

A Study on the Relationship Between Grit and Well-Being with the Mediation Effect of Self-Efficacy: A Case of General Hospital Nurses in South Korea

Phyo Si-Thu¹, Sun-Hwa Yoon², Hae-Ryong Kim^{3*}

¹MS-PhD Integrative Program, Dept. of Business Administration, University of Ulsan

²Health Insurance Review Team, Ulsan University Hospital

³Professor, School of Business Administration, University of Ulsan

그릿이 조직구성원의 웰빙과 자기효능감에 미치는 영향 - 종합병원 간호사를 중심으로 -

시투표¹, 윤선화², 김해룡^{3*}

¹울산대학교 대학원 경영학과 석박사통합과정, ²울산대학교병원 보험심사팀, ³울산대학교 경영학부

Abstract The purpose of this study is to investigate the relationship of grit with well-being and self-efficacy. Grit was considered as a two-factor variable with consistency of interest and perseverance of effort. For the empirical analysis, data were collected from the sample of 237 nurses working at general hospitals. Collected data were analyzed using SPSS 26 to test the hypothetical relationships. It was suggested that two factors of grit would be possible associated with well-being. However, the results of this study showed that the consistency of interest part of grit had non-significant effect on well-being, Perseverance of effort part of grit had indirect effect on well-being through fully mediation effect of self-efficacy. This study confirmed that grit, some how, positively related to well-being and variables such as ,self-efficacy, could be a important variable to bridge grit to well-being. Further studies were suggested to perform studies on more about grit's two factors and unexplored external variables between grit and well-being of nursing professionals.

Key Words : grit, self-efficacy, well-being, mediation effect, general hospital nurse

요약 본 연구의 목적은 그릿, 웰빙, 자기효능감 간의 관계를 살펴보는 데 있다. 그릿은 지속적 관심과 꾸준한 노력의 두 가지 하위차원으로 구성되어 있다. 실증분석을 위해 종합병원 간호사 237명을 대상으로 자료를 수집하였다. 수집된 데이터에 가설적 관계를 검증하기 위해 SPSS 26을 활용해 분석하였다. 그릿의 두 가지 하위차원은 웰빙에 정(+)의 영향을 미칠 것을 제안한다. 이에 본 연구는, 그릿의 지속적 관심은 웰빙에 정(+)의 영향을 미치지 않는 것으로 나타났으며, 자기효능감은 그릿의 꾸준한 노력과 웰빙 간의 관계에서 완전매개 역할을 하는 것을 확인하였다. 이에 본 연구는 그릿(grit)이 웰빙과 정(+)의 영향을 미치고 자기효능감(self-efficacy)이 그릿과 웰빙을 연결하는 중요한 변인이라는 점이 밝혀졌다. 이에 종합병원 간호사의 그릿과 웰빙의 관계에 대해 보다 면밀히 살펴보는 연구가 필요하다.

주제어 : 그릿, 자기효능감, 웰빙, 매개효과, 종합병원 간호사

*Corresponding Author : Hae-Ryong Kim(haekim@ulsan.ac.kr)

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1. INTRODUCTION

Health professionals usually face high level of stress in their workplace. Many studies reported that occupational stress is negatively correlated to wellbeing and has negative impact on job performance. Therefore, to keep an employee in wellbeing state can be regarded as one of the most important things that an organization should do. In this study, we want to find out a non-cognitive personal characteristic which can affect positively on wellbeing, "grit"

Duckworth et al.,(2007) suggested grit, the perseverance and passion for long-term goals. Grit consist of two sub-dimensions , consistency of interest and perseverance of effort[1]. Many researchers proved that grit can predict satisfaction of life, sense of coherence and harmony in life and psychological well-being [2-4]. The optimal performance and health (OPAH) model of grit proposed by Datu J,A (2021) suggested that grit might have three distinct paths to predict the positive effect of grit on well-being (1) needs satisfaction (2) emotion regulation (3) positive cognitions[5]. Recently, there are a number of researches showing that perseverance part of grit is associated with higher level of job satisfaction academic achievement and negatively correlated with turnover intensions and burnout compared to the consistency of interest part of grit[6-8].

Among the three paths of grit proposed by the OPAH model of grit the third one , positive cognitions, means the ability of individual to recognize the positive side of self , other and environments. In previous researches, such variables as meaning in life mindfulness, and self-esteem[9-11]. However, according to our knowledge very few researches has done about the role of "self-efficacy" between the relationship of grit and well-being.

