



Situational factors and personality traits as determinants of college students' mood



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ABSTRACT

In the present study we measured three dimensions of mood (energetic arousal, tense arousal, and hedonic tone) using a student sample in six academic situations. The first three measurements took place during neutral lectures, the fourth and fifth before and after an exam, respectively, and the last during the two weeks after the exam when students' grades were announced. Moreover, we also measured students' personality traits according to the five factor model. The study revealed a few significant results. First, each mood dimension had different dynamics during the semester. Second, the most consistent personality predictors of mood were neuroticism (positive relationship with tense arousal and negative with hedonic tone) and conscientiousness (positive association with energetic arousal). Moreover, the results showed different relationships between tense and energetic arousals across situations, with the weakest association being before an exam.

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1. Introduction

Mood and personality have been extensively studied in academic settings. It has been shown that both constructs are significant predictors of academic performance. Among various personality traits, the strongest and most consistent correlations are observed between conscientiousness and educational achievement (Fogarty, Davies, MacCann, & Roberts, 2014; Poropat, 2009). Furthermore, a meta-analytic review revealed that two other personality traits might be also related with academic performance: agreeableness and openness (Poropat, 2009). On the other hand, positive mood have been found to correlate with better grades (Saklofske, Austin, Mastoras, Beaton, & Osborne, 2012). Thus studying personality and mood in educational contexts seems to be of high importance. In the present investigation we were interested in college students' mood and the role that personality traits and situational factors play in determining its level.

In the academic context, many researchers have examined the situational factors influencing mood, such as affective response to examinations. Generally, it has been found that an exam elevates negative affect and anxiety (Watson, 2000; Zeidner, 1998). More recent studies have focused on other mood dimensions such as the three factors distinguished by Matthews, Jones, and Chamberlain (1990): tense arousal (TA; contrasting tension and

nervousness with relaxation and calmness), energetic arousal (EA; vigour and energy vs. fatigue and tiredness), and hedonic tone (HT; contrasting pleasantness with unpleasantness). For instance, Marszał-Wiśniewska, Goryńska, and Strelau (2012) reported a large decrease in tension as well as slight increase in EA and HT after an exam. Zajenkowski, Goryńska, and Winiewski (2012) extended these findings by comparing the exam situation with an additional mood measurement taken during a typical lecture. The authors found substantial differences: TA was lower, while HT was higher during the lecture than before and after the exam. Zajenkowski et al. (2012) concluded that more mood assessments might be necessary to fully understand students' reaction to examination stress. Thus in the current investigation, we examined changes in HT, TA, and EA during the entire semester including lectures, an exam and time after the exam. We were interested in whether the mood assessed during the exam differs from the relatively less demanding situations taking place a few weeks before and after the exam.

Besides external situations, there are internal factors determining mood with personality showing the most robust associations (Matthews et al., 1990; Watson, 2000). Most studies analyzed two personality variables: neuroticism and extraversion. Neurotics tend to experience TA and negative affect, while extraverts have a tendency towards high energetic arousal and positive affect (Matthews, Deary, & Whiteman, 2009). Moreover, extraversion is associated with pleasantness (high HT) and neuroticism with unpleasant feelings (low HT; Matthews et al., 1990). Matthews

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et al. (2009) noticed that the personality–mood correlation magnitudes vary across the studies and may depend on the specific context in which the variables are measured. The authors suggested that in situations where subjects simply complete questionnaires, the associations are stronger in comparison to studies where the mood measure is part of a broader procedure, usually prior to performance. Zajenkowski et al. (2012) suggested that these conditions might differ with respect to situational demands, with performance being more stressful. Zajenkowski et al. (2012) compared the correlation magnitudes between students' extraversion, neuroticism and mood in the academic context. They found that the correlation coefficients of extraversion and mood were generally lower before an exam in comparison to during a typical lecture.

