Anxiety and behavior disorganization levels and attitude to the tasks in physical education students in both normal and difficult situations

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Abstract
This study aimed at measuring anxiety degree and behavior disorganization level and attitude to the tasks in the examined student in both normal and difficult situations. In both normal and difficult situations statistically significant difference was seen in the anxiety understood as the state and trait and the examined students attitude to the tasks. There were on intersexual differences in the anxiety degree and behavior disorganization or attitude to the tasks in both situations. In the normal situation, statistically significant correlations between the degrees of anxiety understood as state with behavior disorganization and attitude to the tasks. Anxiety as state correlated with behavior disorganization and attitude to the task. In the difficult situation, anxiety as state and trait correlated statistically significantly with students’ attitude to the tasks. Strong correlation was seen between anxiety state and trait, while remaining correlations were weak.

Keywords: Physical education students, normal and difficult situation, behavior disorganization

Introduction
Human behavior in both normal and difficult situations may be described similarly to the work of the Polish psychology nestor, the author of the activity and situation theory – Professor Tadeusz Tomaszewski [1, 2, 3]. Theory saying that…”is contemporarily recognized as an important contribution of the postwar Polish psychology to the world psychological idea” (Kurcz and Kędzielawa [4:7]). An essence of this theory lies in the fact that human being regulates his relations with the environment (physical and social) with an aid of the activities, which are processes directed to the result achievement and their structure is shaped accordingly to the existing circumstances result of [5:9]. Mechanism regulating these relations defines an activity understood as “… the process directed to the achievement of the result of the structure, which forms accordingly the conditions so that the possibility to achieve a goal is maintained” [1:139]. Activity is a purposeful behavior determined by the defined situation (state of affairs) and is pursuing to reach other, defined situation [6:16]. The activity structure decides on the existence of two situations: the normal and difficult. According to Tomaszewski, … successful and inauspicious character of the situation of the human being due to the type of his activity results from the appropriate structure of the value and possibility, which represents given situation, and this what is worth to do in it and what is possible to do” [2:32]. Conception of the difficult situation is described as the opposition of the normal situation. One may talk about normal situation when man is facing the goals, which he may achieve, and the said situation is repeated many times, its internal organization is stable, and adjustment of both values and possibilities follows (conditions, methods, object character). Difficult situation exists when internal equilibrium of the normal situation is disturbed so that the normal course of the basic activity becomes is disrupted, and possibility of the normal achievement of the goal on the normal level is decreased” [2:32; 3:134]. Tomaszewski distinguished 5 types of the difficult situations, depending on the type of the normal situation disruption, such as: deprivation situation, overloading situations, impediment, conflict, and threats [2:32-35; 7:173-197]. According to Łukaszewski [8], there are two concepts of the normal and difficult situations.
The first refers to some extend to the statistics of an experience. In this concept, the situation is normal, when it is known, stable, and routinized in some sense as it refers to the proven structure of the activity. In the past and nowadays, scientists observing children’s and adolescents’ behavior in the difficult situation in school indicate that this definition permits to bring the indicators and variables to the form, which may more precisely define the situation, contrary to other concepts, e.g. stress, frustration etc. It also stress that school, relations with schoolmates and with parents constitute a main source of the difficult situation (stress) for children and adolescents [9, 10, 11, 12, 13].

Objectives
The study aimed at assessing anxiety degree and behavioral disorganization, and attitude to the task in the physical education students in both normal and difficult situations. An attempt to achieve this goal was realized through the answers to the following questions:
1. Are significant differences in the degree of anxiety and behavioral disorganization level and attitude to the task in the examined students in both the normal and difficult situation?
2. Does anxiety degree correlates with the examined students behavioral disorganization and attitude to the task?

It was assumed that significant differences in anxiety degree, behavioral disorganization level, and attitude to the task will be found in the examined students in both the normal and difficult situations.

Materials and Methods
Material: Eighty six stationary students of the Physical Education Faculty at the Gdańsk University of Physical Education and Sport (UPESG) participated in this study. The group of examined students consisted of 53 men (61.62%) and 33 women (38.38%) aged between 20 and 26 years (M=20.779; SD=1.110). Percent distribution of the students’ age is shown in Fig. 1.

