Beatrix SÉLLEI

Burnout of talented economics students

Introduction

Measuring the burnout of students participating in higher education is an important topic from the point of view of student success and well-being, as well as the efficiency of higher education as a whole.

Since the appearance of the concept of burnout in the seventies (Freudenberger, 1974), the definition has changed, but the phenomenon lives on unchanged. In summary, the three main symptoms of burnout: emotional exhaustion, depersonalization, and decreased performance can appear in any area of life (Maslach et al., 2001). Focusing specifically on the burnout of higher education students, Schaufeli et al. (2002a,b) also defined three dimensions: exhaustion due to study requirements, distance and cynicism regarding studies, and decreased efficiency and performance accompanied by a feeling of incompetence.

From the late 1980s, the burnout of talented students has had a particular focus. Fimian (1988) and Fimian with his colleagues (1989) found that the levels of stress, boredom, and quality of school life are related to gifted students' burnout, as well as family and classroom stressors and personal attributes such as external control or low self-esteem. Burnout among students is an interaction of internal and external factors. Internal factors can be personality, attribution style, and self-esteem, and these step into the interaction with external factors related to school (teaching, expectations, peers) and parents' attitudes and economic status (Lin & Yang, 2021).

Novel studies try to clarify the background variables of burnout, such as maladaptive perfectionism and self-compassion (Vazitan et al., 2023; Khazaleh et al., 2023; Bashi et al., 2015; Zhag et al., 2007) low emotion regulation, low optimism and low core self-evaluation (Hou, 2021), low emotional intelligence (Romano et al., 2020; Duran et al., 2006) while self-efficacy and engagement prevent students from burnout (Marôco, 2020; Yuan, Liu, 2024) such as goal orientation (Bashi et al., 2015). Among the external factors, academic overload and extracurricular activities (Prempeh et al., 2023) as well as stress (Chambel & Curral, 2005) are predictors of burnout. Educational, social life, and interpersonal factors can also influence the escalation of burnout (Hou, 2021) because burnout is, in some aspects, a social problem (Ricardo et al., 2021), and we should also mention the university environment itself as a risk factor (Urbina-Garcia, 2020), including educators' support (Romano et al., 2020). Not least, many higher education students engage in paid work activities, which can be another source of overload, and the work-study imbalance exacerbates the risk of academic burnout (Chang et al., 2000; Koropets et al., 2019).

In short, burnout is the stage of emotional exhaustion, loss of motivation, and performance problems. However, if talented students burn out during their studies, how will they be well-trained, motivated, and good-performing professionals? The answer is that students, including talented ones, need help to prevent burnout and avoid the lousy process, which can start with enthusiasm and end in cynicism, demotivation, and ineffectiveness. Based on Maslach and Goldberg (1998), there are at least two ways. One is increasing the fit between students and the academic environment (physical, curricular, social, expectations, and opportunities) to reach a higher level of engagement. The second way deals with an optimized mindset, which focuses on the relationship between the person and the situation and how students evaluate risk outcomes. However, at the core, each activity enhances self-efficacy (Bresó et al., 2011). However, how professionals, such as teachers, counselors, or psychologists, can help gifted students may vary from the usual methods. Talented students experience the same challenges — emotional, social, and cognitive —but they may face them in heterogeneous and sometimes unusual ways. From this point of view, students need personalized actions that consider their giftedness but focus on their whole selves (Kennedy & Farley, 2018).

Methodology

The examination of BME's excellent BSc students was carried out between December 2022 and February 2023. The research meets the requirements of research ethics with the permit EPKEB-2023-039. The request for data collection was distributed by the faculty representatives of the Talent Support Council and the faculty members of the Student Representation so that the online questionnaire could reach undergraduate students as widely as possible. The conditions for inclusion in the sample were either a cumulative credit index of at least 4.0 or higher or the achievement of professional results beyond regular studies, such as participation in a scientific paper competition.

Based on the literature, we used the Hungarian student version of Maslach's burnout inventory (Hazag et al., 2010) and asked demographic questions (age, gender, housing). We asked about potential external risk factors for burnout, such as increased performance or work engagement.