Most of the time, self-efficacy play the role of how individuals feel and control about

themselves. Bandura (1977) described self-efficacy as confidence in taking control over an individual's behavior, social environment, and motivation[12]. According to Komarraju and Nadler (2013) self-efficacy can predict to psychological well-being of an individual through its ability to control cognition, emotions and decisions of oneself.

Previous research reported that grit is positively related to well-being and self-efficacy also positively related to well-being, individually. However, to our knowledge, there are few research to clarify whether grit comes before self-efficacy or self-efficacy is a prerequisite to grit. In this paper, self-efficacy is proposed to be a mediator between girt and well-being [13]. To our knowledge no or very few empirical study has examined the mediation role of self-efficacy between grit and well-being. Therefore, in this study we will try to bridge the gap of the lack of a quantitative study of the mediation effect of self-efficacy between grit and well-being among general hospital nurse in South Korea.

The objective of this study are as followings :

1. To investigate the relationships between two factors of grit and well-being.
2. To investigate the mediation effect of self-efficacy in the relationship between two factors of grit and well-being.

The contribution of this paper, which is the empirical study of self-efficacy, is to fill the gap and add more understanding about how grit and self-efficacy relates and their effects on certain personal outcomes, in this study "well-being".

2. LITERATURE REVIEW AND THEORETICAL BACKGROUND

People might probably think that being passionate and perseverance on a goal for a long-term would be hard and people with those

kinds of qualities may own difficult and unpleasant life. On the one hand this may true. Individuals who seek pleasure in life were lower in grit [14]. But on the other hand, grit is found to be related with two of three qualitatively distinct kinds of well-being developed by Seligman (2002) [15]. Moreover, Grit has indirect effect on Satisfaction with Life and Harmony in Life [3]. Not many researches have addressed the potential mechanism underlying the positive relationship between grit and well-being.

To explain the well-being of an individual, Seligman suggested the PERMA model [16]. In this model, well-being can be built on five measurable elements called Positive emotions, Engagement, Relationships, Meaning and Accomplishment. Well-being of an individual can be promoted if one of its building blocks can be increased. Grit can promote well-being through positive emotions, engagement, meaning and accomplishment. Fredrickson (2009) identifies the ten most common positive emotions. Joy or the spectrum of Happiness, Interest, Hope and Satisfaction[17]. Singh and Jha (2008) made an empirical study in that they could prove Grit is correlated to happiness and life satisfaction [18]. In the book GRIT, Duckworth stated that interest and hope contributed to a part of grit after conducting researches and interviews [19]. Further the empirical study of Von Culin et al (2014) found individuals with higher level of grit seek more engagement in life than their less gritty counter-parts and also individuals who seek meaning in life are found to be grittier[14]. Grit can also improve well-being through accomplishment or achievement path. Achievement is one of the outcomes that grit can best predict. Individuals with higher grit level show higher achievement or accomplishment in education; completing a demanding military training; and entrepreneurial success[1,20-21]. Another way grit can have impact on well-being is through optimism. Grittier individuals possess

higher level of optimism [22] and that optimism has significant impact on mental and physical well-being [23].

People with higher level of grit would possess more positive emotions and attitudes [18] and their perceptions on challenges and obstacles may also be different from the individuals with lower level of grit. Fredrickson's broaden-and-build theory of positive emotions(1998) also indicates that positive emotions build individual's long-lasting psychological, intellectual, physical and social resources[24]. Resources build overtime and increase the individual's overall well-being. It can also be said that positive emotions fuel psychological and physical well-being [25].

Another critical variable that affects the wellbeing of an individual is self-efficacy. Self-efficacy can be defined as the confidence in one's ability to behave in such a way to produce a desirable outcome [12].Stajkovic and Luthans (1998) define self-efficacy as the "individual's conviction about his or her abilities to mobilize the motivation, cognitive resources and courses of action needed to successfully execute a specific task within given context"[26]. That kind of ability is an essential for nursing professionals since they have to face high-level challenges and difficult tasks in their daily workplace. Bandura (1997) reported that high self-efficacy can be related to positive well-being[12].

To explain the how self-efficacy mediates the relationship between grit and well-being, we apply the distal-proximal framework Lanaj, Chang and Johnson (2012). This framework explain how distal personality trait for example, grit here, indirectly influences on work related behaviors which can directly contribute to the well-being of an individual [27]. In workplace such as job performance, job engagement and attitudes via the more proximal mechanism of self-efficacy which is state-like nature and can be developed through certain techniques [28-29].

