Master's Thesis:

The Effect of Grit on Orientation to Well-Being, Well-Being and their relationship.

Jan Spoeskes

University of Twente

Department of Psychology:

Positive Psychology and Technology

09.04.2018

Supervisors:

Radstaak, Dr. M.

Kelders, Dr. S. M.

Abstract

In a cross-sectional study, we explored the correlates of character strength of grit, defined as perseverance of effort and consistency of interest for long-term goals, with routes towards well-being, and well-being. Specifically, we examined how grit relates to distinct routes to pursue *meaning* in activities, serving self-realization and greater altruistic purpose; *pleasure* in immediately rewarding positive activities; and *engagement* in attention-absorbing activities. Furthermore, moderation analysis should reveal if grit moderates the relationships between routes towards well-being and well-being. The results should give a more nuanced understanding of the relationships of the presented concepts and inform future interventions aimed at increasing grit. Data was gathered through convenience sampling with a total number of 395 participants. The results illustrate that grit, all routes towards well-being, and well-being are positively correlated. Grit was found to be a significant moderator of the relationship between engagement and well-being. Therefore, individuals who pursue engagement benefit from higher levels of grit and reach greater well-being. An inverse effect was found for individuals who seek pleasure: higher levels of grit were shown to decrease general well-being. Collectively, findings indicate that grit contributes to improvements in well-being. Future interventions aimed at developing grittiness, should, however, target individuals who pursue engagement rather than pleasure or meaning.

Table of Contents

1.0 Introduction

In his advice to aspiring writers, the famous filmmaker, author, actor, comedian and musician Woody Allen elaborates:

> *"My observation was that once a person actually completed a play or a novel he was well on his way to getting it produced or published, as opposed to a vast majority of people who tell me their ambition is to write, but who strike out on the very first level and indeed never write the play or book." (Safire, 1989, p. 10).*

Over the last several years, psychology has shifted its focus from a more traditional view on negative and dysfunctional mechanisms in life to attributions about "health, motivation, capacities, potential, and social functioning" (Singh & Jha, 2008). Especially concepts like intelligence, talent, happiness and life satisfaction have been discussed in an ambiguous attempt to collect knowledge and, ultimately, attempt to understand how to make life better (Arthaud-Day, Rode, Mooney, & Near, 2005). Investigating key factors to success has been a popular theme not only in occupational psychology but also in popular media or education facilities (Blair, 2012; Davis, 2014). IQ has been shown to be a well-established index for predicting work outcomes reliably. However, there is no clear answer to the question why some individuals with the same level of intelligence achieve success and others do not. Besides IQ, there is not much known about other individual differences that predict success. A newly defined personality trait, called "grit" has gained a lot of attention from scholars recently and suggests to be a valid predictor of long-term success. Duckworth and colleagues (2007) define grit as prolonged interest and adherence to long-term goals and showing resilience despite setbacks.

Grit requires working towards a superordinate goal over a long period with self-authored motivation. Ryan and Deci (2000) suggest that those working with an intrinsic motivation towards a specific goal have more interest, confidence, and excitement which in turn manifests in enhanced performance, persistence, creativity and general well-being (Ryan, Deci, & Grolnick, 1995). There has been an increased interest in understanding the role of grit in various fields. Past research on grit has concentrated mostly on its positive correlation to academic outcomes (e.g. Bowman, Hill, Denson, & Bronkema, 2015; Hodge, Wright, & Bennett, 2017; Muenks, Wigfield, Yang, & O'Neal, 2017). Furthermore, previous studies suggest that individuals with high levels of grit show a relatively higher retention rate and fewer career changes compared to those with lower levels of grit (e.g. Kelly, Metthews, & Bartone, 2014; Maddi, Metthews, Kelly, Villareal, & White, 2012).

Only few research has been done on how individual's levels of grit impact well-being. Although the concept of well-being has interested philosophers for more than 2000 years, there is limited understanding of the impacts of personality traits. Moreover, little is known about the different routes people take to acquire a state of well-being. The increase of research on well-being in recent

decades has led to a recognition of different routes of well-being. Well-being is structured into two broad disciplines, one dealing with pleasure (*hedonia*), and the other with meaning (*eudaimonia*) (Ryan & Deci, 2001). In the present study, we extend this distinction with Seligman's (2002) notion of a third route, called engagement (*flow*).

The general research question of this study tries to illuminate grit and how it relates to different motivations towards well-being and well-being itself. By answering this research question, we want to give a more nuanced understanding of the presented concepts and their relationships. As a result, this research may someday inform interventions aimed at increasing underlying facets of grit by targeting specific approaches towards well-being. Finally, by establishing the association between grit and well-being, we try to shift the traditional achievement context of grit to a framework in which grit previously only rarely has been examined. It is plausible that improvements in one's long-term perseverance may not only beneficial in achievement related contexts but that it is a significant contributor to general well-being.

1.1 Grit

For more than a century, psychological literature discusses that sustained effort and focused interest are distinct from talent but still vital to success. In one of the earliest works on factors contributing to achievement, Galton (1892) proposes that talent only is insufficient for achievement. The most successful individuals instead show a combination of "zeal" and a "capacity for hard labour" (p.38). Recent research builds upon Galton's notion by introducing a factor called grit. Grit has been described by "the tenacious pursuit of a dominant superordinate goal despite setbacks" (Duckworth & Gross, 2014, p. 1). Individuals with high levels of grit behave tortoise-like, characterized by their tendency to maintain "effort and interest over time despite failure, adversity, and plateaus in progress" (Duckworth et al., 2007, p. 1088). On the other side, less gritty individuals have been shown to be easier discouraged, undergo more frequent career changes and led off track more often by new passions. Grit entails having a superordinate goal that sits on top of a hierarchy meanwhile lower-order goals are tightly aligned and serve to advance toward the superordinate goal. When confronted with setbacks, gritty individuals find alternative actions that give rise to effective progress towards the main objective (Duckworth & Gross, 2014).

Grit encompasses two different components. The first factor, identified as consistency of interest, reflects an individual's reported tendency to adhere to goals over long periods of time without changing them. Consistency of interest is expressed in the extreme stamina of a particular interest. The second facet of grit, titled perseverance of effort, is represented by individuals who are resilient and hardworking. The second factor is about working diligently toward the same higher-order goal over very long periods of time. The concept of grit overlaps with achievement aspects of conscientiousness, one of the Big Five personality traits that describes organized and self-controlled individuals (John & Srivastava, 1999). Although grit and conscientiousness correlate highly, these two traits operate at different time scales (Duckworth & Gross, 2014). Conscientiousness entails acting towards a goal despite of momentarily, more appealing, alternatives, giving information about the intensity of short-term actions. Grit on the other hand requires to work assiduously towards a superordinate goal over months and years and expresses itself in long-term stamina (Duckworth et al., 2007). In short, a gritty individual tries to make consistent progress towards its' domain of passionate interest over long periods of time. When faced with setbacks and obstacles, the person responds with an active search for alternative actions.