Fig 1: Histogram of the students’ age.

Method: Diagnostic poll was used in the study. It consisted of two techniques: STAI by Spielberger et al. in the Polish adaptation by Strelau, Tysarczyk, and Wrześniewski [14, 15]. STAI rests on the differentiation of the anxiety understood as temporary state of the subject and the anxiety understood as consisted personality attribute. Polish adaptation of STAI, used in this study, consists of two scales marked X-1 – anxiety as a state and X-2 – anxiety as a trait. State anxiety (X-1) is characterized by the feeling of stress and emotional tension (here and now) accompanied by an activation of the autonomic nervous system. Trait anxiety (X-2) is understood as behavioral trait tending to perceive objectively harmless situations as the threat. Some authors assume that the individuals with higher trait anxiety level may react with higher state anxiety level in the difficult situation, independently from the type of this situation [16:86]. Each mentioned scale contains 20 statements (items). The examined student defines how precisely these items describe his subjective feelings by choosing one of 4 categorized answers. Both scales contain short instruction. STAI was given the title “Self-Assessment Questionnaire”. Raw results are recalculated to the standard ten or centiles. High internal conformity of both scales and slightly lower absolute stability, especially in case of X-1 scale, meets the requirements of the diagnostic test.

The second test used in this study was EZ test designed by Dudek and Koniarek [17, 18], measuring the level of the behavioral disorganization and attitude to the tasks in the difficult situations. In the author’s opinion, proper functioning of each human being is his ability to cope with difficult situations. The authors agree with the concept that ontogenetic predispositions determine effective activities in the difficult situation. Man copes with stressors in a two-ways. Some of them actively fight against them and remove them, other are trying to escape. EZ Test enables to define two personality dimensions: 1) attitude to the tasks versus focus on defense against the tasks executed in the difficult situation; 2) high level of the emotional immunity versus low emotional immunity in the difficult situation. EZ Test consists of three scales, which measures:
- Behavioral disorganization level in the difficult situation (BZ – escape from the tasks, the higher score, the weaker attitude to the tasks);
- Range of the behavioral disorganization and display of
emotions in the difficult situation (BD – behavioral disorganization. The higher score, the higher behavioral disorganization because of the stress);  
- Attitude to the tasks executed in the difficult situation (AT) [17,18].

EZ Test contains 66 items marked with letter T (Truth), F (False), and ? (I am not sure). The examined student must choose, whether the said item is true or false or he is not sure, marking?. The rating is the following: diagnostic answer 1 point? – 0.5 point. EZ Test contains also relevant instruction. To analyze the obtained results, two EZ scales were used: BD – behavioral disorganization and AT – attitude to the tasks. Additionally, the results of the scale CO – control scale – were analyzed. Scale BDU – behavioral disorganization and emotions display – was omitted because of its low diagnostic value.

The examined students filled both tests twice. In the first time, the students valued the statements in scale STAI and EZ Test in the normal situation during the lecture of the Educational Psychology (EP). The same examined group repeated the tests immediately before the written examination (20 open questions) of EP (difficult situation). In both cases the study time was not limited. The students were informed about study goal and had to fill biographic note. Raw results were conversed to the standard ten results. The obtained results were analyzed statistically with Statistica 10. The following markings were used: BI – study in normal situation and BII – in difficult situation; N – number; M – arithmetic mean; SD – standard deviation; Min, Max – minimum and maximum; t – result of Student t test; df – degrees of freedom; p – statistical significance at p<0.05; r – Pearson correlation coefficient. Correlation power between two variables was interpreted according to the Guilford classification of the correlation coefficient.

### Results

Analysis of the arithmetic mean STAI and EZ Test STEN scores obtained by the physical education students (PE) in both normal (BI) and difficult (BII) situations enabled to see an increase of the scores in all scales in BII. It is shown in Fig. 2.