Similarly with this framework, the optimal performance and health (OPAH) model of grit also suggest variables which can be related to “positive cognitions” of an individual such as meaning in life [9] mindfulness [10], and self-esteem [11] showed mediation effect between grit and well-being.. Therefore, we hypothesized as followings.

Hypothesis 1 : Grit is positively related to well-being

Hypothesis 2 : Self-efficacy mediates the relationship between Grit and Wellbeing.

3. Method

3.1 Study Design and Data Collection

This study is a cross-sectional descriptive survey designed to examine the mediating effects of nurses’ self-efficacy on the relationship between their grit and well-being. Figure 1 shows the conceptual framework of this study. We distributed 250 survey sets to four general hospitals located in Ulsan Metropolitan city. 245 sets were returned which response rate is 98% (245/250) and finally 237 samples were included after deleting 8 insufficiently answered questions.

3.2 Measurements

3.2.1 GRIT

The grit score was obtained by using the Korean translated version of 12-item scale developed by Duckworth and Quinn (2009) [30]. Grit includes two sub-factors, consistency of interest and perseverance of effort. The items 1-6 are related to grit 1, consistency of interest, which includes statements such as “My interests change from year to year” and items 7-12 are relate to grit 2, perseverance of effort, which include statements such as “I finish whatever I begin” Responses are provided using 5 points

Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Cronbach α for the scale was at the time of development and 0.772 in the present study.

3.2.2 Well-being

The scale of well-being was measured by using Korean version translated by Jo and Cha (1998) based on the Satisfaction with Life Scale developed by Diener et al. (1985) [31,32]. Responses are provided using 5 points Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Cronbach α for the scale was at the time of development, 0.77 in the study of Cha, 0.880 in the present study.

3.2.3 Self-Efficacy

New Self-efficacy scale developed by Chen et al (2001) based on the study of Bandura (1977) the scale include 8 items and responses are provided using 5 points likert scale ranging 1 (strongly disagree) to 5 (strongly agree) [33]. We used Korean version (Oh,2002), cronbach α at the time of development is varying from 0.85 to 0.87 and 0.924 in the present study[34].

3.3 Data Analysis

In the present study, at first the descriptive statistics is performed to get demographics characteristics of the samples. Secondly, the construct validity was analyzed through confirmatory factor analysis. Then the reliability of each tool was tested using Cronbach’s α . Finally, to test the hypothesis of the study, we applied structure equation modelling method and performed direct-indirect analysis. To process all the analyses we used SPSS 26.0 and AMOS 26.0.

4. Results

4.1 Demographic Analysis

As shown in Table (1), The majority of samples are female (99.2%), age between 20–29 (54.9%), experience in current workplace is under 5 years (69.6%), the total work experience is under 5 years (51.1%) and the education is University graduate (56.5%) and vocational college graduate (36.7%).

4.2 Confirmatory Factor Analysis

To test the convergent validity of three

variables include in this study we performed confirmatory factor analysis. Construct Reliability (CR) and Average variance extracted (AVE) are used to confirm the result. In Table 2, construct validity of each construct is above 0.5 and the value of AVE is above the required level [35]. The construct validity or internal validity of each construct is above 0.746 which indicates the constructs are valid. Table 3 provides the value of correlations among variables.

Table 1. Descriptive Statistics

	Variable	Frequency	Percentile (%)	Grit	Self-Efficacy	Well-Being
Gender	Male	2	0.8	7.250±.917	3.438±.438	2.800±.600
	Female	235	99.2	6.536±.067	3.437±.038	3.193±.044
Age	20–29 years	130	54.9	6.327±.881	3.395±.049	3.059±.053
	30–39	60	25.3	6.644±.108	3.369±.074	3.300±.087
	40–49	43	18.1	7.238±.149	3.573±.097	3.363±.117
	59–59	4	1.7	7.417±.554	3.750±.323	3.950±.330
Education	High School	87	36.7	6.472±.106	3.403±.060	3.262±.074
	Vocational School	134	56.5	6.532±.091	3.395±.051	3.113±.056
	University	14	5.9	6.875±.262	3.857±.121	3.500±.163
	Others	2	0.8	7.917±.250	3.562±.313	3.000±.400
Position	Temporary	3	1.3	7.417±.127	3.125±.331	2.467±.581
	Permanent	177	74.7	6.357±.076	3.387±.043	3.151±.048
	Supervisor	19	8.0	7.162±.236	3.592±.165	3.242±.134
	Department Head	31	13.1	7.123±.143	3.552±.094	3.432±.145
	other	7	3.0	6.571±.412	3.553±.149	3.257±.285
WorkExp	1–5 years	121	51.1	6.324±.097	3.394±.051	3.098±.055
	6–10 years	43	18.1	6.244±.131	3.375±.082	3.130±.110
	11–15 years	25	10.5	6.963±.168	3.365±.127	3.368±.126
	16–20 years	48	20.3	7.137±.126	3.589±.091	3.383±.110

