Mood and emotions experienced by the physical education students during the studies

Tadeusz Leszek Jasiński and Aleksander Sztejnberg

Abstract
This study aimed at acquaintance of mood and emotions and their source seen in the students during their study. It was assumed that the students’ mood may determine emotions experienced in the various spaces of the university. The study included 126 students of the Physical Education Faculty at the Academy of Physical Education and Sport in Gdańsk (APhES). This group included 62 male and 64 female students aged between 19 years and 30 years. Two questionnaires (scales) were used in this study. The first, the UMACL University Mood Adjective Check List served to evaluate the general emotional state of the examined students during their university studies, while the second – EEL questionnaire enabled to describe emotions experienced by the students and their sources. An analysis of the obtained data showed that the students more frequently experienced positive emotions than the negative ones. They usually showed high tense arousal, medium hedonic tense, and moderate energetic arousal. Such a distribution of the emotions indicates well-being during the university studies.

Keywords: Mood, emotions, didactic classes, physical education students

Introduction
Learning individuals experienced various emotions in their schools (Bernardo, Ouano, Salanga, 2009; Perkun, 2011; Rowe, Fitness, Wood, 2013) [1-3]. Examples of such emotions and classification systems may be found in several publications (Borowska, 2000; Dębnik, 2008; Dźwiecki, 2003; Larivey, 2006) [4-7]. These emotions may be negative (anger, fear, sadness, shame) and positive (satisfaction, happiness, love, and pride) (Baudoin, Galand, 2017; Laros, Steenkamp, 2003) [8, 9], nice and unfavorable, dysfunctional (destructive fear, hatred, envy, sadness, jealousy) and creative (joy, cordiality, kindness) (Borowska, 2000; see Sztejnberg, Jasiński, 2015) [4, 10]. Each of these emotion is accompanied defined mood, which may influence effects of learning and type of possible actions to decrease or increase these unpleasant emotions.

Parkinson and Colman (1999) [11] argue that emotions are evaluating, affective, intentional, and short states. Such a definition of emotions enable to differentiate emotions from mood, which also contain evaluating element and lead to well-being and ill-being (affective state) but does not relate a define object. Mood in contrast to emotion may last relatively long time. According to Łosiak (2007) [12], the most important difference between emotion and mood are within the dimension of the duration, intensity, and diversity. The object of mood may be a person, object or event – located in the presence, past or future (Goryńska, 2011) [13]. Watson and Clark (1998) [14] assume that the human being is always in some mood. These authors define mood as a stream of affective experience and distinguish two classes of the affect – positive and negative, which exert an effect on the cognitive processes. And so, for example, positive mood is connected with higher elasticity of the cognitive functioning, resulting in the creation development, and perception of the relationship between various information (see Urbaniak, 2013) [15].

In the available literature, one may find several descriptions of the emotional reactions experienced by the students during learning.
**Objectives**

This study aimed at recognizing mood and emotions experienced by the students during University studies. It was assumed that the mood during learning may determine emotions experienced in the university. This aim was realized by an attempt to obtain answers to the following questions:

1. What is prevailing mood in the physical education students during their university study?
2. What emotions students experience during university studies and which are they sources?
3. Which experienced emotions influence the mood?

**Material and Methods**

**Research sample**

The study included 126 students of the Physical Education Faculty at the Academy of Physical Education and Sport in Gdańsk (APhES). This group included 62 (49.21%) male and 64 (50.79%) female students aged between 19 years and 30 years (M=20.84 years; SD=1.52).

**Research tools**

Generalized emotional state of the examined students was assessed with UMACL University Mood Adjective Check List, designed by G. Matthews, D. Jones, and A. Chamberlain in the Polish adaptation (Goryńska, 2005a) [18].

Starting point for this tool construction was a concept of three bipolar mood dimensions (Goryńska, Winiewski, Zajenkowski, 2015) [17]. It was defined as:

- Hedonic tone – described on the poles pleasure – displeasure;
- Tense arousal – nervous – relaxed;
- Energetic arousal – i.e. energy to act – its lack.

