exists a relationship among the variables, and where the mediating variable, M, hypothetically acts as a mediator in the relationship between the independent variable- X and the dependent variable- Y (MacKinnon, 2008).
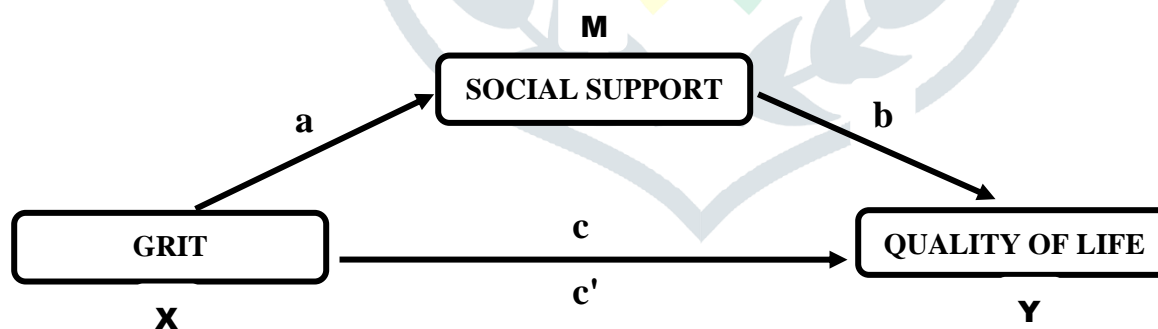
Figure 2: Research design and procedure for the single-mediator model (MacKinnon, 2008).

The above figure explains the research design and procedural action for the Single Mediator Model used to analyse the inter relationship among the variables, through the steps of mediation formula. First step (path C) necessitates the understanding on the relationship between the independent variable (X) - Grit and the dependant variable (Y) - Quality of life. Second step (path A) involves understanding the relationship between the independent variable (X) and the mediating variable (M) - Social Support. Third step (path B) requires the knowledge of the relationship between the mediating variable and the dependent variable (Y). The final step in mediation formula includes applying hierarchical regression analysis to measure which variable predicts Quality of Life best.

Testing the Mediating Role of Social Support in the Relation between Grit and Quality of Life

Table 2

Grit (IV) and Quality of Life (DV)

Variables	B	SE	Beta	t	R	R Squared	F
GRIT	0.738	0.112	.467	6.592**	.467**	.218	43.452**

**p < 0.01

Following the steps of mediation formula, it was established that grit and quality of life were positively related with reach other significantly (β = 0.467, t = 6.592, p < 0.01). Results are revealed in Table 2. Grit is the independent variable here and Quality of Life is the criterion variable. The b value (b = 0.738) explains the variation that occurs in the scores of quality of life with a change of 1 unit in the scores of grit among the sample. Thus, the hypothesis stating "*Grit will be positively associated with quality of life*" was accepted.

Table 3

Grit (IV) and Social Support (M)

Variables	B	SE	Beta	t	R	R Squared	F
GRIT	0.573	.136	.320	4.225**	.320	.103	17.848**

**p < 0.01

Through the second step in mediation formula, a significant and positive relationship was confirmed between grit and social support (β = .320, t = 4.225, p < 0.001). Results revealed in Table 3. Grit being the independent variable and social support is the mediating variable. The b value predicts a change of 0.573 units that takes place in the scores of social support as a result of 1 unit change in the scores of grit. Thus, the hypothesis stating "*Grit will be positively associated with social support*" was accepted.

Table 4

Social Support (M) and Quality of Life (DV)

**p < 0.01

Variables	b	SE	Beta	t	R	R Squared	F
SOCIAL SUPPORT	0.568	0.054	0.642	10.453**	0.642	0.412	109.269**

Third step of mediation formula revealed a positive relationship between social support and quality of life (β = 0.642, t = 10.453, p < 0.001). Results were found significant showed in Table 4. Social support being the mediating variable and quality of life is the dependent variable. A variation of 0.568 is predicted by 1 unit change of social support scores in the scores of quality of life. Therefore, the hypothesis stating "*Social Support will be positively associated with Quality of Life*" was accepted.

Table 5

Mediation of Social Support in relation between Grit and Quality of Life. Hierarchical regression analysis with quality of life as dependent variable.

Variables	B	SE	Beta	t	R	R Squared	F
Step 1							
Grit	0.738	0.112	0.467	6.592**	0.467	0.218	43.452**
Step 2							
Grit	0.427	0.214	0.344	5.343**	0.542	0.228	33.422**
Social Support	0.637	0.201	0.386	4.623**			

**p < 0.001

Table 5 shows the outcomes of multiple regression analysis, where grit and social support were the independent variables and quality of life was the dependent variable. First grit entered the equation and accounted for about 22% of variance in predicting quality of life among the sample. Social support entered second in the equation and created an addition of 1% variance in the prediction of quality of life. This makes it evident that grit and social support together can create a variance of about 23% in predicting quality of life. The last model with grit and social support stands as evidence with the standardized beta coefficients, that there is a statistically significant relation between the independent variables and the dependent variable- quality of life. Social support was found to be the strongest predictor of quality of life.

