Is Grit the Key Element to Improve the Life Attitude? A Study with Military Students from Argentina

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Abstract
The main goal of the study is to analyze the link between Grit and Life Attitude, and its relation with the permanence and academic performance of students from the National Defense University. This paper is mainly focused in the link between the first two constructs. Grit is defined as the passion and constancy to achieving goals, to resisting with effort and interest towards the challenges and difficulties, which is a leader’s attribute (Duckworth, Peterson, Matthews y Kelly, 2007). Life Attitude based on the existential belief that life has a purpose, that persons draw meaning from a variety of sources: recreational and creative activities, personal relationships, achievements (Reker & Woo, 2011). A non-probabilistic sample was formed, for convenience, of 162 students; a sociodemographic questionnaire designed ad hoc; the Scale of Determination (Grit Scale) (Duckworth et al., 2007), which is in the process of validation (Tortul and Daura, in evaluation) and the Life Attitude Test (LAP-R (VE-RAA)) in the Spanish adaptation of Barni (2017) were administered. Statistical analysis were made from the collected data, in order to corroborate if there were differences in the variables. The first results showed differences according to career and sociodemographic variables; the undergraduate students obtained higher scores in the positive dimensions of the LAP-R than in other researches made in the same geographical context. The work evidences data of interest in the training of defense professionals, for the decision making in the educational style necessary for an integral formation as a lifelong process.

Keywords: Grit, Life Attitude, Defence Professionals

1. Introduction
The time in which we are insert is a time of lack of the sense or meaning in life, the uncertainty and instability (Bauman, 2002) where is very difficult to find objectives and make decisions (Barni, 2013); the education is dealing with this reality and there is a need to find how to help young people in their search for meaning in life.

This research, as part of a broader work, deals with the connection between Grit and Life Attitude and its relationship with the permanence and academic performance in university students of military training to answer the need of adapting the way we teach within the frame of the educational styles and their link with the life attitude.

The personal meaning as a construct is conceptualized as the existential belief that life has a purpose. Reker and Woo (2011) claim that people draw meaning from a variety of sources, including recreational activities, meeting basic needs, creative activities, personal relationships, personal and academic achievements. This meaning of life is the knowledge that each person needs to know to develop their vital objectives.

Grit, defined as the passion and perseverance to achieve long-term goals, implies resisting with effort and interest in the challenges that may arise, regardless of the difficulties, the monotony and any failures experienced. It is a quality shared by leaders (Duckworth, Peterson, Matthews and Kelly, 2007), particularly those who set medium and long-range objectives,
and who cling to them to make them a reality. As a capacity that is not innate and can be developed, the role that trainers or educators can exert to promote it is crucial.

These two concepts show the great importance of this work and its importance is also shown with the fact that is the first time that they are studied in university students belonging to the armed forces in Argentina. Especially in a society that is crossed by many factors that influence the capacity of various dimensions both of the Life Attitude and the Grit scale. Other studies in Argentinian population have shown that not always the students (regardless of their stage in their vital cycles) are capable of achieve the goals they seek or to fulfil the academic aims they set themselves (Messing, 2009).

From these concepts and necessities we decided the three main goals to this stage of the study (a) analyse the differences between the global Grit score and the Life Attitude Profile Revised (LAP-R (VE-AA)) according to sex; (b) examine if there are significant differences in two selected subsamples of undergraduate and graduate students in the military field in the global Grit Scale and the Personal Sense Index extracted from LAP-R (VE-AA) and (c) analyse the correlation between the global Grit Scale score and the Personal Sense Index extracted from LAP-R (VE-AA).

The importance of having the results of this study underlies in the fact that this data will provide the authorities of the academic units information in order to make decisions based on empiric data and collaborate to improve the teaching styles. Besides, the students will be aware of the importance of knowing their own goals, capacities and the way to achieve them.

2. Theoretical Framework of Reference

Is Grit the Key Element in Education?