Although the study of extraversion and neuroticism is at a relatively advanced stage, much less is known about how other major personality traits are linked to mood. For instance, conscientiousness, agreeableness and openness from the five factor model are moderately linked with high positive affect and low negative affect (see Matthews et al., 2009; Watson, 2000). This pattern of associations has been confirmed also in a recent study conducted in an academic context (Saklofske et al., 2012). Matthews and Zeidner (2012) also showed that conscientiousness is associated with task engagement during cognitive performance. Task engagement is one of the main states of stress and includes the aspect of energetic arousal (Matthews & Zeidner, 2012).

Taking the above results into account, we decided to include a wider range of personality traits in the current study. Specifically, we studied all traits from the five factor model: neuroticism (tendency to experience negative emotions, e.g., anxiety, depression or anger), extraversion (high activity, positive emotions, assertiveness and a tendency towards social behavior), openness to experience (tendency to engage in intellectual activities and experience new sensations and ideas), agreeableness (tendency to be compassionate and cooperative), and conscientiousness (tendency to be organized, self-disciplined, and dutiful, show aim for achievement; Costa & McCrae, 1992). Additionally, we were interested in how the relationship between personality and mood varies across different occasions. Using a student sample, we measured EA, TA, and HT in various academic situations. Generally, we wanted to compare two types of situations: an exam and a lecture. The former is being described in the literature as more demanding, mainly because of the evaluative aspect and a relatively high degree of personal importance (Zeidner, 1998).

In the current study there were six mood assessments. The first measurement was taken during a lecture at the beginning of the semester. The second and third mood assessments took place before and after another lecture. The reason for the latter was to test whether the change of mood in neutral conditions differs from the change during an exam. The fourth and fifth measurement took place before and after an exam, respectively, and the last measurement took place two weeks after the exam during a lecture at the beginning of a new semester. With the last mood assessment we wanted to examine whether the personality–mood relationship will return to the same level as it was during lectures before exam.

Basing on the literature, we expected that the exam to be linked with generally worse mood (increased TA and decreased HT) in comparison to the lectures (Zajenkowski et al., 2012). As regards personality, we expected neuroticism to predict negative mood (high TA and low HT), while extraversion we expected to be associated positively with EA and HT (Matthews et al., 2009). However, the relationship between mood and the latter personality trait may depend on the situation. Particularly, we expected the correlation to be weaker during the exam in comparison to lecture (Zajenkowski et al., 2012). Additionally, we expected conscientiousness, agreeableness and openness to be associated with positive mood (Matthews & Zeidner, 2012; Saklofske et al., 2012).

2. Method

2.1. Procedure and participants

The sample comprised undergraduate students (freshmen) from the University of Warsaw (students were psychology or applied linguistics majors). Information about the study was given to the students during classes at the beginning of the winter semester. The students were informed that they would be tested with several psychological measures, including mood and personality questionnaires. The courses selected for the study ended with a written final exam. There were six sessions during which the measurement took place (see Table 1). The first three were taken during typical lectures: one before a lecture in November, and the other two before and after a lecture in December. The next measurements were taken just before (approximately five to 10 min) and immediately after (approximately five minutes) an exam (January). The last session took place two weeks after the exam (February) when students' grades were announced.

Students taking the course did not have to attend the lectures to pass, but they need to take the final exam. Therefore, in each session we had a different sample size, with the largest number of students during the exam and the participation in the measurements did not overlap highly¹.

2.2. Measures

Mood: The Polish adaptation (Goryńska, 2005) of the UWIST Mood Adjective Checklist (UMACL) was used (Matthews et al., 1990). The scale has 29 items divided into three subscales: 10 items for EA (with poles: energetic–tired), nine items for TA (nervous–relaxed), and 10 items for HT (pleasant–unpleasant). Internal consistency for each subscale is high (Cronbach's alphas ranged from .71 to .90). It has been shown that the Polish version correlates with personality traits, self-esteem and motivational factors (Marszał-Wiśniewska et al., 2012), as well as cognitive tasks measuring attention and memory (Goryńska, 2005). In the present study Cronbach's alphas ranged across measurements from .76 to .79 for TA, .84–.91 for EA, and .82–.86 for HT.