**Fig 2**: Mean STEN scores of the analyzed variables.

Significance comparison of STEN distribution difference obtained by the examined students showed significant differences in the anxiety state scale (X-1, t=4.037; p=0.000082) and anxiety trait scale (X-2, t=-3.011; p=0.003) and EZ Test (t=2.394; p=0.017) in BI and BII tests. Visible but statistically insignificant differences were noted in EZ Test in the scales BD and CO. The obtained results are presented in Table 1.

**Table 1**: Comparison of the significance of the STEN scores distribution in STAI and EZ obtained by the examined students in both normal and difficult situations

<table>
<thead>
<tr>
<th>Variable</th>
<th>M BI</th>
<th>M BII</th>
<th>SD BI</th>
<th>SD BII</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAI X-1</td>
<td>4.872</td>
<td>5.895</td>
<td>1.493</td>
<td>1.815</td>
<td>-4.037</td>
<td>170</td>
<td>0.000082*</td>
</tr>
<tr>
<td>STAI X-2</td>
<td>3.977</td>
<td>4.802</td>
<td>1.952</td>
<td>1.629</td>
<td>-3.011</td>
<td>170</td>
<td>0.003*</td>
</tr>
<tr>
<td>EZ BD</td>
<td>3.919</td>
<td>4.116</td>
<td>1.810</td>
<td>1.758</td>
<td>-0.726</td>
<td>170</td>
<td>0.468</td>
</tr>
<tr>
<td>EZ AT</td>
<td>3.616</td>
<td>4.302</td>
<td>1.989</td>
<td>1.763</td>
<td>-2.394</td>
<td>170</td>
<td>0.017*</td>
</tr>
<tr>
<td>EZ CO</td>
<td>4.605</td>
<td>4.965</td>
<td>1.611</td>
<td>2.020</td>
<td>-1.294</td>
<td>170</td>
<td>0.197</td>
</tr>
</tbody>
</table>

Student t Test for independent groups; BI – normal situation; BII – difficult situation, N=86.  
*Marked results are significant at p<0.05.

Pearson correlations of the analyzed variables STEN scores showed significant anxiety, understood as the State (X-1) and Trait (X-2), increase in the examined students in BI phase of the study. It was connected with behavioral disorganization (BZ) and AT (attitude to the tasks). It was found that in the normal situation (BI) anxiety as state (X-1) highly correlated with anxiety as trait (X-2, r=0.616; p=.000), moderately with behavioral disorganization (BZ, r=0.331; p=0.002), and weakly with the attitude to the tasks (AT, r=0.213; p=0.049).

In the difficult situation (BII), X-1 (BI) moderately correlated with X-1 (BII) (r=0.433; p=0.000) with X-2 (r=0.473; p=0.000) with BD (r=0.310; p=0.004) and weakly correlated with AT (r=0.233; p=0.030). Anxiety as the trait (X-2) weakly correlated with BD (r=0.259, p=0.016), moderately with the attitude to the tasks (AT r=0.433;
p=0.000) in the test BI. In the test BII, X-2 moderately correlated with X-1 (r=0.500; p=0.000), highly with X-2 (r=0.608; p=0.000), and weakly with BD (r=0.223; p=0.039). In the difficult situation (BII), no significant correlation of the state anxiety (X-2) of the examined students with their attitude to the tasks (AT) was seen. In the difficult situation (BII), no significant correlation between state anxiety and students’ attitude to the tasks (AT) was found.

An analysis of the correlational dependence of the behavioral disorganization (BD) and students’ anxiety level according to STAI and their attitude to the tasks (AT) did not correlate in the normal situation (BI) whereas low correlation between BD and X-1 (r=0.262; p=0.015) and moderate between X-2 and BD (r=0.341; p=0.001 and r=0.398; p=0.000) in the difficult situation (BII) was found. No significant correlation of BD with AT was seen in BII.

In the difficult situation (BII), X-2 weakly correlated with BD (r=0.287; p=0.007), moderately with AT (r=0.307; p=0.004), while BD weakly correlated with AT (r=0.254; p=0.018). Moreover, CO of the scale EZ moderately correlated with BD in the first part of the study (BI) and weakly with CO at p=0.50 in the second part of the study (BII). Positive values of “r” in these correlations may indicate monotone relationship between these variables, i.e. the higher BD, the higher tendency to introducing themselves in a different light than in the reality. Detailed Pearson’s correlation matrix is shown in Table 2.