Grit is the theory of passion and perseverance as a significant predictor of success. In the context of this theory, it is defined as passion and perseverance to achieve long-term goals; it implies resisting with effort and interest the challenges that arise, regardless of the difficulties, the monotony and/or the experiences of failure that have to, sticking to future goals, make them come true. Therefore, it is considered as the quality shared by the great leaders (Duckworth, Peterson, Matthews and Kelly, 2007).

Consequently, the determined person conceives the long-term goal as a marathon, not as a race at full speed (Duckworth, 2013, April) and in that context is aware that its main advantage is to have a great resistance, which leads, in turn, to conceive the process more defiantly and to develop greater persistence.

This capacity is independent of the level of intelligence quotient (IQ) that a person has, a considerable number of studies had corroborated that people who excel in their profession do not do so much for their innate qualities, but for the effort and dedication they use to achieve various objectives (Duckworth, Peterson, Matthews and Kelly, 2007). The definition of the construct shows that the two variables that comprise it emerge as: interest in consistency or passion for long-term objectives and perseverance in the face of effort. What best allows to develop the Determination in people, is what is recognized as "growth mentality" (Dweck, Walaton and Cohen, 2014), it is the belief that the ability to learn is not fixed and that it can change as the person struggles to face the difficulties of any learning process; when the latter are resolved, a greater awareness of their own capacity to learn develops and the obstacles experienced are not perceived as impediments, but as challenges that can be resolved and that allow reaching higher levels of mastery in any domain.

The study of this construct can help the understanding on how to prevent academic dropouts, and on the perseverance necessary to complete the studies (Office of Educational Technology, 2013); through the inquiry of some motivational and cognitive variables that are closely linked to the Determination, in particular, the intrinsic and extrinsic goals, the assessment of the task, the metacognition, the regulation of the effort and the search for help. There are also points of connection between these terms in the definition that Fredricks, Blumenfeld and Paris (2004) make about the behavioral commitment, which refers to the participation that is needed to reach academic goals, and about the cognitive commitment, which entails the effort necessary to master complex thinking tools.

As a capacity that is not innate and can be developed, the role that trainers or educators can exert to promote it is crucial. There are numerous works in which the relationship between the Determination and the Academic Commitment is shown (Atapattu, 2015, Hodge, Wright and Bennett, 2017; Nelson, 2016), as well as with academic performance (Chang, 2014, Bazelay, Lemay and Doleck, 2016, Palisoc et al, 2017, Reed and Jeremiah, 2017, Wolters and Hussain, 2015). Regarding
its relationship with learning developed by adult students, research developed by Duckworth (Duckworth, Peterson, Matthews and Kellu, 2007, Duckworth, Quinn, Seligman, 2009) show the importance of deepening their study.

From this theoretical approach, it is where the study of Grit and its link to the Life Attitude is studied. In this work, we focus in particular, in undergraduate and graduate students of military careers, which are developed in National Defense University (Argentina).

Thereon, the present work covers a knowledge gap, since we could not find a research that would have been carried out with this population in the sociocultural context mentioned and, in the other hand, allows to establish links with previous research carried out in other countries (Borae & Joohan, 2017; Clark & Malecki, 2019; Lie, Fang, Wang, Sun & Cheng, 2018; Waring, Kernes & Bui, 2019) in which the relationship between Grit and job satisfaction, life satisfaction, self-esteem and satisfaction in emotional ties was addressed.