Personality: The NEO-FFI in Polish was used to measure five personality traits. The questionnaire consists of 60 items describing usual behavior. Each scale consists of 12 items and has well established validity and reliability (Zawadzki, Strelau, Szczepaniak, & Sliwinska, 1998). For instance, it has been shown that the questionnaire has the same structure and genetic contribution as the original and correlates with other well established personality measures (Zawadzki et al., 1998). In our sample, we obtained the following results: neuroticism $M = 2.02$, $SD = 0.86$, $\alpha = .90$; extraversion $M = 2.27$, $SD = 0.69$, $\alpha = .85$; openness to experience $M = 2.70$, $SD = 0.49$, $\alpha = .66$; agreeableness $M = 2.48$, $SD = 0.60$, $\alpha = .81$; conscientiousness $M = 2.49$, $SD = 0.74$, $\alpha = .88$.

3. Results

3.1. Mood in different situations

First we examined the intercorrelations for all mood measurements (see Table 2). The results showed a moderate/strong positive relationship between EA and HT and a negative correlation between TA and the other two dimensions (HT and EA). Although, the intercorrelations within situations are generally consistent

¹ Using the sample from the first measurement, we created a logistic model predicting attrition (one – participant in all six measurements, zero – dropped from at least one measurement). Results show that people in the full sample had higher agreeableness and lower extraversion.

Table 1
Measures used, sample sizes and mean age of participants in six measurement sessions.

Situation	Measures	N (females)	M_{age} (SD_{age})
1. Lecture	UMACL NEO-FFI	160 (132)	20.46 (2.13)
2. Before lecture	UMACL	159 (128)	20.47 (2.04)
3. After lecture	UMACL	152 (122)	20.49 (2.19)
4. Before exam	UMACL	383 (306)	20.47 (1.74)
5. After exam	UMACL	377 (299)	20.50 (1.74)
6. Grading (two weeks after exam)	UMACL	195 (164)	20.41 (1.70)
Full sample	Any full measurement	476 (366)	20.55 (1.79)
Repeated measures (all six mood measures)	Six mood measures and personality	59 (47)	20.43 (2.46)

Table 2
Zero-order correlations between mood measurements.

	TA1	EA1	HT1	TA2	EA2	HT2	TA3	EA3	HT3	TA4	EA4	HT4	TA5	EA5	HT5	TA6	EA6
EA1	-.34**																
HT1	-.62**	.57**															
TA2	.43**	-.08	-.14														
EA2	-.18	.60**	.27**	-.31**													
HT2	-.42**	.30**	.48**	-.61**	.52**												
TA3	.47**	-.09	-.24	.67**	-.28	-.48**											
EA3	-.16	.46**	.23	-.16	.70**	.34**	-.35**										
HT3	-.38**	.23	.48**	-.48**	.44**	.74**	-.69**	.56**									
TA4	.43**	-.11	-.28**	.31**	-.10	-.21*	.38**	-.15	-.32**								
EA4	-.23**	.38**	.29**	-.08	.40**	.19*	-.23**	.55**	.33**	-.21**							
HT4	-.44**	.19	.38**	-.33**	.20	.35**	-.44**	.32**	.49**	-.63**	.60**						
TA5	.52**	-.18	-.32**	.27**	-.01	-.13	.44**	-.08	-.27**	.57**	-.24**	-.44**					
EA5	-.37**	.36**	.40**	-.12	.42**	.34**	-.31**	.55**	.43**	-.29**	.62**	.49**	-.42**				
HT5	-.42**	.22	.38**	-.17	.18	.32**	-.33**	.29**	.39**	-.43**	.35**	.56**	-.63**	.63**			
TA6	.51**	.03	-.41**	.33**	-.10	-.30**	.38**	-.06	-.32**	.26**	-.26**	-.43**	.32**	-.24**	-.22**		
EA6	-.23*	.31**	.23*	-.11	.31**	.17	-.18	.31**	.27**	-.12	.31**	.36**	-.18*	.39**	.32**	-.45**	
HT6	-.29**	.10	.34**	-.06	.17	.25*	-.16	.09	.21*	-.14	.21**	.38**	-.17*	.21**	.23**	-.72**	.62**

Note: TA – tense arousal, EA – energetic arousal, HT – hedonic tone, number indicate measurement situation. Sample size ranges from 81 to 383.