The student burnout inventory uses three subscales, which can be interpreted separately, and the total score of the three scales can also be examined. The emotional exhaustion scale describes mental fatigue and a negative emotional attitude related to learning. Depersonalization means moving away from learning, lacking interest, and losing motivation and goals. The decrease in efficiency means the noticeable deterioration of performance and the appearance of marks or omissions. Based on the scores, the applicants can be classified into "low," "middle," or "high" zones, either separately based on the three aspects or according to the total score. In the low zone, students do not encounter these emotional states (≤ 7 for emotional exhaustion, ≤ 4 for depersonalization, 0 for decreased effectiveness, and ≤ 25 points for the entire questionnaire). In the middle zone, although the students' burnout-focused mental health is not yet in danger, they are not entirely healthy either, as they have experiences that, although not every day, affect their well-being, and if no changes occur, they will automatically move towards the upper zone (emotional 8-14 in the case of exhaustion, 5-10 in the case of depersonalization, 1-17 in the case of decreased efficiency, between 26-39 points about the entire scale). The points above represent the upper zone, in which the student is already in the process of burnout, and these experiences are frequent, even every day, for him (Hazag et al., 2010).

Results

In the following paragraphs, we describe the sample, give a cross-sectional picture of burnout, and analyze the variables potentially connected to burnout. For the statistical analysis, we used the SPSS 26 software.

Till the end of the survey, 234 students answered, but in this paper, we only present economics and management students' data, so the subsample contains 16 answers. Ten female and five male participants represented the faculty's gender ratio. The average age was 21,94 years with a 1,65 years standard deviation. Most of them, 81%, attend state-founded training. The number of their semesters varied between 1 and 9, with an average of 4,94. Their cumulative credit index meets the selection criteria with an average of 4.1, and 6 reported extra scientific work, such as participation in science paper competitions or scientific publications; 3 reported that they would like to contribute to scientific work, but they have had no opportunity yet. Almost every participant, 14 students, answered that they are working on their studies. 53% work less than 20 hours per week, 20% work 20-30 hours weekly, and 27% work more than 30 hours.

Figure of Table 1 shows the points and the risk evaluation of the respondents measured with the Hungarian version of the Maslach Burnout Inventory for students (Hazag et al., 2010).

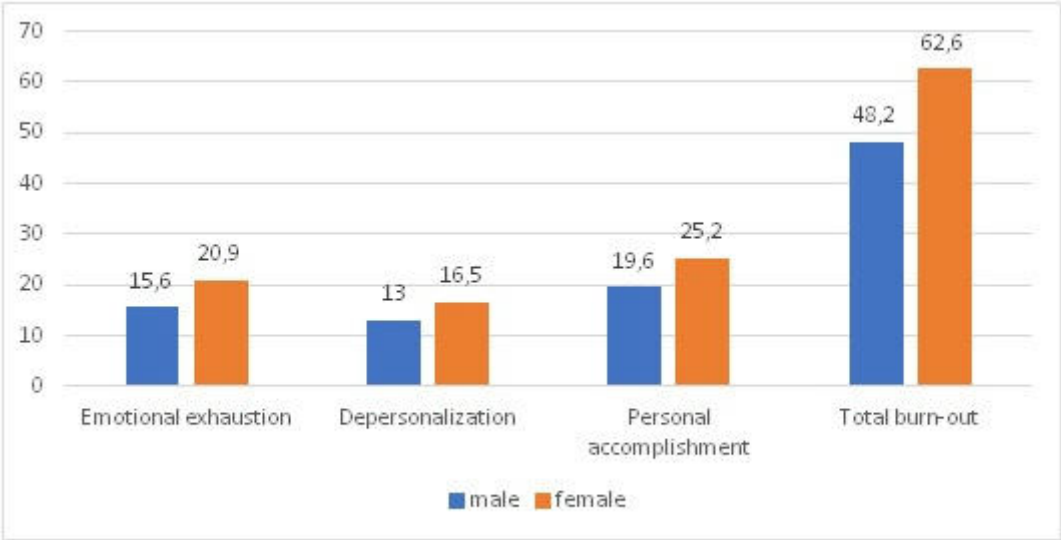
Figure 1 — Burnout of the sample based on the MBI-SS Hungarian version (n=16)

	Scale range	Min-max	Mean	SD	Risk evaluation
Emotional exhaustion	0-30	4-30	19,8125	6,90139	high
Depersonalization	0-24	2-23	15,8125	6,04669	high
Personal accomplishment	0-36	10-33	23,3750	6,53070	high
Total burn-out	0-90	36-77	59,0000	11,41344	high

Source: Own calculations

Examining the gender differences with a t-test, we find a significant difference at the .004 level in the total burnout score; women are more affected. However, we see tendential differences in each scale, shown in
Figure 2.

Figure 2 — Gender difference in economics students' burnout (n=16)



Source: Own calculations (based on Hazag et al., 2010)

In our sample, there are no differences in burnout connected to workload. Their burnout is related more to extracurricular activities. There is a significant difference ($p < 0.001$) in the accomplishment dimension between students participating in competitions and scientific work and those not making such efforts. The score of students who do not attend competitions or do not do other scientific work is 11.5 (in the low-middle zone), while those who do scientific work are 25 (in the upper zone). Based on correlations, scientific work is overloading because efficiency decreases as the number of papers increases, $r = -0.550$, sig. .005).