The results of hierarchical regression analysis verified that grit was positively associated with quality of life ($\beta = 0.467$, t $= 6.592$, $p < 0.01$). However, when grit and social support were taken jointly in the regression analysis, a decrease in the significance of the relationship between grit and quality of life was observed ($\beta = 0.344$, t $= 5.343$, $p < 0.01$), in spite of that, the relationship between grit and quality of life was discovered to be significant statistically. This result indicates a partial mediation (Kenny, Korchmaros and Bolger, 2003). This declares that social support partially explains the relationship of grit and quality of life. As a result, the hypothesis that stated "Social Support will fully mediate the association of Grit and Quality of life" was partially accepted.
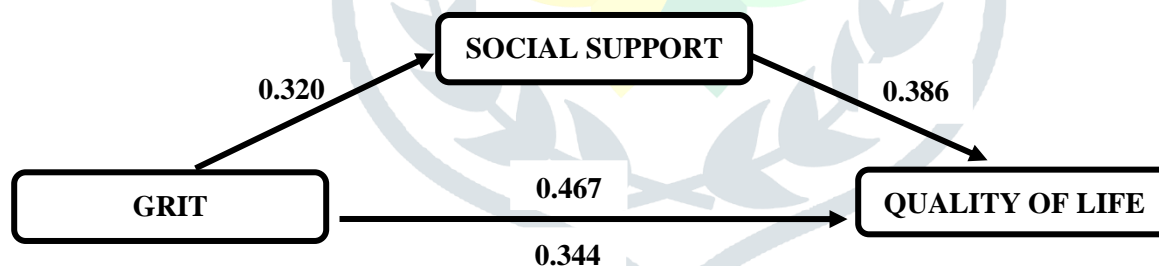

Figure 3: Mediator role of social support in the relation between grit and quality of life.

The hierarchical regression analysis findings that tested the mediating role of social support in the relation between grit and quality of life are shown in Figure 3. As represented in Figure 3 the beta value of grit when predicted alone on quality of life was 0.467. The beta value dropped from 0.467 to 0.344 when social support was added to the equation. Hence, the partial mediating role of social support in the link between grit and quality of life is evidently proven.

FINDINGS AND DISCUSSION

Data analysis and elucidation of the results obtained from the present study directs to the following findings:

- Grit was found to have a significant positive association with quality of life.
- Grit and social support were found to have a significant and positive association with each other.
- Social support was found to be significantly and positively associated with quality of life.
- Social support was found to be partially mediating the link between grit and quality of life.

Atkinson and Martin (2020) investigated the relationship between grit, social support and life satisfaction among adults. The sample comprised of 87 disabled athletes and regression analysis revealed a significant contribution of grit and social support in determination of life satisfaction among the sample. Another empirical study by **Song, Zhou and Wong (March, 2021)** examined the relationship between social support and grit among young adults. 1475 Chinese young adults were included in the sample and the results exposed a positive significant relationship of social support with perseverance of effect but a non significant relationship with consistency of interest. **Khan and Khan (2017)** discovered a positive significant correlation among grit, happiness and life satisfaction among a sample of 100 professionals working in various sectors of healthcare and service sectors. A study on 313 adults by **Lumontod (2019)** aimed to study the inter-correlation among grit, happiness and adjustment. The correlation analysis confirmed a significant positive inter-correlation among the variables, along with the predictive ability of grit in determining happiness and adjustment. **Zhang, et.al (2017)** in a study investigated social support as a mediator in the relationship linking resilience with quality of life among 98 breast cancer patients. The scores were analyzed with t-test, ANOVA and regression and the results revealed social support to be a partial mediator in the relationship between resilience and quality of life among the sample. **Clark, et al (2019)** found similar results through their research on 1077 adults, suggesting the fact that grit and social support are positively related to each other. **Wani (2020)** on a sample of 460 adults examined the relationship between social support and quality of life and found supporting results showing a significant positive relationship between the two. **Kong, Hu, Yao & Zhao (2020)** aimed to understand the mediating role of social support in the relationship of depression and quality of life. Mediation analysis suggested that social support partially mediated the impact of depression in its relationship with quality of life among grownups. Similar results were observed in the present study, where social support partially mediated the role of grit in predicting quality of life among nurses.

CONCLUSION

Nurses are incapable of adopting healthier lifestyles due to the busy schedules, demanding patient care, role clashes and traumatic events in life. This is something that needs to be looked at. Nurses provide with crucial support, physical supervision (if needed), guidance and support. Thus, regardless of the type of hospitals, nurses are to be helped to enhance their positive traits as to fight the daily obstacles and lead a better life. The findings of the present study emphasize the importance of grit in the lives of nurses in order to lead a high-quality life. The research also suggests that grit alone is not enough, good social support can lead to better levels of quality of life. Thus, in order to have a satisfied life – mentally and physically, nurses need excellent social support from their friends, family and partners. Long term passion for service and good social support are easy mentioned on papers but difficult when seen practically in a self-less service profession like healthcare. Thus, it is important to make nurses understand the significance of positive personality traits in their lives and enhance their Quality of Life. Improved Quality of Life will help them stay resilient in their work field and no matter the obstacle they will be able to provide best care service to their patients.

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