* $p < .05$.

** $p < .001$.

with previous research (Matthews et al., 1990; Zajenkowski et al., 2012), some differences in the correlation magnitudes could be observed between the measurement sessions.

In order to test the differences between intercorrelations of mood dimensions within different sessions we used Fisher r -to- z transformations and performed a series of Z tests. The relationship between the arousals, TA and EA, was negative in all situations, however, the comparison of the correlations revealed that just before an exam its magnitude was slightly weaker than in the first three neutral conditions: lecture ($Z = -1.49$, $p = .068$) before lecture ($Z = -1.13$, $p = .129$) and after lecture ($Z = -1.58$, $p = .057$). The relation between arousals in before exam situation turned out to be much weaker than in after the exam ($Z = 3.15$, $p < .001$), and in the grading ($Z = 2.96$, $p = .003$) situations. No such differences were observed with respect to correlations of HT with the other two dimensions.

In order to test for mood dynamics depending on the situation, analysis of variance was performed with mood (three levels: EA, TA, HT) and measurement (six levels: different situations) as two within-subject factors (see Fig. 1). Significant results were found for mood ($F(2, 57) = 30.16$, $p < 0.001$, $\eta_p^2 = .51$), measurement ($F(5, 54) = 14.21$, $p < 0.001$, $\eta_p^2 = 0.57$), and interaction of mood and measurement ($F(10, 49) = 23.39$, $p < 0.001$, $\eta_p^2 = 0.83$).

The analysis of changes within mood dimensions (all comparisons with Bonferroni correction) showed that HT during the exam (both before [HT4] and after [HT5]) was significantly lower in comparison to other sessions (see Fig. 1). Regarding TA, there were no differences between the first three lectures and grading measurements (TA1, TA2, TA3, and TA6). TA before the exam (TA4) was significantly higher than in other situations. Finally, after the exam

(TA5), it was lower than before the exam (TA4), but higher than in other conditions. Within the EA dimension, before the exam (EA4) and grading conditions (EA6) were significantly higher than in the first three occasions (EA1, EA2, and EA3).

Comparing mood dimensions within situations showed that in the first three conditions TA was significantly lower than HT and EA, and the latter was significantly lower than HT. This relation changed during the exam. Before the exam, both arousal dimensions were at a similar level and were higher than HT (which is lower than usual). After the exam, TA dropped below the level of EA and did not differ from HT. The grading situation differed from the first three situations in that HT and EA were at a similar level and TA was significantly lower (similar to the lectures).

3.2. Personality and mood

First we correlated personality traits with mood dimensions in each measurement (see Table 3).

A correlation matrix showed that the results are generally coherent with previous findings (Matthews et al., 2009). First, neuroticism, regardless of the situation, was the only dimension that was in a relatively stable relationship with all mood dimensions. Second, extraversion correlated positively with EA and HT in all measurements but the magnitude of those relations varied across situations.

In order to test for situational differences in the relationship between personality and mood, we ran a series of regression analyses. In each case, the personality factors were entered into a regression model as predictors of mood dimensions separately for each point of measurement. The analysis showed that, among