Life Attitude

Existential humanist psychology has, among its representatives, Frankl, who defines the meaning of life as ‘...the why, the reason, what drives you to achieve something or to be in a certain way’, that is to say, what guides us. (Núñez, 2001, p.2 in Hernández Sampieri et al., 2010). PIL (Purpose In Life or Proof of Purpose of Life) is one of the first antecedents of the LAP-R and was developed by Crumbaugh and Maholick (1964, in Reker, 2007) as a form to measure the theoretical foundations of Frankl. The PIL consisted of a 20 items scale that evaluated the meaning of life and the purpose of life. It became an operational definition of Frankl's description of the concept of the will to meaning developed in 1963. Later, Crumbaugh (1977) builds the SONG (Seeking of Noetic Goals), which evaluates the degree of strength of motivation to find the meaning and purpose of life. Both instruments were considered as complementary to measure the meaning and purpose of life. PIL is considered as a one-dimensional measure to assess the discovery of meaning and the SONG to find the motivation, to discover the meaning. However, Reker and Cousins (1979) found that they had ten independent dimensions, which provided powerful evidence for the multidimensional nature of the construct of meaning and purpose of life. The PIL is made up of six dimensions called (a) life purpose, (b) achievement of objectives, (c) life satisfaction, (d) locus of internal-external control, (d) self-satisfaction, and (e) consideration of life. Within this line and in the search for the life mission or the life project, Reker and Wong (1988) define the sense of life dimension composed of dimensions: (a) knowledge of order, (b) coherence and purpose in the existence of oneself, (c) the pursuit and achievement of objectives valuable and (d) the feeling of satisfaction or fulfilment. The authors define that a person who has a high index of personal sense possesses a clear life purpose and sense of direction, feels satisfied with his past achievements and is determined to make the future meaningful. They say that the main focus of previous studies was to find personal meaning as a global construct, defined as the existential belief that life has a purpose and coherence. They claim that people have been found to derive meaning from a variety of sources including recreational activities, meeting basic needs, creative activities, personal relationships, personal achievements, personal growth and academics.

To point out the pedagogical action in education, is having conscious what each person should know about their own legacy, that is, how they want to be remembered. The main objective here is to know how to work from the pedagogical point of view for the integral formation of the person.

Reker, and Parker (1999) have studied the concept of existential repentance, which is defined as an interior experience of disagreement, of reflecting on missed opportunities, of not having reached one’s potential, of having inconclusive undertakings and of not having respected the natural and global environment (in Reker & Woo, 2011). The authors explain that the incidence of the attitude of life has been studied and it has been found that students who showed goal-finding indexes showed a better academic performance (Dennis, et al., 2004, Dennis, et al., 2005). Not having respected the natural and global environment (in Reker & Woo, 2011) could lead to different kind of crisis.

The two constructs study variables that can be related between each other and the study aims to discover if working with Grit as a developing capacity could help people to achieve their own goals and have a more coherence life style; that is to say, to have a better sense or meaning of life.

3. Methodology and Procedures

The study was carried out in a National University (UNDEF) specifically two Academic Units of the Facultad del Ejército (Army College); they are the Colegio Militar de la Nación (Military College of the Nation) and the Escuela Superior de
Guerra (Superior War School). The first one is where the students are prepared to be officers of the Argentinian Army and the second one prepares the officers in their postgraduate studies.

Students who follow a university career and a postgraduate course, the first aimed at training officers of the Argentine Army and the second the officers of the General Staff of the Argentine Army. Both careers are taught by academic units that depend of the National Defense University.

3.1. Sample

A non-probabilistic sample was formed, for convenience, of 185 college and university students, of which 69.73% (N=129) are male and 30.27% (N=56) are female as shown in figure 1.

3.2. Purposes

• Analyse the differences between the global Grit score and the Life Attitude Profile Revised (LAP-R (VE-AA)) according to sex.

• Examine if there are significant differences in two selected subsamples of undergraduate and graduate students in the military field in the global Grit Scale and the Personal Sense Index extracted from LAP-R (VE-AA).

• Analyse the correlation between the global Grit Scale score and the Personal Sense Index extracted from LAP-R (VE-AA).

3.3. Instruments

Socio-demographic Questionnaire

A sociodemographic questionnaire designed ad hoc was conceived to collect information regarding gender, age, family background and willing to achieve different university level degrees.

Grit Scale

To evaluate Grit, we use the original Grit Scale designed and validated by Duckworth et al. (2007), which is in the process of validation in the Argentine population (Tortul and Daura, 2019). With a 5-choice Likert scale design (5 = Very similar to me - 1 = Not at all like me), the questionnaire is made up of 12 items, which are divided into two subscales: Consistency of Interest (CI, 6 items) and Perseverance versus Effort (PE, 6 items). The first measurement, the tendency to maintain the objectives and interests that have been proposed; and the second, the inclination to work intensely in the face of setbacks and difficulties.

