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The Importance of the Grit Factor for the Functioning and Coping of Schoolchildren during the First Wave of the COVID-19 Pandemic

ABSTRACT

The article presents the results of research carried out during the first wave of restrictions caused by the COVID-19 pandemic. The research covered students of high schools – 275 students of schools from Białystok and Bielsk Podlaski, ages 16–19. The goal of the study was to investigate the relationship of the grit factor with the functioning of young people in a specific situation – remote learning, combined with additional, burdensome limitations in the public space. The sphere of learning and physical activity were the main areas of functioning that were researched in the study. The study used an original, author's questionnaire to measure the functioning of young people during the COVID-19 pandemic. Besides this scale, also used were the Duckworth Short Grit Scale (SGS) (Polish adaptation by Wyszynska et al., 2017) and the Cantril mental well-being scale (Cantril, 1965). The study displayed positive relationships between grit and the amount of time devoted to learning in remote mode, with regularity in maintaining the rhythm of the day (getting up at a similar time, taking up physical activity) and mental well-being.

Keywords:

grit, youth functioning, remote learning, pandemic, COVID-19.

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INTRODUCTION

The COVID-19 pandemic, spreading around the world since the end of 2019, has forced restrictions on moving and meeting in public spaces, at work and at school in many countries, including Poland. Primary and secondary school pupils, together with university students, were subjected to remote education in the spring of 2020, during the so-called first wave of the COVID-19 pandemic in our country. During this period, a number of restrictions were introduced, regarding functioning in the common space – such as maintaining social distancing, closing of many companies and institutions, or recommendations not to meet older representatives of close and extended family. For many people those restrictions meant living in conditions of home isolation. During this period, an Internet survey of high school youth was carried out, involving 275 students of institutions from Białystok and Bielsk Podlaski. The aim of the study was to investigate the relationship between the grit factor and the functioning of young people in a specific situation of remote learning, combined with additional, burdensome limitations in the public space. The areas of functioning taken under consideration in the study were the sphere of learning and of physical activity.

THE INFLUENCE OF PANDEMIC CONDITIONS ON THE FUNCTIONING OF CHILDREN AND YOUTHS

Research carried out during the first year of the global COVID-19 pandemic demonstrates a real impact of the pandemic on the mental health of adolescents and young people. In its report of September 2020, UNICEF² presented the results of a study involving adolescents, ages 13 and higher, in nine Latin American countries during the first months of the pandemic. 27% of the respondents experiences anxiety and 15% had symptoms of depression. 46% of the respondents declared a decrease in motivation to perform the activities they usually liked to get involved in, and 36% felt less motivated to perform regular household chores. The pandemic also had a negative impact on their perceptions of the future, especially in the case of girls and young women – 43% of them were pessimistic about the future, as compared to 31% boys and men. Research conducted on Chinese children and adolescents aged 7 to 18 demonstrated that 22.3% of adolescents had indications of clinical symptoms of

² Retrieved February 26, 2020 from: <https://www.unicef.org/lac/en/impact-covid-19-mental-health-adolescents-and-youth>.

depression, while the average frequency of depressive symptoms in this population in the period preceding the pandemic was 13.2% (Duan et al., 2020). Adolescents also reported more symptoms of anxiety, as compared to the pre-pandemic period. In another study covering Chinese students of middle and high schools (ages 12–18), symptoms of depression were found in 43.7% of the respondents, and symptoms of anxiety in 37.4%. More symptoms of depression and anxiety were observed in women, and their intensity increased with age (Zhou et al., 2020). In Italy and Spain, the impact of quarantine on the functioning of children and adolescents 3 to 18 years of age was assessed on the basis of questionnaires completed by parents. 85.7% of parents reported noticeable changes in their children's behavior and emotional state. The most common changes observed were difficulties with concentration (76.6%), boredom (52%), irritability (39%), anxiety (38.8%), nervousness (38%), loneliness (31.3%), and being worried (30.1%) (Orgilés et al., 2020). Analyzes of the M. Loades team (2020) provide good premises regarding the potential impact of the situation during the period of the quarantine enforced by COVID-19 on the psyche of adolescents. Loades and colleagues (2020) reviewed 63 studies involving over 50,000 participants in total to assess the effects of social isolation and loneliness on the mental health of children and adolescents. Social isolation and loneliness increased the risk of depression up to 9 years later. The duration of isolation has proven to be a key factor in the quality of mental health. The results of this review, concerning loneliness and social isolation, have potential consequences for the current COVID-19 pandemic. The researchers mentioned above suggest that adolescent loneliness while suffering COVID-19 containment measures could impact the future mental health of those adolescents. They emphasize the importance of preventive support and of early intervention to ensure the mental well-being of children and adolescents during the COVID-19 pandemic.