Individual's levels of grit have been shown to predict achievement in several areas of life such as lifetime educational achievement, academic performance at prestigious universities (Duckworth et al., 2007) and the final rank of (young) competitors in National Spelling Bee contests (Duckworth et al., 2011). An investigation by Bartone and colleagues (2008) shows that 50 percent of soldiers enrolled in the U.S. Army's Special Operations Forces drop out during the selection process. Grit has been shown to be superior to SAT score, high school rank or self-control in predicting cadets retention

in a military academy (Duckworth et al., 2007). Overall, research findings show that individual differences in grit have at least small-to-medium sized predictive validity on later life outcomes in academic, vocational or avocational domains (Roberts, Harms, Smith, Wood, & Webb, 2007; Duckworth et al., 2014).

1.2 Well-Being

The increasing awareness of science concerning subjective well-being can in part be seen as a reaction to the overwhelming emphasis in psychology on negative states. A review executed by Myers and Diener (1995) has shown that before the 21st century, psychological articles examining negative states outnumbered those that deal with positive states by a ratio of 17 to 1. This changed with the introduction of the positive psychology movement in the beginning of the 21st century, leading to studies concerning the optimal functioning of people (Gable & Haidt, 2005). In the past, many researchers have treated well-being as a sole entity. It is now clear that subjective well-being consists of separable components with unique patterns of relations with a variety of particular variables (Diener, Kahneman, & Schwarz, 1999). One reason to be interested in research about well-being is that it consists of more than just feeling good. People who are satisfied with their lives are healthier, more successful and socially more engaged (Peterson, Park, & Seligman, 2005). Individuals who report high states of well-being experience positive emotions more frequently. As a consequence, personal resources accumulate, such as becoming more creative, resilient or socially integrated, that outlast emotional states (Fredrickson, 2004).

Keyes (2002) works towards a diagnosis of mental health by defining subjective well-being as a symptom of mental health that is not only derived from positive feelings but also from positive functioning in life. The presence of mental health is associated with optimal functioning, meanwhile the absence is characterized as languishing in life, expressed in feelings of stagnation or emptiness in life. Subjective well-being is not just the presence and absence of emotional states but rather the presence and absence of positive functioning in life, compromised by psychological well-being and social well-being. Therefore, the concept of well-being is structured into three different components: emotional well-being, psychological well-being, and social well-being. The multidimensional model of general well-being is well confirmed in a representative sample of U.S. adults (Ryff & Keyes, 1995; Ryff, 1989).

Emotional well-being is compromised by the presence of positive affect (e.g. an individual is in a good mood), the absence of negative affect (e.g. an individual is not depressed) and perceived satisfaction with life. There are six measurements of someone's positive psychological functioning in life. These dimensions encompass self-acceptance, positive relations with others, personal growth, environmental mastery, purpose in life and autonomy. Therefore, persons show positive psychological functioning when they have positive evaluations of themselves, have warm relationships with other

people, a sense of continued growth and development as a person, feel able to manage one's life and the environment, have a sense of direction and self-determination in life. Social well-being represents a public and social evaluation of one's functioning in life. The five dimensions of social well-being encompass social coherence, social actualization, social integration, social acceptance and social contribution. That is, individuals function well when they perceive society as meaningful and understandable, that society entails the capacity for potential growth, when they feel a sense of belonging and acceptance by their communities, when they accept most parts of society and think that they can contribute to it (Keyes, 2002).

1.3. Routes towards Well-being

People differ across three approaches to reach well-being. In Seligman's book *Authentic Happiness* (2002), he argues that well-being derives from three different routes, based on three traditional theories, that is hedonism theory (the pleasant life), desire theory (the engaged life), and the objective list theory or eudaimonic theory (the meaningful life). Hedonic contents represent certain mindsets that include a large amount of a focus on the self and the awareness of the present moment. A hedonic life is characterized by having on the one side as many pleasures as possible while increasing the skills to amplify those, and, on the other side, minimize the number of negative experiences (Seligman, 2002). In contrast to hedonism, eudemonism is associated with a balance of focusing on the self and on other people, and the tendency to pursue and contribute to a bigger picture. A eudaimonic mindset typically is in a balance between the present and the future and eager to grow towards a process of self-realization by pursuing career accomplishments, knowledge or friendship (Sirgy & Wu, 2009). Eventually, a eudaimonic motivation towards well-being focuses on meaning and defines well-being in terms of the degree to which a person is fully functioning (Ryan & Deci, 2001) and using his or her skills for the greater good (Peterson et al., 2005). The desire theory or the pursuit of engagement has been introduced by Seligman (2002) as a third route. Influenced by the Hungarian psychologist Mihaly Csikszentmihalyi (1990) and his writings about flow, the engaged life seeks the psychological state of being completely absorbed into an activity. Flow is very distinct from the hedonic, sensual, principle of pleasure since it does not include positive emotions and is even arguably non-conscious (Seligman, 2012). People are so involved in an activity that nothing else matters so that temporal concerns such as time or food are typically ignored (Csikszentmihalyi, 1990).

1.4 Grit, Approaches toward Well-Being and Well-Being

We expect grit to be positively related to subjective well-being. Empirical evidence convincingly demonstrates that people who are involved in the pursuit of subjectively personal goals show higher general well-being compared to those who lack goal-directedness (e.g. Freund & Baltes, 2002; Wiese & Freund, 2005; Wiese, 2007). In that sense, setting up a long-term goal that is in line with self-identified personal convictions should thwart well-being by satisfying psychological needs such as autonomy and competence (Miquelon & Vallerand, 2006; Jin, 2017). We expect a positive relationship between a person's sustained interest and effort with well-being. Thus, the following hypothesis has been created:

H1: Grit relates positively to Well-Being.

Based on the work of Culin and colleagues (2014), we suggest that gritty individuals are those who pursue engagement in activities and meaning in life, compared to those who seek pleasure in life. We conjectured that individuals motivated to pursue well-being through immediate pleasure, would be less likely to self-regulate and maintain interest over time. Pursuing hedonic activities is associated with greater immediate well-being, whereas eudaimonic activities may relate with greater long-term well-being (Huta, 2013; Huta & Ryan, 2009). Gritty individuals are required to show sustained interest and perseverance over time. This includes next to pleasurable rewards also unpleasant setbacks, resulting in individuals who seek hedonia to be less inclined to maintain persistence eventually. On the contrary, those individuals who seek meaning have to develop skill and virtues over time to use them for the service of greater good (Peterson et al., 2005). Since the Meaningful Life facilitates both facets of grit, we expect grittier individuals to show a preference for the eudaimonic approach. At last, we expect gritty individuals to show a preference for the pursuit of engagement. In order to engage in flow-producing activities, one willingly has to spend hours of effortful practice that is required to build skill. Only the highly developed skill of the performer and the challenge of a task enables an individual to experience flow (Csikszentmihalyi, 1990). This dedication to deliberate, intensive practice entails working on challenges that exceed (rather than meet) skills which is not particularly enjoyable in the moment (Duckworth et al., 2011). Thus, higher levels of grit may be represented in individuals with a preference for engagement, because these individuals have to be inclined to work consistently and hard to experience flow. The concerning hypothesis states as follows:

H2: Gritty individuals show a preference for the eudaimonic approach towards well-being and the engagement approach towards well-being.