Table 2. Results of Confirmatory Factor Analysis

Variable	Item	Unstandardized factor loading	Standardized factor loading	S.E.	C.R.	P	AVE	Construct Reliability	Cronbach's α
Grit 1	002	1.000	.638				.603	.857	.817
	003	1.293	.782	.141	9.184	.000			
	004	.1322	.814	.142	9.332	.000			
	005	1.088	.676	.130	3.350	.000			
Grit 2	007	.915	.590	.128	7.146	.000	.534	.820	.728
	008	.923	.631	.123	7.505	.000			
	009	.922	.668	.119	7.800	.000			
	010	1.000	.646						
Self-efficacy	001	.737	.705	.064	11.533	.000	.751	.960	.924
	002	.931	.828	.066	14.136	.000			
	003	.751	.740	.061	12.291	.000			
	004	.775	.742	.063	12.224	.000			
	005	.992	.863	.066	14.839	.000			
	006	.940	.833	.066	14.246	.000			
	007	.805	.733	.067	12.100	.000			
	008	1.000	.794						
Subjective well-being	001	.829	.756	.075	11.112	.000	.724	.954	.808
	002	.992	.836	.081	12.249	.000			
	003	.891	.767	.079	11.282	.000			
	004	.890	.785	.077	11.512	.000			
	005	1.000	.730						

Table 3 .Correlations among variables

	Mean	S.D	1	2	3	4
1	3.263	.708	1			
2	3.211	.634	.349**	1		
3	3.427	.581	.144*	.460**	1	
4	3.190	.669	.133*	.232**	0.435**	1

* p < 0.05, ** p < 0.01, *** p < 0.001
 1= Grit 1, 2= Grit 2, 3= Self-efficacy, 4= Well-being

4.3 Hypotheses Testing

To test the effect of relationships between Grit, Well-being and self-efficacy, we tested the goodness of fit for the whole model. According to the analyzed result shown in Table 4 ,the goodness of fit of the model $X^2= 358.262, df=184$, GFI=.875, RMR=.057, RMSEA=.063, TFI=.929, IFI=.932, CFI=.932. The value of RMR is below 0.08 [36],GFI, AGFI, NFI, is higher than 0.8 [37]. Based on the results, it can be checked that the model in this study can be said fit.

In the present study, we categorized Grit into Grit 1, consistency of interest and Grit 2, perseverance of effort However, according to Table 5, with our samples , Grit 1 does not show significant effect on both self-efficacy and well-being. On the other hand, Grit 2 shows positive direct effect on self-efficacy (estimate .898, p<***) and indirect effect of well-being fully

mediator between Grit 2 and Well-Being and it can be said that our hypothesis is partially supported.

5. Discussion

5.1 Discussion and Implications

The present study is to examine the influence grit on well-being and the mediation role of self-efficacy between the relationship of grit and well-being. We considered self-efficacy as an important mediator for grit to have positive effect on well-being. After conducting survey research on nurses from selected general hospitals in South Korea, the result indicates that the direct effect of grit on well being is not significant. We divided grit into two sub-dimensions consistency of interest and perseverance of effort. In our study only, perseverance of effort showed indirect effect on grit through the fully mediation effect of self-efficacy.