UMACL scale contains 29 items in the form of adjectives. Each examined person has to choose an answer in a 4-point scale (strongly yes, rather yeas, rather not, strongly not), indicating the degree of each adjective similarity to the student’s actual mood. Results were measured in three subscales: Hedonic tone (HT), Tense arousal (TA), and Energetic arousal (EA). Results calculated in accordance with a key give raw values, which are recalculated to a 10-point standard scale (standard ten). Results between 1 and 4 standard ten range may be treated as low, between 5 and 6 standard ten range – average, and between 7 and 10 standard ten range as high. Interpreting the results, an emphasis is on the matching with mood. Well-being of the examined student, i.e. positive mood, indicates high hedonic tone, low tense arousal, and moderately high level of the energetic arousal. Reliability of all three features of the mood HT, TA, and EA is in the range 0.73 – 0.90. High reliability of the research tool was confirmed by the factor analysis and correlations with measure of the personality traits.

As UMACL scale enables to obtain only generalized assessment of the emotional state. Therefore, an additional anonymous questionnaire – EEL adapted by Sztejnberg (2014a) [18]. This questionnaire contains a list of 45 emotions. Examined person has to choose five emotions most frequently experienced during university studies and to describe their sources.

Here, a fragment of an instruction: Below 45 emotions experienced by some students in school. Choose FIVE which you experience MOST FREQUENTLY. Describe who or what is their source?

Obtained results were analyzed statistically: M – arithmetical mean; SD – standard deviation; Min and Max – minimum and maximum, relatively; N – number of students; L – number of the results, %; U and Z – statistics of the Mann-Whitney U test; t – Student’s t test; p – difference significance level at p<0.05.

**Results**

**Self-assessment of mood**

An analysis of data obtained with UMACL scale indicates that the physical education students were relaxed (TA), moderately cheerful (HT), and moderately active and willing to act (EA). The students in TA subscale, defined on the poles “nervous – relaxed” gained high result (M=27.452; SD=4.185). In HT subscale, measuring “pleasure – displeasure” and subscale EA measuring “energy to act” or its lack (energetic – tired) obtained mean results (HT, M=19.794; SD=5.030, and EA, M=20.905; SD=4.860, see Table 1).

**Table 1: Mood descriptive statistics with the use of UMACL**

<table>
<thead>
<tr>
<th>Subscale</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tense Arousal (TA)</td>
<td>126</td>
<td>27.452</td>
<td>4.185</td>
<td>17</td>
<td>36</td>
</tr>
<tr>
<td>Hedonic tone (HT)</td>
<td>126</td>
<td>19.794</td>
<td>5.030</td>
<td>10</td>
<td>33</td>
</tr>
<tr>
<td>Energetic arousal (EA)</td>
<td>126</td>
<td>20.905</td>
<td>4.860</td>
<td>10</td>
<td>32</td>
</tr>
</tbody>
</table>

Frequency distribution and percentage of the selected mood types showed that about 70% results in HT and EA subscales obtained by the examined students was in the range of the average and while about 90% of the results in TA subscale was in the range of the average and high ratings (Fig. 1). Analyzing these results, it is possible to say that positive mood and emotional balance predominated in the examined students.

**Fig 1: Percent distribution of the obtained results in subscales TA, HT, and EA in UMACL University Mood Adjective Check List.**

**Emotions experienced by the examined students during their university studies and their sources**

Analysis of the emotions experienced by the examined students during learning (EEL) showed their relatively high diversity. Responders used 45 descriptions to describe the emotions, including 19 to describe positive and 26 to describe negative emotions. In case of the positive emotions experienced during learning, the students distinguished “friendship” (47.62%), “joy” (39.68%), “success” (26.98%), and “interest” (26.19%). The examined students experienced “friendship” mostly by “meetings and talks with friends, acquaintances, mutual help, and support”. Joy most frequently resulted from “passed examinations, contact with a group, acquaintances from the university”. They also mentioned “that during classes made something they like; surrounding by the good men, friends met every day, trainings”. Source of the
experienced “success” were: “passed examinations, winning the competition; work”. Emotion “interest” was experienced mainly when: “they acquaint new things useful in their life” and these “they never have heard of”. It was also produced by “learning psychology; school; hobby; exercises; thirst for knowledge; interesting lectures”. Remaining positive emotions were experienced by lower number of the students. Detailed percent distribution of these emotions and their source are given in Table 2.