We expect grit to affect the strength of the relationship between the approaches towards well-being and well-being. Therefore, if for example an individual scores both high on grit and on the eudaimonic approach, it is expected that overall subjective well-being increases too. Congruent with recent findings (Rose, 2016), we expect grit to be a moderator of the relationship between the

engagement route and well-being. Individuals who seek well-being by engaging in absorbing activities are likely to benefit from higher levels of perseverance and sustained interest. As a matter of fact, before experiencing flow, individuals have to spend hours of delinquent practice and be persistent in their interest (Csikszentmihalyi, 1990). It is indicated that Grit is not only beneficial but also a requirement in order to experience flow, leading to experiencing well-being through engagement. Moreover, individuals who pursue pleasure to reach well-being may not benefit from higher levels of grit. An orientation towards pleasure is more likely to impede grit by discouraging prolonged interest over time. The plausible conflict of short-term satisfaction of pleasurable experiences versus the long-term endeavors of gritty individuals is noted in various research (Huta, 2013; Huta & Ryan, 2009). Lastly, we expect grit to have a positive effect on the relationship between eudaimonia and well-being. Investing in the idea of self-growth and pursuing one's personal goals to reach well-being is shown to be predicted by grit (Duckworth & Seligman, 2005). Further, it can be argued that reaching one's potential to attain well-being requires sustained interest and resistance to distraction.

The following hypotheses have been composed:

H3a: Grit positively moderates the relationship between the eudaimonic approach towards well-being and subjective well-being.

H3b: Grit positively moderates the relationship between the engagement approach towards well-being and subjective well-being.

H3c: Grit negatively moderates the relationship between the hedonic approach towards well-being and subjective well-being.

2.0 Methods

Design and Participants

For this research, a cross-sectional design has been constructed with respondents being recruited by convenience sampling. The descriptive statistics of the sample involved can be seen in Table 1. There were 294 participants in total of which more than two-third were women (69.9%). From the original 395 participants, 101 had to be excluded from statistical analysis due to an incomplete response set. Participants were excluded if they did not answer more than one of three scales. Participants who completed the online survey had a mean age of 32, ranging from 19 to 75 years of age ($SD = 12.87$). Most of the participants were German (63%). The second biggest group of participants were South Africans (19%). Most of the participants who took part in the study had a high level of education (66%), represented by either going to a college, having a Bachelor's -or Master's Degree or a Ph.D., highlighting the highly educated nature of the sample. Approximately one-third of the people who took part in the study were assigned to have an average level of education (30%). A small minority of participants had a low education level (3.8 %). The majority of the subjects worked in a full-time job (46%), and a smaller proportion were students (43%). Only a minority of participants reported being unemployed or retired (3%).

Table 1. *Descriptive Statistics of Participants*

Classification	Criteria	Frequency	Percentage (%)
Gender	Male	87	30.10
	Female	202	69.90
Nationality	German	184	63.01
	South African	56	19.17
	Dutch	23	7.87
	Other	29	9.93
Education*	Low Level	11	3.80
	Average Level	88	30.10
	High Level	193	66.00
Status of	Employed Full-Time	133	45.50
Occupation	Employed Part-Time	25	8.60
	Student	125	42.80
	Unemployed	4	1.40
	Retired	5	1.70

*Low Level of Education: Did Not Complete High School and/or Not Sure

Average Level of Education: High School and/or General Certificate of a secondary education

High Level of Education: Some College, Bachelor's Degree, Master's Degree, Advanced Graduate work and/or Ph.D.

Procedure

The survey was created by using a web-based software specifically designed to collect and analyze data online for different purposes. Participants filled in the questionnaires via a computer or mobile phone with internet connection. The sample was collected through announcements in social media (e.g. Facebook), E-Mails and posts on research platforms (e.g. Survey Circle). The present research includes a sample with multiple cultural backgrounds (e.g. Germans; South Africans; Netherlanders). This difference in cultural backgrounds helps us to generalize results beyond just within a western society context. The time for the completion of the whole survey was expected to be 15 minutes. Compensation in the form of a course credit was provided for participants enrolled in specific undergraduate college courses. An incentive for participation was given by offering a chance to win one out of three Amazon vouchers. Participants who do not understand English were not able to take part in the study. Additionally, participants under the age of 18 were excluded from the study. Participation in this study was entirely on a voluntary basis.

2.1 Materials

Questionnaires

The study is part of a bigger research examining the personality trait grit and its relationship between person-environment fit and individual work performance. In the following, only the questionnaires that are relevant to this study will be discussed.

Demographic Variables

At the start of the survey, the participants were asked to answer several questions referring to general demographic details such as the age, gender, level of education and occupation.

English proficiency

Participants were asked to rate their skill of the English language from a scale ranging from 1 ("poor") to 5 ("excellent").

Grit Scale

Duckworth and colleagues (2007) developed a 12-item self-report measure of grit by capturing attitudes and behaviors of high-achieving individuals. Evaluation of data from respondents indicated a two-factor structure of grit (Duckworth et al., 2014). The first factor, identified as consistency of interest, reflects an individual's reported tendency to adhere to goals over long periods of time (e.g. "I often set a goal but later choose to pursue a different one"). The second factor, titled perseverance of effort, is represented by individuals who are resilient and hardworking (e.g. "Setbacks don't discourage me"; "I finish whatever I begin"). Each one of these two subscales contains six items. A confirmatory analysis with more than 700 participants supported this two-factor solution (Duckworth et al., 2007).

Items are rated on a 5-point scale from 1 = *not at all like me* to 5 = *very much like me.* The demonstrated internal consistency for the overall scale is high. The calculated reliability coefficients of this study show a moderate Cronbach's alpha of α = .57 with high reliabilities for each subscale (Perseverance of Effort: α = .77; Consistency of Effort: α = .80) (Hinton et al., 2004). The psychometric properties of the *Grit Scale* are supported by various research (Duckworth et al., 2007; Duckworth et al., 2014; Kelly et al., 2014).

Orientations to Happiness

To investigate how people approach well-being in life, we made use of the *Orientations to Happiness* scale. The *Orientations to Happiness* scale identifies the extent to which a respondent is inclined to pursue pleasure, meaning or engagement in life. The scale consists of 18 face-valid items and is originally developed by Peterson and colleagues (2005). Each of the 18 items reflect one of the three orientations: *Life of meaning* (e.g. "My life has a lasting meaning."), *Life of pleasure* (e.g. "For me, the good life is the pleasurable life."), *Life of engagement* ("I am always very absorbed in what I do."). Participants responses are rated on a 5-point scale ranging from 1 = *not at all like me* to 5 = *very much like me*. Each subscale includes six items and shows a high internal consistency (Duckworth et al., 2014). The intercorrelation between the subscales is moderately, suggesting that these three orientations are related but distinguishable. The calculated Cronbach's alpha of this study can be regarded as high (α = .79). The subscales have moderate to high internal reliabilities (pleasure α = .77; engagement α = .63; meaning α = .77). Through each of these orientations, life satisfaction can be predicted (Peterson et al., 2005). Overall, the *Orientations to Happiness* shows good psychometric properties even among different cultural contexts such as Germany or China (e.g. Peterson et al., 2005; Peterson et al., 2007; Duckworth et al., 2014; Chen, 2010).