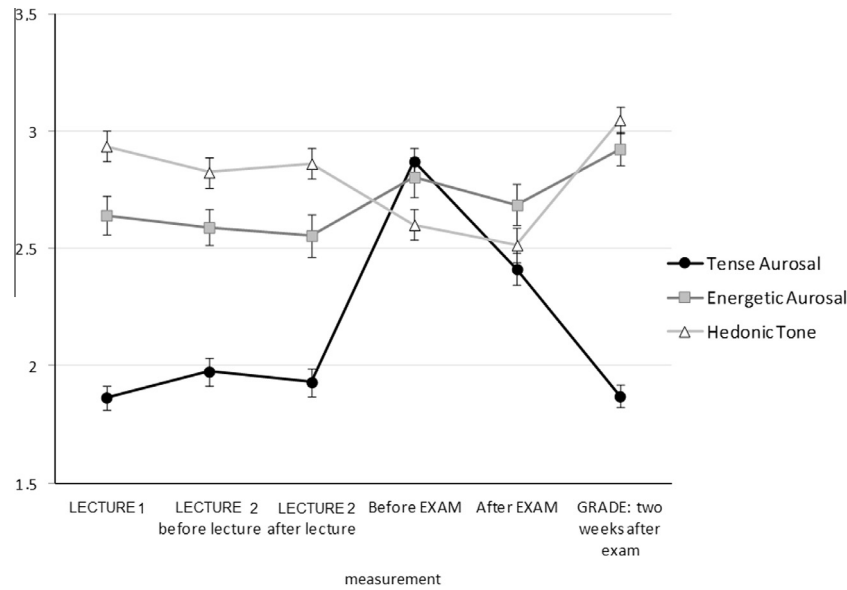


Fig. 1. Mood dynamics in different situations ($n = 59$).

Table 3

Zero-order correlations for personality traits and mood in different situations.

	Neuroticism	Extraversion	Openness	Agreeableness	Conscientiousness
TA1	.55**	-.33**	-.11	-.13	-.23**
TA2	.41**	-.04	.08	-.11	-.05
TA3	.45**	-.21*	-.04	-.04	-.14
TA4	.42**	-.13	-.11	.03	.02
TA5	.44**	-.15	-.13	-.10	-.03
TA6	.48**	-.21	-.12	-.12	-.22*
EA1	-.39**	.44**	.22**	.18*	.42**
EA2	-.44**	.35**	.14	-.03	.34**
EA3	-.37**	.38**	.19*	.01	.29**
EA4	-.30**	.24**	.25**	.21*	.27**
EA5	-.46**	.26**	.05	-.05	.32**
EA6	-.29**	.17	.06	.02	.21
HT1	-.50**	.42**	.11	.10	.26**
HT2	-.55**	.30**	.09	.17	.16
HT3	-.51**	.32**	.07	.10	.11
HT4	-.47**	.24**	.28**	.10	.09
HT5	-.46**	.24**	.18*	.01	.08
HT6	-.29**	.12	.15	.13	.22*
Extraversion	-.42**				
Openness	-.21**	.24**			
Agreeableness	-.10	.20**	.09		
Conscientiousness	-.33**	.18*	.05	.29**	

Note: TA – tense arousal, EA – energetic arousal, HT – hedonic tone, number indicate measurement situation. Sample sizes overlapping between personality measures (in time 1) and each subsequent mood measurements were 160, 107, 106, 122, 119, 81.

* $p < .05$.

** $p < .001$.

the five factors, neuroticism was the only one which significantly predicted TA in all situations ($p < 0.001$). The relationship was positive and stable across the measurements (β values for the six measurements were .50, .55, .45, .50, .50, .50, respectively). Before the second lecture, TA was predicted also by higher openness ($\beta = .20$, $p < 0.05$). Regarding EA, conscientiousness was a relatively stable predictor of this mood dimension (β values for the six measurements were .31, .22, .19, .18, .22, .22, respectively; the second, third and sixth measurements significant at $p < 0.06$, while the other situations $p < 0.05$). Furthermore, there was a positive relationship between EA and extraversion in the first three situations (β values were .31, .24, and .30, respectively) and EA and openness before the exam ($\beta = .18$, $p < 0.05$). Finally, neuroticism was related to EA but only before the second lecture and after the exam (β values were $-.27$, and $-.37$, respectively, significant at $p < 0.001$) and after

exam. HT was consistently predicted by neuroticism (β values for the six measurements were $-.36$, $-.56$, $-.51$, $-.44$, $-.44$, $-.24$, respectively; all significant at $p < 0.001$, beside the last measurement $p < 0.06$). Additionally, HT was related to extraversion during the first lecture ($\beta = .26$, $p < 0.001$) and openness before the exam ($\beta = .26$, $p < 0.05$).