<table>
<thead>
<tr>
<th>Positive Emotions</th>
<th>N</th>
<th>%</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friendship</td>
<td>60</td>
<td>47.62</td>
<td>Meetings, talks with friends; mutual help and support when I have a problem with some material; friend will always help in the difficult situation; friends and colleagues from the same group, university, and dorms; male and female friends</td>
</tr>
<tr>
<td>Joy</td>
<td>50</td>
<td>39.68</td>
<td>Passed exam; contacts with the group; KFC; university; to do, what I like to do; good people around; friends every day; training</td>
</tr>
<tr>
<td>Success</td>
<td>34</td>
<td>26.98</td>
<td>Passed exams; won competitions; work</td>
</tr>
<tr>
<td>Interest</td>
<td>33</td>
<td>26.19</td>
<td>Learning new things useful in the life; learning; psychology; school; hobby; classes; thirst for knowledge; interesting things, which I never heard on</td>
</tr>
<tr>
<td>Concentration</td>
<td>22</td>
<td>17.46</td>
<td>Learning time, studies; concentration on the said activity guarantees better results; basketball; and exercises</td>
</tr>
</tbody>
</table>

Table 2: Positive emotions experienced during studies and learning

Similarly, out of the negative emotions five of them may be distinguished. The first negative emotion experienced by the students was “boredom”, experienced by about 25% of responders. About every fifth student experienced “tension”, “uncertainty”, and “absent-mindedness”. Lower number of the examined students (15.87%) experienced “pressure”. The source of the “boredom” most frequently indicated “to dull and varied classes; pauses between classes; dull some subjects; lack of interesting lectures, and poorly conducted classes”. Moreover, the students felt bored in “Sunday evening” because of the “routine of the same weeks and lack of activity”. Feeling of the absent-mindedness the students experienced mainly because of “too much duties at the same time during practical lessons; impossibility to concentrate because of the ringing telephone ans Internet”. Subsequent negative emotions include anxiety, helplessness, fear, reluctance, and distress experienced about 10% of responders. As a source of these emotions they described most frequently learning of “biochemistry and learning things which will not be useful in the future; prior to examinations, gym; completing specialization, and even the lack of the progress in learning “when I learn too long and cannot remember”. Detailed percent distribution of these emotions and their source are given in Table 3.