Mental Health Continuum-Short Form (MHC-SF)

The *Mental Health Continuum-Short Form* (MHC-SF) consists of 14 items and is developed by Keyes and colleagues (2008), measuring various feelings of well-being. On a 6-point Likert scale respondents rate the frequency of a certain feeling in the past month. The MHC-SF structures into three different subscales. It measures the degree of emotional well-being by three items (e.g. "In the past month, how often did you feel satisfied?"), social well-being by five items (e.g. "In the past month, how often did you feel that people are basically good?") and psychological well-being by six items in total (e.g. "In the past month, how often did you feel confident to think or express your own ideas and opinions?"). Confirmatory factor analysis suggests that the three-factor model is the best fit compared to the one-factor or two-factor model (Lamers et al., 2011). Internal reliability is high for the all of the MHC-SF subscales. Calculations of Cronbach's alpha of our study with all subscales included reveal high reliability (α = .86).

2.2 Analysis of Data

The descriptive statistics with mean and standard deviation have been analyzed with the statistical program SPSS. In later analysis, it was controlled for participant's proficiency of the English language. Differences in the proficiency of English may have consequences for the validity of results, because concepts in one language may be understood differently in another language (Van Nes, Abma, Jonsson, & Deeg, 2010). We used an alpha level of .05 for all statistical tests.

To examine the first hypothesis we chose to apply Pearson's correlation test to investigate the strength of the association of grit and subjective well-being. Secondly, we wanted to analyze the relationship of individuals with high levels of grit with the different routes towards well-being. We split the sample up into two different groups, categorized by individuals who scored one standard deviation above the mean on grit on the one side, and individuals who scored one deviation below the mean on the other side. For the MANOVA analysis, we chose the different routes to be the dependent variable meanwhile participants grittiness served as the between-subject variable. This analysis should reveal if grittier individuals show a preference for either the engagement route or the eudaimonic route.

Finally, to test the third hypothesis, moderation analysis has been executed. We made use of the PROCESS macro for SPSS, written by Hayes (2017). PROCESS is a tool that estimates direct and indirect effects of two-and three-way interactions in moderation models. Grit was chosen to moderate the relationship between the different approaches towards well-being and subjective well-being. The approaches towards well-being served as the dependent variable, and subjective well-being was selected as the independent variable. For each of the three routes towards well-being, a separate moderation analysis has been executed.

3.0 Results

Table 2 displays the means, standard deviations, and correlations of participants' responses on all questionnaires, including the subscales of the *Orientations to Happiness* scale and *Mental Health Continuum Short-Form*.

Table 2. *Descriptive statistics and Correlations among the Grit Scale, Orientations towards Well-being with each subscale, and Mental Health Continuum-Short Form (MHC-SF)*

Questionnaire	M	SD	R							
			1	2	3	4	5.0	5.1	5.2	5.3
1. Grit[a]	3.18	.42	-	-	-	-	-	-	-	-
2. OTH-Eudaimonia[a]	3.45	.71	.39**	-	-	-	-	-	-	-
3. OTH-Engagement[a]	3.17	.56	.51**	.39**	-	-	-	-	-	-
4. OTH-Hedonia[a]	3.32	.69	.27**	.13**	.33**	-	-	-	-	-
5.0 MHC-SF	4.52	1.07	.12*	.27**	.21**	.14*	-	-	-	-
5.1 Emotional Well-Being[b]	5.27	1.40	.03	.09	.11	.06	.68**	-	-	-
5.2 Psychological Well-Being[b]	4.80	1.21	.19*	.29**	.23**	.13*	.89**	.47**	-	-
5.3 Social Well-Being[b]	3.74	1.34	.05	.23**	.15*	.13*	.85**	.37**	.61**	-

Notes. [a] $N = 294$; [b] $N = 290$
* $p < .05$
** $p < .001$

First, we investigated for a positive relationship between grit and well-being. The outcome of the correlation analysis shows that the relationship between participant's level of grit and the individual's reported overall subjective well-being is significant (r (290) = 0.12, p = .04). Further, our results indicate that grit significantly correlates with psychological well-being (r (290) = .19, p = .002), but not with emotional well-being and social well-being. Since grit has been shown to be positively correlated to participants' general well-being, the hypothesis can be confirmed.

Next, we investigated if grittier individuals show a preference for the eudaimonic or the engagement approach towards well-being. We identified 38 individuals (12.9%) with the highest scores on grit. The results of this group have been compared to 44 (15%) participants who scored one standard deviation below the mean. The calculated means per group can be seen in Table 3. The between-subject analysis revealed that grittier individuals did not differ significantly by their means of approaches towards well-being with individuals low on grit (Wilks' Lambda = .99, F (2, 289) = .21, p = .80). No preference for the eudaimonic and the engagement route could be found; the hypothesis cannot be confirmed.

Table 3. *Calculated Means and Standard Deviations for the Eudaimonic and Engagement Orientation towards Well-being for Individuals High and Low on Grit.*

	Low Grit		High Grit	
Orientations towards Well-being	Mean	SD	Mean	SD
Eudaimonia	3.17	.84	3.92	.78
Engagement	2.84	.54	3.61	.59

Moderation analysis indicates that levels of grit do not influence the relationship between seeking eudaimonia and well-being ($\beta = -.07$, $p = .77$). The results of the regression path analysis with grit as a moderator can be seen in Table 4a and Figure 1a. The hypothesis H4a is not confirmed. Individuals who seek eudaimonia do not benefit from higher levels of grit in reaching well-being.

Table 4a. *Grit as a Moderator on the Relationship of Eudaimonia on Subjective Well-Being*

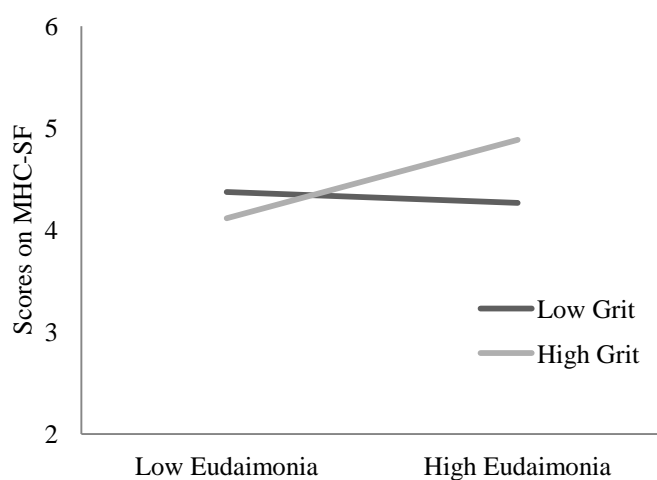|	Well-being			
Predictor	β	SE	t	*p*
Grit	.16	.45	.38	.73
Eudaimonia	.50	.41	1.20	.23
Interaction	-.03	.13	-.27	.79
English Proficiency	.006	.07	.08	.93

Figure 1a. Moderation Effect of Grit on the relationship between Eudaimonia and Well-Being.