Exploring the associations with our other variables with correlation analysis, we found a moderately strong adverse effect with age. As age increases, the experience of inefficiency decreases (r=-.609, sig. .005). However, we cannot explain whether it comes from aging or is connected with experiences or other background variables. As students age, they carry a greater workload ($r = .567$, sig. = .005), which can also moderate this effect.

In summary, the participants in the study are exposed to a high level of academic stress. Hence, they are seriously at risk of burnout, and the well-being and mental state of these excellent students are low.

In the qualitative part of the study, students referred to highly positive and negative experiences during their studies. We made anonymous feedback reports from these answers to the faculty's dean and vice

deans for further application. In this study, we only briefly summarize the experiences related to student well-being. Students experience large-scale training as a negative experience. They miss personalization and individual opportunities. They struggle to excel when the requirements are unclear or change over time. According to the students, the attitude of some teachers is also demotivating, and they suspect that the instructors are burnt out. On the other hand, modern buildings positively affect students' well-being, and some instructors prefer to teach and use newer methods, consistently following the rules.

At the end of the online questionnaire, we also collected the solutions the students suggested based on the text answers. We divided them into three categories, as shown in figure of Table 2, based on the answers to the question: "Do you have any suggestions or ideas about how, in your opinion, the studies of students at BME could be made more attractive and livable?"

Figure 3 — Burnout prevention ideas based on students' ideas

Category	Solution possibilities
Education	- pedagogically qualified instructors - enjoyable lessons - partnership - opportunity for teamwork, increase creative homework - matching curriculum and assessment, student-friendly assessment - updated educational materials - a small number of seminars
Curriculum	- modernization of curriculum - transfer of applicable knowledge - more practical education - higher education scholarships - schedule of midterms, exams - making educational materials readily available - tutoring system available
Infrastructure	- healthy and accessible canteen - more intense community life - study corners on campus - reasonable hybrid education

Source: Own research

Future research directions

This study was part of a broader study to measure talented students' burnout at the Budapest University of Technology and Economics. However, it would be worthwhile to conduct a burnout examination for gifted and all students. Regarding the background variables, we should extend the questions to social and academic life-related factors and internal psychological source competencies. Furthermore, the data collection should be expanded to each university to derive ecologically valid conclusions about Hungarian management and economics bachelor students. It would also be worth using qualitative research designs, such as focus groups or interviews, to better understand burnout's risk and protective factors. From this type of data, students can be profiled by teachers (similar to Klinkenberg et al., 2023) to identify the most suitable support for each higher education participant, i.e., students and teachers.

Conclusions

Based on our results, all the talented students participating in the sample are burned out, which aligns with the research that burnout is a living and threatening phenomenon in higher education. Among the background variables, we first saw the effect of extracurricular activities in accordance with Prempeh and colleagues (2023). The effect of workload did not appear, in contrast to the literature (Chang et al., 2000; Koropets et al., 2019). Although we cannot pinpoint a specific cause, it is conceivable that with increasing age, the number of experiences increases, students learn to cope with academic challenges, and thus, their performance improves. They are less at risk in the dimension of burnout. Interestingly,

this effect is not influenced by the fact that older students are increasingly taking on work alongside their university studies.

Although the number of items in the sample is low considering the total number of BSc students, it can identify important focuses if the results are translated into prevention. Students mentioned curriculum and teaching-related solutions that need educators to change their mindset and methodology. However, some evidence-based studies say that gamification or design learning processes are effective in preventing burnout and helping students find their inner motivation and sources (Raoufrahimi et al., 2022).

The need for psychoeducation has been highlighted by several studies examining student burnout (DiBlasio & Szigeti, 2022). In these materials, in addition to knowledge about burnout, it is essential to also talk about treatment, with stress management methods, relaxation techniques to reduce emotional exhaustion (Davis et al., 2008), and teaching tools that make learning itself more effective to prevent performance decline and to increase the sense of competence (Hazag & Major, 2008) and help to find the flow and involvement (Neumann et al., 1990) in progress with specific techniques (Hung, Chia, 2018). Based on our results, we recommend developing training programs and psychoeducational materials, the empirical effectiveness of which is essential.

Students' burnout must be seen in a context. Based on the qualitative data, many problems are related to burnt-out teachers and educators. According to Szigeti (2023), teachers' burnout is a significant problem in Hungary. If we think of solutions, we should make interventions at each level of the higher education system, so programs should help students and educators, and renew higher education itself slowly.