Table 2: Pearson’s correlations if the analyzed variables (STAI) and EZ, N=86

<table>
<thead>
<tr>
<th>Variable</th>
<th>BI, STAI, X-1</th>
<th>BI, STAI, X-2</th>
<th>BI, EZ, RO</th>
<th>BI, EZ, NZ</th>
<th>BII, STAI, X-1</th>
<th>BII, STAI, X-2</th>
<th>BII, EZ, RO</th>
<th>BII, EZ, NZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>BI, X-1</td>
<td>1</td>
<td>0.616*</td>
<td>0.331*</td>
<td>0.213*</td>
<td>0.433*</td>
<td>0.473*</td>
<td>0.146</td>
<td>0.310*</td>
</tr>
<tr>
<td></td>
<td>p=0.000</td>
<td>p=0.512</td>
<td>p=0.002</td>
<td>p=0.049</td>
<td>p=0.000</td>
<td>p=0.000</td>
<td>p=0.178</td>
<td>p=0.004</td>
</tr>
<tr>
<td>BI, X-2</td>
<td>1</td>
<td>0.258*</td>
<td>0.259*</td>
<td>0.433*</td>
<td>0.500*</td>
<td>0.608*</td>
<td>0.080</td>
<td>0.223*</td>
</tr>
<tr>
<td></td>
<td>p=0.016</td>
<td>p=0.016</td>
<td>p=0.000</td>
<td>p=0.000</td>
<td>p=0.0462</td>
<td>p=0.039</td>
<td>p=0.161</td>
<td></td>
</tr>
<tr>
<td>BI, CO</td>
<td>1</td>
<td>0.380*</td>
<td>0.073</td>
<td>0.102</td>
<td>0.08</td>
<td>0.237*</td>
<td>0.303</td>
<td>-0.036</td>
</tr>
<tr>
<td></td>
<td>p=0.000</td>
<td>p=0.503</td>
<td>p=0.348</td>
<td>p=0.319</td>
<td>p=0.027</td>
<td>p=0.373</td>
<td>p=0.741</td>
<td></td>
</tr>
<tr>
<td>BI, BD</td>
<td>1</td>
<td>0.23</td>
<td>0.262*</td>
<td>0.341*</td>
<td>-0.036</td>
<td>0.398*</td>
<td>0.055</td>
<td></td>
</tr>
<tr>
<td></td>
<td>p=0.827</td>
<td>p=0.015</td>
<td>p=0.01</td>
<td>p=0.741</td>
<td>p=0.000</td>
<td>p=0.610</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BI, AT</td>
<td>1</td>
<td>0.37</td>
<td>0.075</td>
<td>0.332*</td>
<td>0.174</td>
<td>0.382*</td>
<td></td>
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<tr>
<td></td>
<td>p=0.003</td>
<td>p=0.002</td>
<td>p=0.489</td>
<td>p=0.108</td>
<td>p=0.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BII, X-1</td>
<td>1</td>
<td>0.605*</td>
<td>0.162</td>
<td>0.291*</td>
<td>0.238*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>p=0.000</td>
<td>p=0.135</td>
<td>p=0.006</td>
<td>p=0.027</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BII, X-2</td>
<td>1</td>
<td>0.069</td>
<td>0.287*</td>
<td>0.307*</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>p=0.526</td>
<td>p=0.007</td>
<td>p=0.004</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BII, CO</td>
<td>1</td>
<td>0.054</td>
<td>0.158</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>p=0.621</td>
<td>p=0.146</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BII, BD</td>
<td>1</td>
<td>0.254*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>p=0.018</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

* Marked correlations are significant at p<0.050.

Figures 3-6 present spread of the correlations anxiety as a state (X-1) and anxiety as a trait (X-2) with behavioral disorganization, attitude to the tasks in the normal (BI) and difficult (BII) situations.
Fig 4: Spread of the correlations of anxiety as a state (X1) with attitude to the tasks (AT) in the examined students in the normal (BI) and difficult (BII) situations.