RELATIONS BETWEEN GRIT AND THE FUNCTIONING OF YOUNG PEOPLE

Grit, functioning in Polish-language literature as 'stubbornness' (Duckworth, 2016), is a factor defined as the ability to achieve long-term goals, despite obstacles and difficulties. Two aspects of grit are being distinguished: perseverance of effort – PE, and consistency of interest – CI (Duckworth et al., 2007). Conscious and deliberate shaping of grit in youth translates into a number of benefits. Various studies have demonstrated the relationship between grit and educational achievements, involvement in extracurricular activities or achievements in extracurricular competitions (Arya & Lal, 2018; Datu et al., 2018; Duckworth & Quinn, 2009; Ivcevic & Brackett,

2015; Postigo et al., 2021; Tang et al., 2019; Wolters & Hussain, 2015; Yerofeyeva & Nartova-Bochaver, 2020). Adults with a higher level of grit achieve greater educational levels and are less likely to abandon their chosen career paths. They are also more effective and satisfied in their careers (Duckworth & Quinn, 2009; Dugan et al., 2019; Eskreis-Winkler et al., 2014). Kaniuka et al. (2020) demonstrated a relationship between grit and a lower number of suicidal thoughts and behaviors among the surveyed young adults from the United States and Great Britain. There is also empirical evidence that grit can be useful as a personal resource reducing the risk of use of psychoactive substances (Griffin et al., 2016). Relationships were also confirmed between grit and subjective psychological well-being, life satisfaction and a sense of harmony – the results turned out to be significant for both sexes (Disabato, Goodman, & Kashdan, 2019; Vainio & Daukantaitė, 2016). In a study involving young adults in the United States during the first wave of COVID-19 restrictions, grit was demonstrated to positively correlate with physical activity and practice of better eating habits (Totosy de Zepetnek et al., 2021).

The abovementioned premises suggest that grit may be a factor exerting a significant impact on the functioning of school youth during social isolation caused by the COVID-19 pandemic. This type of situation, posing not only an additional burden but also a specific challenge for the individual, means that factors constituting a specific buffer, reducing the risk of deterioration in the functioning of young people in the physical and mental area, become of particular importance.

OWN RESEARCH

The goal of the study was to explore the relationship between grit and the quality of everyday functioning of young people, persistence in work in the areas of education and practicing physical activity. Statistical analyzes were performed using the IBM SPSS Statistics 26 package.

The basic research question concerns whether there is a correlation between the level of grit and the level of functioning of young people in the areas of science, physical activity and involvement in extracurricular activities, in the period of remote learning and forced social isolation caused by the pandemic.

HYPOTHESES

H1: People with a higher level of grit will be more systematic in the area of learning.

- H2: People with a higher level of grit will engage more in remote learning.
- H3: People with a higher level of grit will be more committed to maintaining their physical activity during periods of isolation and remote learning.
- H4: Students with a higher level of grit will apply more effort to maintaining involvement in extracurricular activities (sports groups, hobbies, volunteering, etc.).
- H5: Students with a higher level of grit will display a higher level of well-being.

RESEARCH SAMPLE AND THE COURSE OF THE RESEARCH

The study was carried out on a sample of 275 high school students from Białystok and Bielsk Podlaski. The students range of age was 16 to 19. The study covered 163 women and 112 men. Tables 1 and 2 present the age distribution and place of residence of the respondents. The survey was carried out using the Google Forms tool. The link to the study was sent by teachers using the school’s e-learning platforms, such as Librus Synergia or Microsoft Teams. The consent of the school principals was formally requested to send a link to the study. The subjects were fully anonymous, participation in the study was voluntary.