As well, the scale allows obtaining a global level of Grit, which ranges between 1 and 5 points, corresponding to subjects with a very low level and with a very high level in Grit, respectively. For the purpose of this study, we consider that individuals have a low score if they reach a rating lower than 2.50 points because this is the average score between the minimum and the maximum that the scale throws.

Life Attitude Test (LAP-R (VE-AA))

To measure the Life Attitude, the LAP-R (VE-AA), with 40 items, will be used in the Spanish version in its adaptation of Barni (2017). The test is designed with a Likert scale design, and is made up of 5 dimensions, each one evaluates different aspects of the life attitude: (a) Coherence –consistent and logical understanding of oneself, of others and of life in general–, (b) Purpose –personal sense; have clear objectives, a mission of life and direction from the past to the future through the present–, (c) Choice/Responsibleness – describe the person's control and efforts regarding their achievements; freedom, confidence in decisions made, the will to specify them and the ability to discern and decide, (d) Existential Vacuum –it is characterized by uncertainty and not being able to find meaning in life– and (e) Goal Seeking –the person chooses new goals to achieve constantly or seeks to find barriers to overcome within their lifestyle–. Reker (2007) says that life has a
purpose and extracts meaning from various sources. The test is divided into two subscales; the Personal Meaning Index (PMI) and the Existential Transcendence (ET).

For the successive analysis that were carried out in the study, we considered appropriate to calculate the Personal Meaning Index (PMI), which provides a scale focused on personal meaning. This construct is made up of the Purpose (P) and Coherence (C) dimensions and is manifested through the selection of clear objectives that, on the one hand, are oriented to the fulfillment of a vital mission, and on the other, they are consistent with the past, present and future experienced by the subject; and that they consistently and logically understand the self, others and life in general.

In order to calculate this index, we chose to use the formula proposed by Reker (2007), adapting it to obtain an average score: the dimensions P and C were added and divided by two.

4. Procedure

In the first place, we requested the corresponding permission from the authorities of the two Academic Units that participated in the study. In the same way, students who completed the questionnaires were given information about the objectives of the work, the confidential and voluntary nature of their participation, and were given a document (Informed Consent) that they signed to give their consent. In the document and in the oral explanations we explained that the estimated time to complete the instruments varied between 40 and 60 minutes and asked their permission to use the date collected with educational and research purposes.

The collected data were processed using the SPSS-Statistical Package for the Social Sciences program – version 23.0.

5. Analysis of Results

Focusing on the sample’s composition, although there is a 30.27% of female students and that there is an important proportion of them in relation to the male population taking into account that the female presence in the Argentinian Armed Forces dates back only few a decades; the fact, and we consider that is important to observe that the proportion of female and male students in the university level in the country is the opposite based on percentages that the Argentinean Ministry of Education shows in its document “Characteristics of the Argentine Educational System”, where it is observed that the percentage of women in higher education is 69.8% (DiNIEE, 2016).

5.1. Descriptive Statistics

A descriptive analysis (minimum score, maximum score, population mean and standard deviation) of the values obtained by the students in the Grit-O and LAP-R Scales (VE-AA) was performed.

Table 1 details the scores they reached on the factors that make up the Grit-O scale and the scale as a whole. According to the results, students who participated in the study are more likely to strive and work hard to achieve the goals they have set, and have greater difficulties in sustaining interest over time. Similarly, the result obtained by the sample in the global Grit score stands out, which is between the low score (2.50) and the highest score (5.00) of the instrument. Therefore, it would be convenient to work with this population, in particular, to maintain interest in achieving the objectives set out in their life project.

Table 1 here

When analysing the other instrument, the scores reached in the LAP-R (VE-AA) (Table X), the subjects are characterized by having a clear purpose of existence, and by making choices assuming the consequent responsibility. It also highlights the score they reached in the "Existential Vacuum" dimension in which the assessment is expected to be lower, so that students would have a lower propensity to suffer disorders that are comorbid with this phenomenon, (such as depression, apathy, among others) and, simultaneously, they would find or grant greater meaning to their entire existence.