Based on previous researches, we hoped that grit will show positive direct relation with well-being. but the result indicate only one sub-dimension of grit, perseverance of effort

Table 4. Model Fit Indices

Path factor analysis	X^2	Df	P	GFI	RMR	RMSEA	TLI	IFI	CFI
Overall	358.262	184	.000	.875	.057	.063	.922	.932	.932

Table 5. Hypothesis Testing Results

Path	Unstandardized Estimates	Standardized Estimates	S.E.	C.R	P
Grit1> Self-efficacy	-.089	-.074	.072	-1.231	.218
Grit1> well-being	.058	.047	.086	.680	.497
Grit2> Self-Efficacy	.898	.708	.122	7.376	***
Grit2> Well-Being	.180	.136	.158	.1137	.256
Self-efficacy -> Well-being	.399	.383	.118	3.384	***
G1>S->W	-.036				.186
G2>S>W	.358				0.01

N=237 , ** : p < 0.05 , *** : p < 0.001

show the indirect positive effect on well-being. However, this result is consistent with the previous research of Jin and Kim (2017) in not showing direct relationship between grit and well-being [2]

The most important finding of this paper is that consistency of interest does not show direct or indirect relationship with well-being. It agrees with previous research of Disabato et al., (2019) and Datu et al., (2016) in which consistency of interest shows no relation even inversely related with well-being. Kwon (2020) also reported while well-being of individuals is largely driven by the perseverance of effort, consistency of interest adds little to explain well-being [38-40]. One possible explanation for this result is that individuals could attain required resources to enjoy well-being from engaging in activities consistently rather than just interested in. Other finding of this paper is the fully-mediation effect of self-efficacy. One logical explanation for that is when individuals try to engage in some activities for long-term, certain level of confidence that they could accomplish would be required to enjoy well-being in the process. If they don't possess that required confidence that they could finish the task, the task would become a burden and can not bring well-being to them.

The results of this paper propose four implications, two for academic researchers and two for practitioners. The non-significant effect of consistency fuel the doubts regarding the theoretical validity of the originally theorized two factor model of grit [41]. Future researches should be done by comparing the effect of consistency of interest and perseverance of effort on a particular variable such as life-satisfaction, happiness, academic achievement or performance at work.

Secondly, the fully mediation effect of self-efficacy between perseverance of effort and well-being implies that positive cognitions path

of OPAH model of grit works. It may imply that there could be still a lot of unexplored variables and constructs. Further studies should be done in exploration of such kinds of variables, such as resilience, hope, optimism or positive psychological capital, in the future to add the complete mechanism of how grit exert a positive effect on well-being of an individual.

For practitioners, grit, some how, positively relates to well-being of the nurses. It is important to give more attention to grit in the employment activities such as recruiting, training and development and counselling.

Additionally, fully mediation effect of self-efficacy can be a very important implication for practical use. Without self-efficacy, grit cannot predict generate well-being in individuals. Practitioners in nursing education and training can develop specific training methods to increase the level of self-efficacy of individuals as previous researches proved that self-efficacy can be increased through training programme [41].

6. Limitations and Conclusion

The present research has following limitations. First, the survey is conducted on nurses in only certain regions of South Korea, it would be better to get the samples from the whole country. Secondly, the gender ratio is very huge in nursing industry, 99.2% of our samples are female, it should be considered to conduct research on more equal gender ratio sample. Finally, health care industry workers especially nurses have some workplace characteristics. In Korea, "Taeoom" culture means some kind of bullying culture among nurses and it can effect the research. Further researches should be done on some general industry.

As Grit has become one of the most popular research topics, it is important to understand fully about its two sub-dimensions also. Our

research suggest that the two sub-dimensions has their own predictive power on different variables and we need to consider to conduct research in two sub-dimensions rather than whole grit.

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시 투 표 (Si Thu Phyo)

[학사취임]



- 2009년 2월 : 미얀마해양대학교 조선해양공학(학사)
- 2021년 3월 : 울산대학교 경영학과 석박사통합과정 수료
- 관심분야 : 조직, 인사
- E-Mail : sithuphyo93@mail.ulsan.ac.kr

윤 선 화 (Yoon, Sun Hwa)

[장학취임]



- 2009년 2월 : 대동대학교 간호학과(학사)
- 2016년 8월 : 울산대학교 경영학과(경영학석사)
- 2020년 8월 : 울산대학교 경영학과(경영학박사)
- 관심분야 : 조직, 인사

· E-Mail : nur75@hanmail.net

김 해 룡(Kim, Hae Ryong)

[정회원]



- 1990년 2월 : 영남대학교 영어영문학과(학사)
- 1992년 2월 : 영남대학교 경영학과(경영학석사)
- 1998년 12월 : 미)Old Dominion University(경영학박사)
- 2001년 9월 ~ 현재 : 울산대학교 경영

학부 교수

- 관심분야 : 조직, 인사, 기업가정신
- E-Mail : haekim@ulsan.ac.kr