Table 1. Age of the Respondents

	Frequency	Percentage
16	104	37.8
17	94	34.2
18	61	22.2
19	16	5.8
Total	275	100.0

Table 2. Place of Residence of the Respondents

	Frequency	Percentage
village	98	35.6
city up to 50,000 residents	55	20.0
city of 50,000–200,000 residents	23	8.4
city with over 200,000 residents	99	36.0
Total	275	100.0

TOOLS

The study used an original, author's questionnaire to measure the functioning of young people during the COVID-19 pandemic. Besides this scale, also used were the Duckworth Short Grit Scale (SGS) (Polish adaptation by Wyszzyńska et al., 2017) and the Cantril mental well-being scale (Cantril, 1965).

The Short Grit Scale contains 8 items and consists of two sub-scales: perseverance of effort (e.g., "Failures do not discourage me"), and consistency of interests (e.g., "I often set a goal for myself, but then change that goal to another one"). Answers are given using the 5-point Likert scale, where 1 means – does not suit me at all, and 5 – fully suits me. Reliability of the tool is good, ranging from 0.73 to 0.79 for consistency of interests (Cronbach's alpha) and from 0.60 to 0.78 for perseverance of effort (depending on factors such as gender, age, and level of education) (Wyszzyńska et al., 2017). In the present study, the values of reliability equaled 0.64 for perseverance of effort and 0.66 for consistency of interests.

Cantril's Mental Wellbeing Scale often takes the form of a ladder and is a simple tool for assessing the quality of life (Levin & Currie, 2014). The respondent assesses their life at the moment and marks the answer on a scale from 0–10, where 10 means the best and 0 the worst that the respondent imagines. It is considered that marks at a level of 6 or higher mean satisfaction with life, while marks below 6 identify people dissatisfied with their lives.

The original questionnaire measuring the functioning of youths during the COVID-19 pandemic includes 19 questions relating to functioning in the field of learning, physical activity and extracurricular activity before and during the epidemic. The subjects of the study respond to individual questions, marking the answers on a 0–10 scale, thus stating the extent to which they agree with a given statement, choosing from the given answer options or entering information on the time spent on a given activity in minutes.

RESULTS

Based on the answers pertaining to the systematic nature and the amount of time devoted to learning during remote education and the comparison of the amount of time devoted to learning to the situation from before the epidemic, significant positive relationships can be found regarding functioning in this area. The results broken down by gender are presented in Table 3.

Table 3. Grit and Functioning in the Area of Learning – Pearson’s Correlation in the Group of Women (N=163) and Men (N=112)

		Systematic learning	The amount of time spent on learning	The amount of time spent on learning, as compared to the pre-pandemic situation and the transition to remote education
Grit	Total	.22**	-.08	.11
	Men	.20*	.14	.07
	Women	.26**	-.13	.13
Grit – consistency of interests	Total	.08	-.11	.01
	Men	.02	.12	-.03
	Women	.14	-.15	.03
Grit – perseverance of effort	Total	.29**	-.02	.18**
	Men	.29**	.11	.14
	Women	.31**	-.04	.21**

** Correlation significant at the level of 0.01 (two-sided), * Correlation significant at the level of 0.05 (two-sided)

Positive relationships between the total level of grit and systematic learning were found both in the group of women ($r=0.26$; $p<0.01$) and men ($r=0.20$; $p<0.05$). The decisive role in this case is played by the aspect of perseverance of effort, for which the relations found are as follows: $r=0.31$; $p<0.01$ for women, and $r=0.29$; $p<0.01$ for men. A relationship was also found between perseverance of effort and more time spent on learning, as compared to the situation before the pandemic and the shift to remote education; however, this factor was only relevant for women ($r=0.21$; $p<0.01$). On the other hand, no significant relationships were found between grit and the average time devoted to study during the day (Monday to Friday), which the respondents gave by entering the number of minutes.

Table 4 shows the relationship between grit and the functioning of adolescents in the sphere of physical activity – significant relationships occurred only in the group of men. Both the consistency of interests and perseverance of effort positively correlated with more frequent physical activity during the pandemic and remote education. Pearson’s correlation coefficient was, respectively, $r=0.21$; $p<0.01$ for grit – coherence of interests, and $r=0.28$; $p<0.01$ for grit – perseverance of effort. Total grit and the aspect of perseverance of effort also positively correlated with increased physical activity in men, as compared to the situation before the pandemic: total grit $r=0.21$; $p<0.05$, and consistency $r=0.31$; $p<0.01$.