Results of the moderator analysis suggest that grit strengthens the relationship between the engagement approach towards well-being and general well-being ($\beta = -,34$, $p = .03$). Thus, individuals who pursue engagement to reach well-being benefit from higher levels of grit. The significant moderation effect of grit on the relationship between engagement and well-being can be seen in Table 4b and Figure 1b. Hypothesis H3b is confirmed. This result was consistent even after controlling for English proficiency.

Table 4b. *Grit as a Moderator on the Relationship of Engagement on Subjective Well-Being*

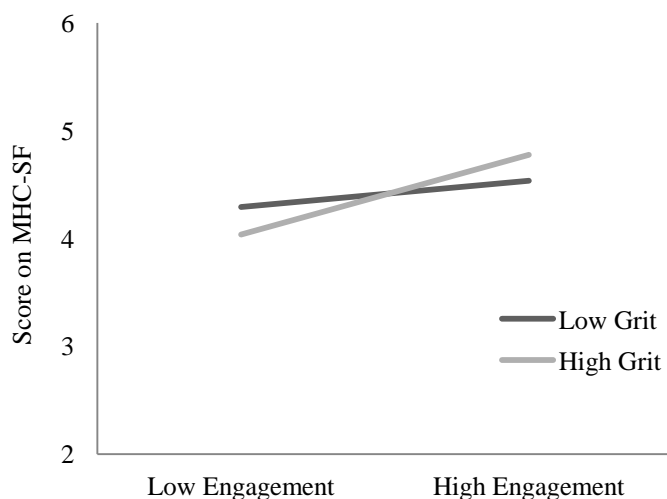|	Well-being			
Predictor	β	SE	t	p
Grit	1.11	.52	2.14	.033
Engagement	1.45	.51	2.84	.004
Interaction	-.34	.16	-2.16	.031
English Proficiency	.02	.08	.25	.799

Figure 1b. Moderation Effect of Grit on the relationship between Engagement and Well-Being.

Results indicate that grit is a significant moderator of the hedonic approach and well-being ($\beta = -.43$, $p < .01$). The outcome of the analysis stayed consistent even after controlling for English Proficiency. Hypothesis H3c can be confirmed. As captured by Table 4c and Figure 1c, the effect of grit on the relationship between hedonia and well-being is inversed. Individuals seeking pleasure benefit from lower levels of grit and reach higher well-being than those individuals, who pursue hedonia and have more grit.

Table 4c. *Grit as a Moderator on the Relationship of Hedonia on Subjective Well-Being*

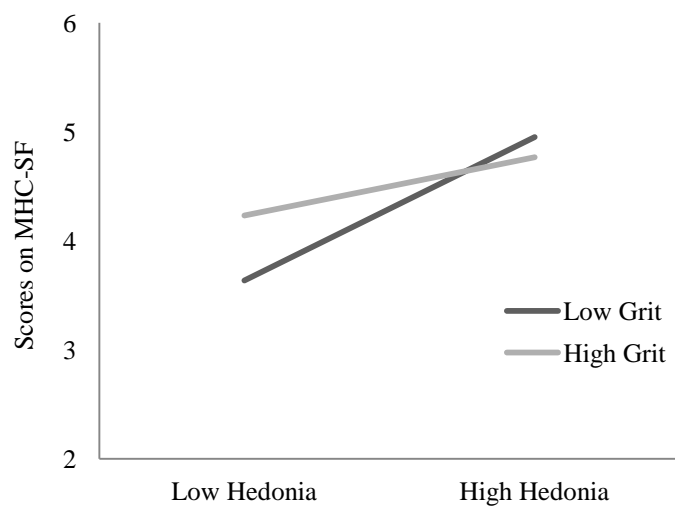| | Well-being | | | |
Predictor	β	SE	t	p
Grit	1.62	.51	3.13	.001
Hedonia	1.53	.47	3.19	.001
Interaction	-.43	.15	-2.93	.004
English Proficiency	.04	.07	.54	.590

Figure 1c. Moderation Effect of Grit on the relationship between Hedonia and Well-Being.

4.0 Discussion

Our results indicate that grit correlates positively with general well-being, with grit and psychological well-being showing a significant positive correlation. However, all found correlations are low (Argyrous, 2011). Investigating characteristics of grittier individuals indicate that there exists no preference for either the eudaimonic approach nor the engagement route in reaching well-being when compared with lower gritty individuals. Grit also seems to be especially important for individuals who seek engagement in life to attain well-being. It has been shown that perseverance and passion for long-term goals do not influence the relationship between pursuing eudaimonia in life and well-being. Pursuing hedonia to reach well-being, it seems that individuals lower on grit show greater well-being than grittier persons.

Our results indicate that there is a positive association between grit and well-being. However, the analysis shows that grit's influence on well-being is rather small. In contrast to social and emotional well-being, only psychological well-being demonstrated a significant positive association with grit. The significant correlations found in our research are in line with a study that explored grit's relationship with concepts such as happiness and one's evaluation of satisfaction in life in general (Singh & Jha, 2008). Researchers found a correlation of 0.32 between grit and life satisfaction. Congruent with past research, we found that psychological well-being, with its emphasis on self-acceptance and purpose in life, seems to be positively associated with a person's perseverance and passion for long-term goals. A study of general surgery residents showed that scoring high on grit was related to greater psychological well-being six months later (Salles, Cohen, & Mueller, 2014). Furthermore, Tiittanen (2014) found that grit was positively associated with life satisfaction, harmony in life and psychological well-being for Swedish participants. Together with our results, this set of findings confirms the notion that showing perseverance of effort and interest contributes to reaching a greater quality of life. Moreover, being gritty about one's long-term personal goals is shown to promote psychological well-being.

Next, we wanted to investigate whether grittier individuals show a preference for either the eudaimonic approach or the engagement approach towards well-being. Results of the analysis reveal that gritty and non-gritty individuals do not differ in their choice for specific routes to reach well-being. This finding contradicts earlier research executed by Van Culin and colleagues (2014), examining the relationship between grit and Seligman's (2002) routes of well-being. They found that the association between grit and engagement is stronger than grit and meaning. Individuals who seek pleasure in life were lower in grit. However, these findings were purely correlational. By restricting our analysis to gritty individuals only, no preference for a specific route was found. A possible explanation for these results may lie within the nature of the sample of this research. Schueller and Seligman (2010) found that the more educated and professional an individual becomes, the more likely the person is to endorse engagement and meaning as their preferred paths to well-being. Our

study was to a large degree dependent on students. We speculate that students differ in their preference for motivations to well-being when compared with working individuals. Grant and colleagues (2009) suggest that conscientiousness, from the Big Five personality traits, marked by self-discipline and linked to success at work, correlates positively with psychological well-being, which overlaps with aspects of eudaimonia (e.g. Ryff, 1989; Ryff, 2014). Previous studies have suggested that conscientiousness increases with age (e.g. John & Srivastava, 1999; Kerstin, 2003; Donnellan & Lucas, 2009). Thus, it can be speculated that a preference for meaning also increases with age. A couple of limitations of the existing literature are worth noting. Few studies have examined age differences in orientation to well-being, and, secondly, only a small number of studies included comparisons between participants of different occupational statuses. Future research is needed to illuminate how orientations to well-being change throughout various stages of life.