References

- Bashi, G.M., Mosavi, S. & Golshani, F. (2015). Academic Burnout in Students: The Predictive role of Perfectionism & Goal Orientation. Journal of Educational Psychology Studies, 12(22), 133-156.
- Bresó, E., Schaufeli, W. & Salanova, M. (2011). Can a self-efficacy-based intervention decrease burnout, increase engagement, and enhance performance? A quasi-experimental study. Higher Education,

61. 339-355. https://doi:10.1007/s10734-010-9334-6

- Chang, E.C., Rand, K.L., & Strunk, D.P. (2000). Optimism and risk for burnout among working college students: Stress as a mediator. Personality and Individual Differences, 29, 255-263.
- Chambel, M.J., & Curral, L. (2005). Stress in academic life: Work characteristics as predictors of student well-being and performance. Applied Psychology: An International Review, 54(1), 135-147.
- Davis, M., Eshelman, E. R., & McKay, M. (2008). The relaxation and stress reduction workbook (6th ed.). New Harbinger Publications.
- DiBlasio, B. & Szigeti, M. (2022). Hallgatói kiégés és megküzdési stratégiák. In Sebestyén-Pál, Gy., Szabó, L. (eds.): ENELKO 2022,

XXIII. Energetika-Elektrotechnika – ENELKO és XXXII. Számítástechnika és Oktatás – SzámOkt Multikonferencia. (pp. 85-94.)

- Duran, A., Extremera, N., Rey, L., Fernández-Berrocal, P. & Montalban, F. (2006). Predicting academic burnout and engagement in educational settings: Assessing the incremental validity of perceived emotional intelligence beyond perceived stress and general self-efficacy. Psicothema, 18(Suppl.) 158-64. https://doi:10.1037/t01392-000

- Fimian, M.J. (1988). Predictors of classroom stress and burnout experienced by gifted and talented students. Psychology in the Schools, 25(4), 392-405. https://doi.org/10.1002/1520-6807(198810)25:4<392::AID-PITS2310250407>3.0.CO;2-D
- Fimian, M.J., Fastenau, P.A., Tashner, J.H. & Cross, A.H. (1989). The measure of classroom stress and burnout among gifted and talented students. Psychology in the Schools, 26(2), 139-153. https://doi/10.1002/1520-6807(198904)26:2%3C139::AID-PITS2310260205%3E3.0.CO;2-E
- Freudenberger, H.J. (1974). Staff burn-out. Journal of Social Issues, 30(1), 159—165.
- Hazag A. & Major J. (2008). A hallgatói kiégés jelensége, medikusok lelki egészségvédelme. Mentálhigiéné és Pszichoszomatika, 9(4), 305-322. Downloaded: http://real.mtak.hu/58227/1/mental.9.2008.4.2.pdf
- Hazag, A., Major, J. & Ádám, Sz. (2010). A hallgatói kiégés szindróma mérése. A Maslach kiégés-teszt hallgatói változatának (MBI-SS) validálása hazai mintán. Mentálhigiéné és Pszichoszomatika, 11()2, 151-168. https://doi.org/10.1556/Mental.11.2010.2.4
- Hou, Y. (2021). Research progress of college students' learning burnout. Review of Educational Theory, 4(4), 43-50. https://doi.org/10.30564/ret.v4i4.3545; https://journals.bilpubgroup.com/index.php/ret/article/view/3545
- Hung, Y., & Chia, A. (2018). Gamification as Design Thinking. International Journal of Teaching and Learning in Higher Education, 30(3), 549-559.
- Kennedy, K. & Farley, J. (2018). Counseling gifted students: School-based considerations and strategies. International Electronic Journal of Elementary Education, 10(3), 361-367. DOI:10.26822/iejee.2018336194
- Khazaleh, A., ALshraah, F.K.N., Alnasraween, M.S., Abzakh, H.O.M. & Alkhawaldeh, M.I.K. (2023). Tendency to perfectionism and its relationship to academic burnout among gifted students at King Abdullah II Schools of Excellence. Journal of Namibian Studies: History Politics Culture, 34, 135–157. https://doi.org/10.59670/jns.v34i.994, https://namibian-studies.com/index.php/JNS/article/view/994/772
- Klinkenberg, E. F., Versteeg, M., & Kappe, R. F. (2023). Engagement and emotional exhaustion among higher education students; a mixed-methods study of four student profiles. Studies in Higher Education, 1–15. https://doi.org/10.1080/03075079.2023.2281533
- Koropets, O., Fedorova, A. & Kacane, I. (2019). Emotional and academic burnout of students combining education and work. In: EDULEARN19 Proceedings (pp. 8227-8232). DOI:10.21125/edulearn.2019.2038
- Lin, F. & Yang, K. (2021). The external and internal factors of academic burnout. In: Proceedings of the 2021 4th International Conference on Humanities Education and Social Sciences (ICHESS 2021). Atlantis Press. (pp. 1815-1821.) DOI 10.2991/assehr.k.211220.307
- Marôco J, Assunção H, Harju-Luukkainen H, Lin S-W, Sit P-S, Cheung K-c, Maloa B., Ilic, I.S., Smith, T.J. & Campos, J.A.D.B. (2020). Predictors of academic efficacy and dropout intention in university students: Can engagement suppress burnout? PLoS ONE, 15(10), e0239816. https://doi.org/10.1371/journal.pone.0239816
- Maslach, C. & Goldberg, J. (1998). Prevention of burnout: New Perspective. Applied and Preventive Psychology, 7(1), 63-74. https://doi.org/10.1016/S0962-1849(98)80022-X
- Maslach, C., Schaufeli, W.B. & Leiter, M.P. (2001). Job burnout. Annual Review of Psychology, 52, 397-422.