The aspect of systematically starting the day at the same time, Monday through Friday, was also found to correlate with grit only in men. A significant relationship was found between total grit and consistency in effort with systematic beginning of the day ($r=0.22$; $p<0.05$, and $r=0.32$; $p<0.01$, respectively).

Table 4. Grit and Physical Activity – Pearson’s Correlation in the Group of Women (N=163) and Men (N=112)

		Physical activity as compared to the pre-pandemic period	The frequency of physical activity during the pandemic	Systematic getting up at a similar time (except at weekends)
Grit	Total	.10	.15*	.01
	Men	.21*	.31**	.22*
	Women	.03	.02	.03
Grit – consistency of interests	Total	.03	.07	-.02
	Men	.02	.21*	.02
	Women	.03	-.04	-.04
Grit – perseverance of effort	Total	.15*	.18**	.19**
	Men	.31**	.28**	.32**
	Women	.01	.08	.01

** Correlation significant at the level of 0.01 (two-sided), * Correlation significant at the level of 0.05 (two-sided)

Table 5. Pearson’s Correlation between Grit and Involvement in Additional Activities and Internet-related Activity in the Group of Women (N=163) and Men (N=112)

		Involvement in activities related to belonging to various institutions, such as scouting, sports clubs, volunteering	Internet activity (social media, blogs, web browsing)
Grit	Total	.04	-.13*
	Men	.27**	.01
	Women	-.13	-.21**
Grit – consistency of interests	Total	-.04	-.13*
	Men	.07	-.01
	Women	-.10	-.20**
Grit – perseverance of effort	Total	.11	-.08
	Men	.37**	.01
	Women	-.11	-.13

** Correlation significant at the level of 0.01 (two-sided), * Correlation significant at the level of 0.05 (two-sided)

The relationship between grit and its two aspects, and Internet activity and involvement in additional activities – affiliation with various institutions, such as scouting, sports clubs or volunteering, is presented in Table 5. The total grit and perseverance of effort correlated positively with involvement in additional activities in the group of men ($r=0.27$; $p<0.01$, and $r=0.37$; $p<0.01$, respectively), with no significant correlations in the case of women. In the group of women, a negative correlation was observed between the level of Internet activity – browsing websites, involvement in social media or blogs, and the total grit ($r=-0.21$; $p<0.01$) and the consistency of interests ($r=-0.20$; $p<0.01$).

Table 6. Grit vs the Current Level of Well-Being – Cantril’s Ladder, in the Group of Women (N=163) and Men (N=112)

		The level of well-being – Cantril’s ladder
Grit	Total	.23**
	Men	.25**
	Women	.20**
Grit – consistency of interests	Total	.12*
	Men	.06
	Women	.17*
Grit – perseverance of effort	Total	.26*
	Men	.35**
	Women	.16*

** Correlation significant at the level of 0.01 (two-sided), * Correlation significant at the level of 0.05 (two-sided)

The results concerning the relationship between grit and well-being in the study group are presented in Table 6. Grit and both its aspects positively correlate with the current level of well-being of the respondents. The differences worth paying attention to are related to gender. In the group of women, both perseverance of effort ($r=0.16$; $p<0.05$) and the consistency of interests ($r=0.17$; $p<0.05$) display a similar level of correlation with well-being. In the case of men, however, only the aspect of perseverance of effort is significant ($r=0.35$; $p<0.01$), but the correlation coefficient in this case is more than twice as high as in the group of women under study.