Our analysis shows that grit is a moderator of two of the three motivations towards well-being and general well-being. Participants who seek well-being through engagement benefit from higher levels of grit. The moderation effect of grit on the relationship of engagement and well-being is plausible, as engagement and grit theoretically appear to be compatible constructs. Both increase resources and skills, and lead to greater success and goal attainment (see Csikszentmihalyi, 1990; Seligman 2002; Singh & Jha, 2008). Pursuing engagement relies on developing and improving signature strengths to experience flow, attaining a sense of well-being. Before undergoing flow, one has to spend countless hours of delinquent practice and show persistence in interest. Having higher levels of grit improves well-being through the individual's tendency to seek engagement. This is because it relies on an individual's characteristics of showing persistence in sustaining interest and effort. Moreover, grit also impacts the association between seeking hedonia and well-being. We found an inverse effect of grit on the relationship between hedonia and well-being. Individuals who pursue hedonia as a route to well-being do not benefit from sustained interest and perseverance of effort. On the contrary, being lower on grit strengthens the association of seeking pleasure and well-being. This work supports Von Culin et al. (2014) notion that gritty people do not find pleasure as important as engagement. As a matter of fact, our research indicates that being gritty decreases well-being for individuals who primarily approach hedonia. The inverse relationship of grit on the association between pleasure and well-being has been demonstrated in earlier research (Suzuki, Tamesue, Asahi, & Ishikawa, 2015). In the research, investigating associations between grit and orientations to well-being of working adults in Japan, it was found that hedonia negatively correlates with grit. Thus, the negative moderation effect of grit, found in this study, can be explained by the conflict of short-term satisfaction of pleasurable experiences versus the long-term endeavors of gritty individuals (Huta, 2013; Huta & Ryan, 2009). Results indicate that grit does not moderate the relationship between eudaimonia and well-being. This finding is comparable with contemporary research about the relationships of orientations to well-being, well-being, and grit (Rose, 2016). In a longitudinal study, it was found that only engagement mediated the relationship between grit and well-being, while

eudaimonia did not. Our results demonstrate that grit does not benefit individuals who attain well-being through eudaimonia. A possible explanation is that a eudaimonic approach towards well-being relates to a dynamic and a more holistic construct as opposed to a fixed entity. Schueller (2014) argues that actualizing one's potential comes from trial and error next to failure and success. In this process, the individual begins to understand more about his or her values and domain of interest. Therefore, it seems that disappointments, setbacks and giving up can contribute to an orientation towards eudaimonia. We argue that eudaimonian performances on tasks are often ill-defined and require both, creativity, and the willingness to abandon unsuccessful strategies. Being gritty however is expected to be most beneficial when having a specified list of goals, including concrete tasks that are settled (Credé, Tynan, & Harms, 2017). A high degree of sustained effort and deliberative practice is most helpful when the required performance is relatively clear. There exists a gap in literature about how grit contributes to a life that orientates itself to eudaimonic well-being. Future research is advised to explore the impact of grit on the link between eudaimonia and well-being.

4.1 Strengths and limitations of the study

One critical limitation of the current investigation lies within its cross-sectional design. By assessing only one point in time, we display just a snapshot of a given point in a specific population. Further, we acknowledge that cross-sectional research studies are unable to detect cohort effects and changes within individuals (Donnellan & Lucas, 2008). Nonetheless, the advantage of constructing a cross-sectional design for our research is that it is neither time-consuming nor costly to perform. Future investigations would benefit to study grit, motivations towards well-being and well-being itself in longitudinal or experimental designs to explore potential interaction effects and rule out third-variable confounds (Duckworth et al., 2014).

An important strength of the study is its use of validated questionnaires. The reliability coefficients for the *Grit Scale* (.85), *MHC-SF* and *Orientations to Happiness S*cale show good psychometric qualities and are validated by different researchers (e.g. Duckworth et al., 2007; Lamers et al., 2011; Peterson et al., 2005). Along with the above strength, these questionnaires also have limitations. As it is true of any self-report instrument, socially desirable responding may have confounded this research. Respondents can consciously distort their response to the scale to present a favorable image of themselves. For this reason, assessments from different sources such as interviewer ratings as a supplement for the self-report scales, are preferable and advised. An additional flaw concerns the wording of the items of the *Orientations to Happiness Scale*. Most of the items describe what an individual wants or chooses to do, but some items could be interpreted as a description of what one usually does (Von Culin et al., 2014). Future studies assessing orientations to happiness should carefully word items, treating behavior and attitudes as two different constructs.

Moreover, the total sample size of 294 participants can be regarded as satisfying (Simon & Goes, 2012). Another advantage of this study is the inclusion of a sample of South Africa. Studies concerning grit mostly assessed participants from a Western Society and only recently in the Far East (e.g. Li et al., 2018; Datu, Valdez, & King, 2016). Whereas a majority of studies give much attention to person-related correlates of grittiness, social and cultural factors that potentially cultivate grit are often neglected. This accounts not only for the personality trait of grit but also, and possibly more strongly, for approaches to well-being and general well-being itself (Peterson, Park, & Ruch, 2009; Ford et al., 2015). Therefore, studies that involve samples of different social and cultural backgrounds have the power to give valuable, and more complete insights.

4.2 Suggestions for future research and Implications

Future research should attempt to replicate this study and investigate if grit moderates the relationship of the orientations to well-being and well-being throughout the course of life. In doing so, it would increase the confidence in the identified relationship between grit, pleasure, engagement, and well-being. We advice researchers to explore the personality trait grit and its relationship to well-being in a longitudinal study since it allows the detection of changes at an individual level. One of the main findings of this study is that grit contributes positively to general well-being. However, we cannot make estimations about the stability and causality of these two factors throughout life. Decades ago, a common interpretation was that long-term levels of well-being are stable across time (Lykken & Tellegen, 1996). Based on the evidence from genetic studies, one of the strongest statements against the possibility for change suggested that "trying to be happier [may be] as futile as trying to be taller" (p. 189). In a study executed by Lucas and Donnellan (2007) that notion was challenged. They found that life satisfaction measures are shown to be very stable over the short term, but moderately stable over the long-term with room for change. Similar to well-being, there is good reason to think that changes in people's grittiness also occur across the lifespan (Donnellan & Lucas, 2008). For future research, we suggest to investigate the course of grit as a personality trait, and its impact on well-being, throughout life. Results can be applied to individuals in schools and organizations to help build grit. The implications for improving learning are especially relevant for professionals who help to improve academic outcomes of students. A recent attempt with elementary school students in Istanbul successfully increased participant's level of grit and positively impacted school outcomes (Alan, Boneva, & Ertac, 2016). Pupils were more likely to undertake challenging tasks, less likely to give up after failure, and succeeded and earned higher school grades. People could not only increase their success in life but also increase their well-being by making use of interventions to become grittier. Findings of our study suggest that increasing grit in individuals who pursue hedonia would decrease overall levels of well-being. This should be taken into consideration when conducting an intervention. Instead, we advice to improve gritty behavior in those individuals, who seek engagement as a primary route to reach well-being. Because of some mixed findings in this research, it would also be helpful if

future research continuous to evaluate the *Orientations To Happiness Scale*. Research should investigate if each approach measures accurately pleasurable, meaningful or engaging attitudes.