- Neumann, Y., Finaly-Neumann, E., & Reichel, A. (1990). Determinants and consequences of students' burnout. The Journal of Higher Education, 61(1), 20-31.
- Prempeh, C.A., Cudjoe, O.K., Peprah, M.O., Abu, P. & Setordzi, M. (2023). Predictors of Academic Burnout Among Nursing Students in Ghana, an Institutionalised Based Cross-Sectional Study. American Journal of Nursing Science, 12(5), 87-95. doi:10.11648/j.ajns.20231205.11 https://www.sciencepublishinggroup.com/article/10.11648/j.ajns.20231205.11
- Raoufrahimi, M., Azizi, S., Javidinejad, M., & Sadeghi, A. (2022). The effectiveness of gamification education on architectural students' academic burnout and its role in the learning process of design. Journal of Iranian Architecture & Urbanism(JIAU), 13 (1), 297-309. 1464 https://doi.org/10.30475/isau.2020.239546.1464
- Ricardo, R.Y, Rizzo-Chunga, F., Mocha-Bonilla, J. & Ferreira, J. (2021). Prevalence of burnout syndrome in university students: A systematic review. Salud mental, 44(2), 91-102.. https://doi.org/10.17711/sm.0185-3325.2021.013
- Romano L., Tang X., Hietajärvi L., Salmela-Aro K. & Fiorilli C. (2020). Students' Trait Emotional Intelligence and Perceived Teacher Emotional Support in Preventing Burnout: The Moderating Role of Academic Anxiety. International Journal of Environmental Research and Public Health, 17(13):4771. https://doi.org/10.3390/ijerph17134771
- Schaufeli, W.B., Martinez, I., Pinto, A., Salanova, M., & Bakker, M. (2002a). Burnout and engagement in university students. Journal of Cross-Cultural Psychology, 33(5), 461-481.
- Schaufeli, W.B., Salanova, M., Gonzalez-Romá, V. & Bakker, A. B. (2002b): The measurement of engagement and burnout: a two sample confirmatory factor analytic approach. Journal of Happiness Studies, 3, 71-92.
- Szigeti, M.V. (2021). Burnout Prevention with psychoeducation is teachers. In Carmo, M. (ed.): Education and New Developments 2021, World Institute for Advanced Research and Science. 205-209. https://doi.org/10.36315/2021end044
- Urbina-Garcia, A. (2020). What do we know about university academics' mental health? A systematic literature review. Stress Health, 36(5), 563-585. doi: 10.1002/smi.2956.
- Yuan, Ruiyang, & Liu, Jianyin. (2024). Examining the Mediating Role of Self-Efficacy in the Relationship between Study Engagement, Professional Commitment, and Study Burnout among Private Undergraduate Students in China. Kurdish Studies, 12(2), 3357–3365. Retrieved from http://kurdishstudies.net/menu-script/index.php/KS/article/view/2442
- Vazitan, M., Ardakani, F.B. & Mottaghi, S. (2023). The Role of Self-Compassion and Perfectionism Strategies. Journal of School Psychology and Institutions, 12(2), 126-138. DOI: 10.22098/jsp.2023.7238.4246
- Zhang, Y., Gan, Y., & Cham, H. (2007). Perfectionism, academic burnout and engagement among Chinese college students: A structural equation modeling analysis. Personality and Individual Differences, 43 (6), 1529–1540. https://doi.org/10.1016/j.paid.2007.04.010.