DISCUSSION OF RESULTS

In the area of learning, the H1 hypothesis about positive relations between grit and systematic learning was confirmed. Among the surveyed students, both women and men with a higher level of grit cared to a greater extent about systematic, everyday work and learning at similar times of the day. The aspect of perseverance of effort played a key role here, while the consistency of interests did not play any role in this case. This is consistent with the results showing that those with higher grit are more likely to succeed in areas where regularity is of importance (Eskreis-Winkler et al., 2014; Ivcevic & Brackett, 2014; Tang et al., 2019). Perseverance of effort also turned out to be an important factor, displaying a significant relationship with the amount of time spent on learning, as compared to the pre-pandemic situation. However, it turned out that the greater amount of study time during remote education only applies to women. This may indicate a greater conviction of the surveyed girls and women – as compared to the surveyed men – that they will be able to maintain a similar level of school performance, in a situation of burdens related to remote education, only if they apply more effort in their independent work. Regarding the amount of time devoted to study (own work, except for lessons), no significant correlation was found with the level of grit. This means that the H2 hypothesis was only partially confirmed by the data.

The H3 hypothesis was confirmed, in accord with expectations and the results of other studies (Totony de Zepetnek et al., 2021) – however, only for one of the studied groups. In the area of physical activity, relationships between the level of grit and the frequency of exercise as well as regularity of getting up were found only in men. Men with higher grit levels reported greater physical activity as compared to the pre-pandemic period. Not surprisingly, the most important aspect in this case is the consistency of effort. Similar relationships apply to the systematic beginning of every day. What may be surprising in this case is that analogous relationships do not apply to the surveyed women. The frequency of exercise during the week is related to the overall level of grit as well as to both of its aspects. The importance of the coherence of interests in this case may result from the internal need to maintain involvement in previously practiced sports, or the need to maintain physical condition during the period of pandemic-related restrictions, in order to be able to successfully return to previously practiced activities.

The higher level of effort applied to maintaining involvement in various forms of additional activities (hypothesis H4), related to membership in scouting, sports clubs, participation in voluntary work etc., displayed a positive correlation with the total grit and consistency in effort only in the group of surveyed

men. This may be due to the relationship between this area and the area of sports activity, which could have influenced the obtained results. Obtaining a more complete picture would require a breakdown of this element into various types and forms of extracurricular activities in future research. The study group was also asked about Internet activity – browsing websites, involvement in social media or blogs, as compared to the situation before the pandemic. The obtained results indicate negative relations of grit, and in particular the coherence of interests, with “online” activity in the group of the surveyed women. This may be a premise for the conclusion that the coherence of interests is a factor that may be a kind of buffer against “wasting” your time on the Internet. There were no significant relationships in this area among men.

Grit also displayed a positive correlation with the assessment of the current well-being of the respondents – which is in line with hypothesis H5. However, based on the data, it can be concluded that its various aspects are significantly related to this assessment in the case of both genders. In the group of women, both perseverance of effort and consistency of interests are significantly related to life satisfaction. However, in the case of men, only perseverance of effort is an aspect that is important for the well-being they report; this relationship is more than twice as strong as in the group of women. This result is consistent with the results of the Disabato team study (2019) carried out on six continents, demonstrating that, in case of most of the studied cultures, consistency in effort correlated more strongly with subjective well-being than the coherence of interests. This also confirms the thesis that grit can play an important role in maintaining a satisfactory mental well-being of schoolchildren, in prolonged periods of social isolation, associated with more challenges and burdens in everyday functioning (Loades et al., 2020).

SUMMARY

The obtained results, indicating significant, positive relations between grit and the functioning of young students in the field of science and physical activity, allow to conclude that this is a factor worth paying attention to in the current situation of remote education and the related social isolation of students. Grit can act as a personal resource to help overcome apathy and disorganization in daily routines, study time and activities in other areas caused by prolonged confinement at home, physical isolation from peer group, and forced restriction of activity in extracurricular areas. In this perspective, grit can be an important factor positively influencing the psychophysical well-being of young people. This is confirmed by the results on the cor-

relation of grit with well-being, both in the study group and in the results obtained by other researchers (Arya & Lal, 2018; Disabato et al., 2019; Vainio & Daukantaitė, 2016). An additional argument for paying more attention to grit, especially in connection with the significant additional burden on schoolchildren resulting from the current situation of the COVID-19 pandemic, is also that it is not an innate personality trait. Grit is a flexible factor that can be modified and developed by taking appropriate actions in the family and school environments (Duckworth, 2016). Due to the high probability of emergence of similar challenges to the functioning of school youth in the future, it is definitely a goal worth pursuing.

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