4. Discussion

We examined the changes of students' mood during a typical semester. We observed different profiles with respect to each mood dimension. TA remained at the same level in all lectures, but increased dramatically before the exam. This is similar to the changes observed in negative affect which includes some aspects of tension. Specifically, Watson (2000) observed that negative

affect is usually low and relatively stable until a crisis or stress occurs, at which point it sharply increases. In the academic setting, an exam seems to be the situational trigger of the changes in tension. Regarding HT, the results suggest that pleasant feelings are relatively high at the beginning of a new semester (first and last measurement). During the semester, this state probably remains (or slowly drops) until the exam, when HT level sharply decreases to a dip.

The analysis of EA revealed a relatively high level before the exam and in the grading situation. The former result might be explained with reference to [Humphreys and Revelle \(1984\)](#) theory suggesting that EA is an indicator of motivation. Its high level before the exam could express students' mobilization prior to a demanding situation. The second peak of EA might be related to excitation accompanying grade announcement. These results suggest that the last situation (grading) was specific, since it differed from the measurements taken during lectures (higher EA) as well as the exam (lower TA, higher HT). However, the sixth mood measurement took place after the examination session, and a short break between semesters. Linking this together with the fact that low EA is also an indicator of fatigue ([Matthews & Desmond, 1998](#)), one may wonder whether students felt rested and therefore energetic.

The correlation between both dimensions of arousal was the lowest before the exam. This result might be explained with reference to [Thayer \(1996\)](#) who suggested that tension and energy are typically inversely related, however, this relationship might be weaker, or even positive, in a challenging situation. [Thayer \(1996\)](#) described this state as 'tense-energy' from an evolutionary perspective suggesting that it may be a form of preparation for fight or flight behavior. It seems that the exam evoked the approach behavior (high energy), but also induced tension, whose evolutionary function may be preparation for an emergency ([Thayer, 1996](#)).

The results among the Big Five revealed that neuroticism was the most important factor determining mood. High levels of this trait were related to high tension, low pleasantness and low energy. In the case of the former two mood dimensions, their relationships with neuroticism were fairly strong and stable across situations. These results are consistent with predictions made using two main personality theories put forward by [Eysenck \(1967\)](#), [Gray \(1981\)](#), as well as empirical findings (e.g., [Matthews et al., 2009](#)). Apparently, neurotics tend to experience a chronically negative mood which depends only slightly on the situation.

The second most consistent trait predicting mood was conscientiousness. It was positively related to EA in all situations. This result seems to be especially important for the educational context. As we noticed above, conscientiousness is the most significant personality trait for academic performance ([Poropat, 2009](#)). On the other hand, EA correlates positively with various cognitive tasks ([Humphreys & Revelle, 1984](#); [Matthews & Desmond, 1998](#); [Matthews & Zeidner, 2012](#)) as well as students' grades ([Thelwell, Lane, & Weston, 2007](#)). [Thelwell et al. \(2007\)](#), argue that the mood experienced by the individual might serve in an informational manner. For instance, such states as vigor and energy suggest that an individual has the appropriate personal resources to cope with the task in hand; this high self-efficacy leads in turn to better performance ([Thelwell et al., 2007](#)). One may wonder whether high energy experienced by conscientious individuals is a manifestation of their competence and confidence in their ability, which might be beneficial for their academic achievements.