<table>
<thead>
<tr>
<th>Negative Emotions</th>
<th>N</th>
<th>%</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boredom</td>
<td>31</td>
<td>24.60</td>
<td>Too dull and not various classes; pauses between classes; lack of interesting classes; dull some subjects; Sunday evening; lectures; poorly conducted classes; routine, when I have no games; time without classes; lectures</td>
</tr>
<tr>
<td>Uncertainty</td>
<td>23</td>
<td>18.25</td>
<td>Final tests</td>
</tr>
<tr>
<td>Absent-mindedness</td>
<td>22</td>
<td>17.46</td>
<td>Too much duties at the same time; classes; absent-mindedness during practical lessons because of failure; telephone; Internet; I can’t concentrate</td>
</tr>
<tr>
<td>Pressure</td>
<td>20</td>
<td>15.87</td>
<td>Presence in school; learning something useless; university compulsory education; gym; psychology,</td>
</tr>
<tr>
<td>Apprehension</td>
<td>18</td>
<td>14.29</td>
<td>Studies; future; anatomy</td>
</tr>
<tr>
<td>Helplessness</td>
<td>17</td>
<td>13.49</td>
<td>Biochemistry; learning things, which will not be useful in the future; gym; long time of learning and no results</td>
</tr>
<tr>
<td>Anxiety</td>
<td>14</td>
<td>11.11</td>
<td>Prior to examinations; goals; passing difficult to realize; failure in some subjects</td>
</tr>
<tr>
<td>Reluctance</td>
<td>13</td>
<td>10.32</td>
<td>Specialty; long pauses between classes; school; basketball; long exercises</td>
</tr>
<tr>
<td>Fear</td>
<td>12</td>
<td>9.52</td>
<td>Passing examinations; university; swimming; final tests; work</td>
</tr>
<tr>
<td>Aggression</td>
<td>9</td>
<td>7.14</td>
<td>Rivalry; fight (e.g. boxing)</td>
</tr>
<tr>
<td>Indifference</td>
<td>9</td>
<td>7.14</td>
<td>Some classes are senseless and useless in the future situations</td>
</tr>
<tr>
<td>Disrespect</td>
<td>8</td>
<td>6.35</td>
<td>Lecturers; they are not interested in the students’ problems, lectures I don’t like</td>
</tr>
<tr>
<td>Distress</td>
<td>8</td>
<td>6.35</td>
<td>Doesn’t give IOS (individual organization of studies), even if you have Master Class</td>
</tr>
<tr>
<td>Failure</td>
<td>6</td>
<td>4.76</td>
<td>Gymnastics, test failure</td>
</tr>
<tr>
<td>Humilation</td>
<td>6</td>
<td>4.76</td>
<td>Peers, basketball, lectures, who think that they are more intelligent and better than the students’, leading gymnastics</td>
</tr>
<tr>
<td>Sadness</td>
<td>5</td>
<td>3.96</td>
<td>University, unsatisfactory marks, when something fails, only one week break between classes</td>
</tr>
</tbody>
</table>
Significance of the difference of mood and emotions experienced by the examined students during learning

Mood difference experienced by all examined students differentiated by negative and positive emotions proved to be significant. It was also obvious that the students experienced positive emotions during learning significantly more frequent displayed high hedonic tone (HT) and energetic arousal (EA) (HT – \(p=0.002\), and EA – \(p=0.000\)). In the contrary, the students experienced negative emotions during learning displayed significantly more frequently increased tension arousal than their colleagues who experienced positive emotions (TA – \(p=0.000\)). The results of the carried out analysis are shown in Table 4.

Table 4: Difference statistical significance in the kind of mood in the students differentiated by both positive and negative emotions during learning

<table>
<thead>
<tr>
<th>Subscale of mood</th>
<th>M (G2)</th>
<th>SD(G2)</th>
<th>M (G1)</th>
<th>SD(G1)</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>HT</td>
<td>21.107</td>
<td>4.914</td>
<td>18.810</td>
<td>5.793</td>
<td>4.631</td>
<td>620</td>
<td>0.000</td>
</tr>
<tr>
<td>TA</td>
<td>26.478</td>
<td>4.245</td>
<td>28.182</td>
<td>5.128</td>
<td>4.894</td>
<td>620</td>
<td>0.000</td>
</tr>
<tr>
<td>EA</td>
<td>22.122</td>
<td>4.831</td>
<td>19.952</td>
<td>5.685</td>
<td>4.631</td>
<td>620</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Where: Group 1: G2-negative emotions (EA), n=270; Group 2: G2 – positive emotions (EA), n=352.

Discussion

Despite the fact that an identification of emotions experienced by the students of various types of schools was the subject of interest during the last 30 years, there are not studies on both emotions and mood experienced by the university student during learning. It is, however, known that the young people after high school finals take an important decision to choose a college. The studies show that in case of the 1 year student’s conformity of the Holland’s occupational personality type with the type of the chosen university. If it so, learning and success in the university study is a source of the satisfaction (Sztejnberg, Jasiński, 2014b) \([19]\). It is important so that the chosen field of study be compatible with the student’s interests, if not, it became a source of the negative emotions, such as boredom, fear, anxiety, and turmoil. If the chosen field of study conforms to the student’s interests, it is a source of positive emotions such as success and joy.