To conclude, being perseverant in sustaining interest and effort, and pursuing well-being through engagement seems to increase subjective well-being. On the contrary, higher levels of grit negatively impact those individuals who pursue hedonia as their approach towards well-being. For interventions aimed at developing grit, it is advised to target engaging behavior rather than pleasurable behavior.

5.0 References

Alan, S., Boneva, T., Ertac, S. (2016). Ever failed, try again, succeed better: Results from a randomized educational intervention on grit. *HCEO Working Paper*, *1*. DOI: 10.2139/ssrn.2761390.

Argyrous, G. 2011. *Statistics for Research*. Sage Publications India Pvt Ltd.

Arthaud-Day, M. L., Rode, J. C., Mooney, C. H., Near. J. P. (2005). The Subjective Well-being Construct: A Test of its Convergent, Discriminant, and Factorial Validity. *Social Indicators Research*, *74*(3), 445-476.

Bartone, P. T., Roland, R. R., Picano, J. J., Williams, T. J. (2008). Psychological Hardiness Predicts Success in US Army Special Forces Candidates. *International Journal of Selection and Assessment*, *16*(1), 78-81.

Blair, C. (2012). Stress Relief can Be the Key to Success in School. *Scientific American Mind*, Retrieved from www.scientificamerican.com/article/stress-relief-can-be-key-success-school/ on 29.11.2017.

Bowman, N. A., Hill, P. L., Denson, N., Bronkema, R. (2015). Keep on Truckin' or Stay the Course? Exploring Grit Dimensions as Differential Predictors of Educational Achievement, Satisfaction, And Intentions. *Social Psychological and Personality Science*, *6*(6), 639-645.

Csikszentmihalyi, M. (1990). *Flow: The Psychology of Optimal Experience*. New York: Harper and Row. Retrieved from htttp://books.google.com.

Chen, G. 2010. Validating the Orientations to Happiness Scale in a Chinese Sample of University Students. *Social Indicators Research*, *99*, 431-442.

Credé, M., Tynan, M. C., Harms, P. D. (2017). Much Ado About Grit: A Meta-Analytic Synthesis of the Grit Literature. *Journal of Personality and Social Psychology*, *113*(3), 492-511.

Datu, J. A. D., Valdez, J. P. M., King, R. B. (2016). Perseverance counts but consistency does not! validating the short grit scale in a collectivist setting. *Current Psychology*, *35*(1), 121-130.

Davis, V. 2014. True Grit: The Best Measure of Success and How to Teach it. *Edutopia: George Lucas Educational Foundation.* Retrieved from www.edutopia.org/blog/true-grit-measure-teach-success-vicki-davis on 29.11.2017.

Diener, E., Kahneman, D., Schwarz, N. (1999). *Well-Being: Foundations of Hedonic Psychology.* Retrieved from htttp://books.google.com.

Duckworth, A. L., Seligman, M. P. E. (2005). Self-discipline outdoes IQ in predicting academic performance of adolescents. *Journal of Psychological Science, 16*(12), 939-944.

Duckworth, A. L., Kirby, T. A., Tsukayama, E., Berstein, H., Ericsson, A. K. (2011). Deliberate Practice Spells Success: Why Grittier Competitors Triumph at the National Speeling Bee. *Social Psychological and Personality Science*, *2*(2). 174-181.

Duckworth, A. L., Gross, J. J. (2014). Self-Control and Grit: Related but Separable Determinants of Success. *Current Directions in PSychological Science*, *23*(5), 319-325.

Duckworth, A. L., Peterson, C., Metthews, M. D., Kelly, D. R. (2007). Grit: perseverance and passion for long-term goals. *Journal of Personality and Social Psychology,92*(6), 1087-1101.

Donnellan, M. B., Lucas, R. E. (2008). Age Differences in the Big Five Across the Life Span: Evidence from Two National Samples. *Psychology and Aging*, *23*(3), 558–566.

Fredrickson, B. L. (2004). The broaden-and-build theory of positive emotions. *The Royal Society*. *359*, 1367-1377.

Freund, A. M., Baltes P. B. (2002). Life-management strategies of selection, optimization, and compensation: measurement by self-report and construct validity. *Journal of Personality and Social Psychology.* Vol. 82(4): 642-62.

Ford, B. Q., Dmitrieva, J. O., Heller, D., Chentsova-Dutton, Y., Grossmann, I., Tamir, M., Mauss, I. B. (2015). Culture shapes whether the pursuit of happiness predicts higher or lower well-being. *Journal of Experimental Psychology: General*, *144*(6). 1053-1062.

Gable, S. L., Haidt, J. (2005). What (and Why) Is Positive Psychology? *Review of General Psychology. 9*(2), 103-110.

Galton, F. (1892). Hereditary Genius: An inquiry into its laws and consequences. London: Macmillan.

Grant, S., Langan-Fox, J., Anglim, J. (2009). The big five traits as predictors of subjective and psychological well-being. *Psychological reports*, *105*(1), 205-231.

Hayes, A. F. (2017). *Introduction to Mediation, Moderation, and Conditional Process Analysis*. New York. NY: The Guilford Press.

Hodge, B., Wright, B., Bennett, P. (2017). The Role of Grit in Determining Engagement and Academic Outcomes for University Students. *Research in Higher Education*, 1-13.

Huta, V., Ryan, R. M. (2009). Pursuing pleasure or virtue: The differential and overlapping well-being benefits of hedonic and eudaimonic motives. *Journal of Happiness Studies*, *11*(6), 735–762.

Huta, V. (2013). *Pursuing eudaimonia versus hedonia: Distinctions, similarities, and relationships*. Washington, DC, US: American Psychological Association. Retrieved from htttp://books.google.com.

Jin, B. (2017). Grit, basic needs satisfaction, and subjective well-being. *Journal of Individual Differences*, *38*(1), 29-35.

John, O. P., Srivastava, S. (1999). The Big-Five Trait Taxonomy: History, Measurement, and Theoretical Perspectives. *Handbook of personality: Theory and research*, *1*(2). New York. Guildford.

Kelly, D. R., Metthews, M. D., Bartone, P. T. (2014). Grit and hardiness as predictors of performance among west point cadets. *Military Psychology*, *26*(4), 327-342.