Table 2 here

To analyse the extent to which the Grit and the Life Attitude are explained by various sociodemographic aspects, successive analysis of variance (ANOVA one way) were carried out, in which, as dependent variables, the global value of the Grit-O and the MPI of the LAP-R (VE-AA) were considered and as an independent factor the sex and the belonging career.
For this last analysis, two subsamples of the total obtained were randomly selected, comprising 25 students of the postgraduate degree and 27 of the undergraduate degree.

5.2. Comparison of levels of Grit and Life Attitude according to sex

As regards the sex of the subjects who participated in the study, although no significant differences were found in the overall Grit score and in the PMI obtained through the LAP-R (VE-AA), the score achieved is highlighted by men in the first variable, which is higher compared to that of women (Figure 2). This effect, not only is coincident with those found in another study carried out in a Latin American population (Becerra, Cuitún and Mézquita, 2016), but also it would be interesting to deepening in a future research involving samples with other sociodemographic characteristics (for example, studying other university degrees).

On the other hand, both women and men students achieved the same score in the PMI, which would be positive for both (Figure 3). This result could be related to those of Dennis et al (2004/2005) that found that in an African American population there were no differences in spirituality between male and female students but there were differences in the study of general population.

In this specific population, these results may be due to the influence of cultural and institutional factors that favour the development and strengthening of the capacities evaluated by the Grit-O scale and by the LAP-R (VE-AA) in men. In fact, although the careers in which the study was conducted have been mixed for some decades, the training provided in them, due to their characteristics, is more closely linked to the male psychological profile and to the formation of the military profile, to the detriment of the female psychological profile, which manifests itself through affections, care, the search for warmth, effort, among other aspects.

5.3. Comparison of the levels of Grit and Life Attitude according to career

The same analysis was carried out to corroborate if there are statistically significant differences in the Grit global score and in the PMI depending on the membership career (undergraduate and postgraduate). In this sense, in the total sample, two subsamples were randomly selected according to the level of the university degree: undergraduate degree, consisting of 27 students; and postgraduate career, consisting of 25 students.

In this case, although no statistically significant differences were found (figure 1), the fact that postgraduate students obtained the highest score in both the Grit global score and the PMI is highlighted. This would help them both to be more persevering, as well as to maintain interest for longer than the goals they have set; in the same way, probably by stage of the life cycle in which they find themselves, to have greater clarity about the meaning that life has and to try to unify with it their existential objectives, in coherence with their life history, personal circumstances and sociocultural context in which they live.

5.4. Correlation between the factors of the Grit-O Scale and the dimensions of the LAP R (VE-AA)

The Pearson's r correlation index was calculated between the Grit global score and the PMI (as shown in Table 3), which yielded a positive and significant correlation between both variables $r = (185) = 0.47 **$, $p = 0.01$.

This result, which is consistent with the results obtained in the previous analysis, shows that at higher levels of Grit, the Personal Meaning Index develops exponentially and conversely, at higher PMI scores, the subjects are more passionate and persevering, to achieve the goals that would have been proposed.

The results found are noticeable for being the first found in the Argentine Army university population.

Conclusions

In our opinion, the work done on these two concepts in a population so particular as the students from a university that forms the men and women that work on the Défense of the country is important per se, but the insights of the institution
and its educational styles will be of significance not only for the authorities but also for the students themselves. These careers are more than a profession and are a way of living.

In this line of thinking, the present work evidences data that are of interest to consider in the professional formation, for decision making in the educational style and the organizational management, that collaborates to the integral formation and the professional formation in vocations so specific and particular as those of the military life; such as character formation, leadership, etc. With these findings, the importance of conducting this type of studies for educational management was shown.

Accordingly to the results we can point out that there are significant correlations between the factors that make up the Grit and the LAP variables. Only a negative correlation between the variables Election/responsibility and Existential Vacuum is presented, but we will not inform this to focus only on the correlations existing between the instruments.