In the pedagogic literature, it is shown that negative emotions prevail in the lower stages of education, e.g. anxiety and boredom is most frequently experienced by the students of the secondary schools (Bach-Olasik, 1991) \([20]\), while a turmoil predominates in the students of the first year of the middle school (Sendyk, 2004) \([21]\). Other author showed that the students of the middle schools most frequently described their emotions by four types: joy as a positive emotion and sorrow, anger, and anxiety as negative ones (Denst-Sadura, 2008) \([22]\).

It should be stressed that besides mentioned emotions, university students experience numerous other emotions. Their source is among other physical environment of the didactic rooms in which classes are carried out (Sztejnberg, 2007a, 2007b; Sztejnberg, Jasiński, 2005, 2007, 2010; Jasiński, Sztejnberg, 2017) \([23-29]\). Sources of the experienced emotions are also taught subjects, types of didactic problems, friends, and lecturers as well as a way of rating the effects of the study (Sztejnberg, Jasiński, 2014a, 2015) \([10, 18]\).

This study aimed at recognizing the mood and emotions and their sources experienced by the students during university studies and learning. It was assumed that the emotions experienced by the students may determine their mood. The obtained results showed that research tools used in this study proved to be useful in recognizing both mood and motions experienced by the students most often. Predominated mood of the examined students was connected with increased tension arousal (TA), mean energetic arousal (EA), and average hedonic tone (HT). Such configuration of these results suggests that the mood of the examined students is positive and emotional state is balanced.

The examined students most frequently experienced friendship, joy, success, and interest out of several positive emotions. Source of these emotions were: meetings and talks with friends, mutual support and help, passed examination, contact with the group, and people from the school as well as doing something they like, good people in the surrounding, friends met every day, and participation in trainings. Moreover, the emotions resulted from passed examinations, won competitions, work, and learning new things, which the students never heard of. Emotions resulted also from learning psychology, school, hobby, classes, thirst for success, and interesting lectures. Less students experienced other emotions.

The examined students experienced also negative emotions. Most frequently these included: boredom, tension, lack of interesting classes, and poorly conducted lectures. Other sources included: routine of the repeating weeks, failure during exercises, inability to concentrate because of ringing telephones, and Internet. Every tenth student experienced anxiety, helplessness, fear, reluctance, and apprehension. As the source of these negative emotions, the students most frequently pointed out: learning of some subjects such as biochemistry, gymastics, things which will not be useful in the future, not passing examinations and final tests, completing specialization, and even no progress in learning.

An analysis of the obtained results showed that the students,
who experienced positive emotions more frequently hedonic tone (HT), mean tension arousal (TA), and average energetic arousal (EA). Such a configuration of mood confirms students’ well-being in the university and during learning. Similarly, other study including 266 students prior to and after examination showed higher hedonic tone after passed examination. In case of TA scale the results were opposite higher TA was noted before examination. These results enabled to assume that the mood after examination will subjectively expressed by experience of higher pleasure and decreased tension arousal (Goryńska, 2005b). Probably the physical education students, who experience positive emotions during studies and learning, are characterized by high hedonic tone, mean tension arousal, a moderately high energetic arousal. They will well-functioning also in the difficult, stressful situation.

Conclusion
1. Measuring tools used in this study proved to be very useful in recognizing both mood and emotions experienced by the physical education students during the university studies.
2. Configuration of the obtained results in the subscales TA, HT, and EA showed that the positive mood and emotional balance predominated in the examined students.
3. The students experienced both positive and negative emotions. In positive emotions, friendship, joy, success, and interest predominated. In case of the negative emotions the most frequent were boredom, tension, uncertainty, absent-mindedness, and feeling of pressing.
4. The examined students, who during their university studies moth frequently experienced positive emotions, were characterized by the high hedonic tone, low tense arousal, and moderate energetic arousal, indicating well-being during the university studies.

References