Fig 5: Spread of the correlations of anxiety as a trait (X2) with behavioral disorganization in the examined students in the normal (BI) and difficult (BII) situations.

Fig 6: Spread of the correlations of anxiety as a trait (X2) with the attitude to the tasks (AT) in the examined students in the normal and difficult situations.
Discussion
Described understanding of the normal and difficult situations is related to the defined occupations during educations in the university. Normal situation (known, stable, and routinized in some sense) (Łukaszewski, 2015) [18] may include lectures. In such a situation, the students are usually passive receivers of the topics delivered by the lecturer. Their activity is limited to making notes or asking questions often not related to the topic of the lecture. Students sometimes demonstrate their boredom: talking with friends, sleeping, browsing pages on their mobile phone or laptop. In extreme situations, the students ostentatiously go out. Lecturers usually encourage his students to the discussion, asks questions, and ask their opinion on the lecture topic – motivates to the cooperation [19]. Lectures are the lecturer specific poll of his popularity and/or confirmation of his ability to pass the knowledge in the interesting and communicative way. Attendance at the lecture confirms it as the presence is not obligatory. This “normal” situation changes into “difficult” one during the test or examination independent from its form (verbal or written). Exercises, laboratories or presentation of the effected projects may be seen as relatively difficult situations because the students have to show own activity, which “…is subject of the external assessment (reference group, significant persons) with all its consequences and self-evaluation in both material aspect – concrete effects – and moral aspect” [20:21]. In such a situation, student should demonstrate acquired knowledge, skill of the logic thinking and communication with others verbally or in writing.

This study aimed at acquiring anxiety and behavioral disorganization levels and attitude to the tasks in the physical education students in both normal and difficult situations. It was assumed that the students will have different anxiety level, decreased behavioral disorganization and attitude to the tasks, and relationship in these variables will be displayed in the normal and difficult situations. The obtained results confirmed these assumptions. Statistically significant differences in the state anxiety and trait anxiety (and attitude to the tasks were noted in the examined students in both normal and difficult situations. No intersexual differences in the anxiety level, behavioral disorganization, and attitude to the tasks were seen in both situations. Statistically significant differences in the state anxiety level relationship with trait anxiety level, behavioral disorganization and attitude to the tasks were observed in the examined students in the normal situation. State anxiety correlated with behavioral disorganization and attitude to the tasks. In the difficult situation, statistically significant relationship of the state anxiety and trait anxiety with attitude to the tasks was noted. Strong correlation was only with state anxiety and trait anxiety, while the remaining correlations were moderate or weak.

It should be stressed that the concept of the “difficult situation” frequently replaces “psychological stress” because of the external stressors affective an individual in the said situation and perceived as the emotional discomfort, which produces anxiety leading to the will to escape from the goal, surrounding to the difficulties and/or engaging in the “stress free” activities. [21-26]

It is generally assumed a priori that the emotions experienced in the difficult situations are intensive. Analysis of the collected data indicates moderate and lower than moderate anxiety, behavioral disorganization, and attitude to the tasks levels in the normal situation and slightly higher in the difficult situation. Only single examined students were characterized by the high anxiety and behavioral disorganization levels in both situations. However, observed differences in the anxiety, behavioral disorganization levels, and attitude to the tasks were statistically significant in both situations.

Conclusions
Analysis of the collected data enabled to formulate the following conclusions:
1. Differences in the anxiety and behavioral disorganization, and attitude to the tasks are significant in the examined students in the normal and difficult situations.
2. No significant intersexual differences in the anxiety and behavioral disorganization, and attitude to the tasks were seen in the examined students in both situations.
3. Trait anxiety moderately or weakly correlated with behavioral disorganization and attitude to the tasks in the normal situation.
4. In the difficult situation, state anxiety strongly correlated with trait anxiety, while its correlation with behavioral disorganization and attitude to the tasks was moderate or weak.

References
13. Jasiński TL. Stress in the physical education students in