Kerstin, K. (2003). Personality changes for the better with age. *American Psychological Association, 34*(7), 14.

Keyes, C. L. (2002). The mental health continuum: from languishing to flourishing in life. *Journal of Health and Social Behavior*, *43*(2), 207-22.

Keyes, C. L., Wissing, M., Potgieter, J. P., Temane, M., Kruger, A., van Rooy, S. (2008). Evaluation of the mental health continuum-short form (MHC-SF) in setswana-speaking South Africans. *Clinical Psychology & Psychotherapy*, *15*(3), 181-192.

Lamers, S. M. A., Westerhof, G. J., Bohlmeijer, E. T., ten Klooster, P. M., Keyes, C. L. M. (2011). Evaluating the Psychometric Properties of the Mental Health Continuum-Short Form (MHC-SF). *Journal of clinical psychology*, *67*(1), 99-110.

Li, J., Zhao, Y., Lin, L., Chen, J., Wang, S. (2018). The freedom to persist: Belief in free will predicts perseverance for long-term goals among chinese adolescents. Personality *and Individual Differences*, *121*(15), 7-10.

Lucas, R.E., Donnellan, M.B. (2007). How stable is happiness? Using the STARTS Model to estimate the reliability of life satisfaction. *Journal of Research in Personality*, *41*(5), 1091–1098.

Lykken, D., Tellegen, A. (1996). Happiness is a stochastic phenomenon. *Psychological Science*,*7*(1), 186–189.

Maddi, S. R., Metthews, M.D., Kelly, D.R., Villareal, B., White, M. (2012). The Role of Hardiness and Grit in Predicting Performance and Retention of USMA Cadets. *Military Psychology, 24*(1). 19-28.

Miquelon, P., Vallerand, R. J. (2006). Goal Motives, Well-Being, and Physical Health: Happiness and Self-Realization as Psychological Resources Under Challenge. *Motivation and* Emotion, *30*(4), 259-272.

Muenks, K., Wigfield, A., Yang, J.S., O'Neal, C.R. (2017). How true is grit? Assessing its relations to high school and college students' personality characteristics, self-regulation, engagement, and achievement. *Journal of Educational Psychology*, *109*(5), 599-620.

Myers, D. G., Diener, E. (1995). Who is happy? *Psychological Science*, *6*, 10-19.

Peterson, C., Park, N., Seligman, M. E. P. (2005). Orientations to Happiness and Life Satisfaction: The Full Life versus the Empty Life. *Journal of Happiness Studies*, *6*, 25-41.

Peterson, C., Ruch, W., Beermann, U., Park, N., Seligman, M. E. P. (2007). Strengths of character, orientations to happiness, and life satisfaction. *Journal of Positive Psychology*, *2*(3). 149-156.

Peterson, C., Park, N., Ruch, W. (2009). Orientations to happiness and life satisfaction in twenty-seven nations. *The Journal of Positive Psychology*, *4*(4), 273-279.

Roberts, B. W. Harms, P. D., Smith, J. L., Wood, D., Webb, M. (2006) Using Multiple Methods in Personality Psychology. *Leadership Institute Faculty Publications*, *1*(1).

Ross, C. N. (2016). The Three Pathways to Happiness: How Orientations to Pleasure, Engagement, and Meaning Relate to Grit and Well-Being in a Longitudinal, International Sample. Retrieved from: http://researcharchive.vuw.ac.nz/xmlui/handle/10063/5330 on 14.03.2018.

Ryan, R. M., Deci, E. L., Grolnick, W. S. (1995). Autonomy, relatedness, and the self: Their relation to development and psychopathology. *Developmental psychopathology: Theory and methods*, *1*, 618-655.

Ryan, R. M., Deci. E. L. (2000). Self-Determination Theory and the Facilitation of Instrinsic Motivation, Social Development, and Well-Being. *American Psychologist, 55*(1), 68-78.

Ryan, R. M., Deci, E. L. (2001). On Happiness and Human Potentials: A Review of Research on Hedonic and Eudaimonic Well-Being. *Annual Review of Psychology*, *52*, 141-66.

Ryff, C. D., Keyes, C. L. (1995). The Structure of Psychological Well-Being Revisited. *Journal of Personality and Social Psychology*, *69*(4), 719-727.

Ryff, C.D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, *57*(6), 1069-1081.

Ryff, C. D. (2014). Psychological Well-Being Revisited: Advances in the Science and Practice of Eudaimonia. *Psychother Psychosom*, *83*(1), 10-28.

Safire W. (1989). Woody Allen's secret is out. *Herald Journal*, 10.

Salles, A., Cohen, G.L., & Mueller, C.M. (2014). The relationship between grit and resident well-being. *The American Journal of Surgery*, *207*(2), 251-254.

Schueller, S. M. (2013). Understanding our best: eudaimonia's growing influence in psychology. *Quality of Life Research*, *22*(10), 2661-2662.

Seligman, M. E. P. (2002). *Authentic Happiness: Using the New Positive Psychology to Realize your Potential for Lasting Fulfillment.* New York. Simon and Schuster.

Seligman, M. E. P. (2012). *Flourish: A Visionary New Understanding of Happiness and Well-Being.* New York. Simon and Schuster.

Simon, M., Goes, J. (2012). Dissertation and scholarly research: Recipes for success. Dissertation Success, LLC. DOI 10.13140/RG.2.1.5089.0960.

Singh, K., Jha, S. D. (2008). Positive and Negative Affect, and Grit as predictors of Happiness and Life Satisfaction. *Journal of the Indian Academy of Applied Psychology*, *34*, 40-45.

Sirgy, J. M., Wu, J. (2009). The Pleasant Life, the Engaged Life, and the Meaningful Life: What About the Balanced Life? *Journal of Happiness Studies*, *10*(2), 183-196.

Suzuki, Y., Tamesue, D., Asahi, K., & Ishikawa, Y. (2015). Grit and work engagement: A cross-sectional study. PLoS ONE, 10(9). DOI: 10.1371/journal.pone.0137501.

Tiittanen, M. (2014). Grit and Different Aspects of Well-being: Direct and Indirect Effects via Sense of Coherence and Authenticity. (Unpublished master's thesis). Lunds University, Lunds, Sweden.

Van Nes, F., Abma, T., Jonsson, H., Deeg, D. (2010). Language differences in qualitative research: is meaning lost in translation? *European Journal of Ageing, 7*(4), 313-316.

Von Culin, K. R., Tsukayama, E., Duckworth, A. L. (2014). Unpacking grit: Motivational correlates of perseverance and passion for long-term goals. *The Journal of Positive Psychology*, *9*(4), 306-312.

Wiese, B. S., Freund, A. M. (2005). Goal progress makes one happy, or does it? Longitudinal findings from the work domain. *Journal of Occupational and Organizational Psychology*, *78*(1), 287-304.

Wiese, B. S. (2007). Successful pursuit of personal goals and subjective well-being. *Personal project pursuit: Goals, action, and human flourishing*, 1(1), 301-328.