The other factor determining EA was extraversion. However, in this case the correlations varied remarkably across the measurements. The relationship was positive and fairly strong only in the first two lectures. This is consistent with the observations made previously by [Matthews et al. \(2009\)](#), [Zajenkowski et al. \(2012\)](#),

who noted that extraversion correlates significantly with EA in relatively neutral situations, but the relationship is close to zero during performance, e.g., taking an exam. [Zajenkowski et al. \(2012\)](#) argued that this result is in agreement with Gray's rather than Eysenck's theory. According to the latter author, introverts should generally exhibit increased cortical arousal, and extraversion is supposed to be negatively correlated with EA ([Eysenck, 1967](#)). In contrast, [Gray \(1981\)](#) claims that extraverts are relatively more sensitive to reward signals compared to introverts. Reward signals raise energy levels; thus, extraverts usually have higher EA. In our study, this was true only on only two occasions, namely the first two lectures, which suggests that the situational context should be included in the causal explanation. A possible explanation for such a pattern of relationships is that during a lecture more sociable actions can be taken, like talking with other students, while an exam is a strictly controlled condition in which no social interactions are allowed. The influence of extraverts' high sociability on mood could then be more easily expressed during lectures.

We found that openness was associated with EA and HT before the exam, and in the second measurement with TA. The former two correlations might be explained with reference to the nature of openness. This trait is highly related to cognitive aspects, such as intelligence or intellectual engagement ([Costa & McCrae, 1992](#)). It is possible then, that during an intellectually challenging situation (e.g., an exam), open individuals experience a rather positive mood. The positive relationship between openness and TA during neutral lectures is harder to explain. One may speculate whether this might be a reaction to boredom caused by low engaging content of the lecture. It is worth noting that the results concerning openness do not show any consistent pattern of relationships with mood. This is in agreement with [Watson \(2000\)](#) who claimed that openness has more in common with cognition and displays little relation to affective states.

Although in the previous investigations agreeableness was associated with affective states ([Watson, 2000](#)), in the present study this personality trait was the only one which showed no unique contribution to the mood dimensions. However, [Watson \(2000\)](#) suggests that agreeableness displays specific lower-order associations with affectivity. Particularly, this trait is usually negatively correlated with hostility ([Watson, 2000](#)) and a tendency toward aggressive feelings ([Zajenkovska, Jankowski, Lawrence, & Zajenkowski, 2013](#)). No such experiences were captured by the mood scale used in our study.

To sum up, our study revealed interesting results which might be relevant for mood research in academic setting. We found the existence of three types of situations differing in terms of mood profile. First, we observed that a typical lecture was associated with relatively low level of the two arousals (EA and TA), and relatively high HT. Second, an exam was related to elevated tension and energy, and reduced pleasantness. Third, the grades announcement situation was linked to high EA and high HT, and low TA. Thus, future investigations should take these results into account when the manipulation of a specific mood dimension is planning.

Our results provide also important implications for studies on the personality correlates of mood. So far, mainly two traits have been tested: extraversion and neuroticism. The current investigation showed that at least one additional trait should be considered, i.e., conscientiousness which was a consistent predictor of energy. We did not find systematic associations between mood and the other two traits from the five factor model, openness and agreeableness. However, recent data suggest that the latter may interact with other factors (e.g., trait anger) in predicting energetic arousal ([Bresin, Hilmert, Wilkowski, & Robinson, 2012](#)). Furthermore, our results showed that the relationship between extraversion and EA varied across conditions and was weakest during the exam and grading situations. These situations were also associated with

elevated energy, which may suggest that extraversion do not predict EA when there is a potential external source of excitation.

Future studies should control for additional factors that may influence mood or the personality–mood relationship. For instance, it would be desirable to include cognitive and motivational aspects, such as students' assessment of the lectures and exam workload, the level of perceived stress, the outcome of their performance, and their need to succeed in the exam. Additionally, in the current study we did not ask the participants about other exams they took during the examination session. Thus, future research should carefully control whether the students receive a compatible number of exams. Moreover, it would be interesting to assess personality more than once. Although there is a large body of research indicating remarkable stability of personality traits over long time periods (McCrae, 2004), one may wonder whether situational factors (e.g., momentary mood) may affect the self-report personality measures.

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