About differences between men and women there is a trend that was found, which does not reach significant values, in favour of men in the variables Existential Vacuum and Goal Seeking. The contrast between one result and the other would show that, although men have a greater tendency to set themselves goals, the difficulties to achieve them, would insist that they experience it with a feeling of emptiness and frustration. This could be seen in the influence of the socio-cultural and labour context of the country that should be deepened through other instruments, such as in-depth interviews or focus groups.

With the random sample the only significant differences were found in the Existential Vacuum variable, in favour of undergraduate students. In all the other variables, although there are no statistically significant differences, the students of the postgraduate career have higher scores. They have a higher level of Grit and, accordingly, have a higher score in the variables Purpose and Coherence of the LAP-R (VE AA), with the exception of Election/Responsibleness, Existential Vacuum and Goal Seeking.

We believe that there is an important factor to go on studying about the percentage of female population if we compare with the percentages of women in superior education in Argentina that are so different in the two academic units studied, and search if it is for the kind of career or for the cultural believes.

Another important finding is the high scores the students obtained in the dimensions of the Life Attitude Test compared with the research made in the opportunity of the LAP-R validation in the country (Barni, 2017). We consider that it is important to link these results to the ones that Messing (2009) made in her own research and, after that, inquire if there is a link about the special profile and the spirituality they have and compare with the Grit scores and the academic performance and retention.

There are various lines of future possible investigations in order to deepen this study. We believe that a better understanding of oneself is very important to the decision-making process and the way you take them to practice and the logic consequences you have to live with. The links between Grit and Life Attitude are very relevant to determine the possibilities to elaborate and develop a life project that is so necessary in our society.

References


Tables

Table 1

*Descriptive of the factors that make up the Grit-O Scale and the total Grit score*

<table>
<thead>
<tr>
<th>Factors</th>
<th>Students</th>
<th>Minimum Score</th>
<th>Maximum Score</th>
<th>Media</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perseverance of effort</td>
<td>185</td>
<td>2,50</td>
<td>5,00</td>
<td>4,06</td>
<td>0,56</td>
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<tr>
<td>Consistency of interest</td>
<td>185</td>
<td>1,83</td>
<td>4,67</td>
<td>3,36</td>
<td>0,52</td>
</tr>
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<td>Global Grit</td>
<td>185</td>
<td>2,58</td>
<td>4,83</td>
<td>3,71</td>
<td>0,42</td>
</tr>
</tbody>
</table>

Source: own elaboration from study's results

Table 2

*Descriptive of the LAP-R (VE-AA)*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Students</th>
<th>Minimum Score</th>
<th>Maximum Score</th>
<th>Media</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coherence</td>
<td>185</td>
<td>2,38</td>
<td>5,00</td>
<td>3,80</td>
<td>0,55</td>
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<tr>
<td>Purpose</td>
<td>185</td>
<td>3,00</td>
<td>5,00</td>
<td>4,18</td>
<td>0,49</td>
</tr>
<tr>
<td>Goal Seeking</td>
<td>185</td>
<td>2,25</td>
<td>5,00</td>
<td>3,77</td>
<td>0,49</td>
</tr>
<tr>
<td>Existential Vacuum</td>
<td>185</td>
<td>1,00</td>
<td>4,50</td>
<td>2,30</td>
<td>0,75</td>
</tr>
<tr>
<td>Choice/Responsibleness</td>
<td>185</td>
<td>3,00</td>
<td>5,00</td>
<td>4,19</td>
<td>0,47</td>
</tr>
</tbody>
</table>

Source: own elaboration from study's results

Table 3

*Correlation matrix between the global Grit score and the PMI*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Personal Meaning Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grit Global Score</td>
<td>0,47**</td>
</tr>
</tbody>
</table>

,000

Source: own elaboration from study's results

Figures

Figure 1

Sample composition by sex

Source: own elaboration from study's results
Figure 2
Differences between women and men in the overall score of the Grit and the Life Attitude

Source: own elaboration from study's results

Figure 3
Differences between undergraduate and graduate students in the global Grit and Life Attitude score

Source: own elaboration from study's results
Bibliography


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