SELF-COMPASSION AS A NEWLY OBSERVED DIMENSION OF THE STUDENT'S PERSONALITY

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ABSTRACT

The mindfulness-based methods are on the rise in the mental health care of students as well as employees. Therefore, the research on self-compassion is necessary to explore abilities and personality traits that are cultivated by the mindfulness approach. Our research deals with the assessment of the level of self-compassion by the students of the Faculty of Economics and Management at the Czech University of Life Sciences to precise the planned mindfulness-based intervention. Further, the gender and personality specifics as well as a connection to academic achievement are examined. For this purpose, the Self-compassion Scale, and the NEO-PI-R were used. The results proved insignificant correlations between the self-compassion subscales and self-reported grades, but also subtle differences in the structure of the self-compassion by males and females. Further, correlations between the neuroticism and the Self-compassion Scale and its subscales were revealed. Structural equation modeling was involved to gain more complex insight in the researched area.

KEYWORDS

Academic achievement, Big-5, mindfulness-based intervention, self-compassion, self-efficacy, university students

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Highlights

- *Self-compassion does not relate to the self-reported academic achievement.*
- *Females are more self-kind but also suffer from more feelings of isolation and over-identification with their emotions in comparison with males.*
- *The only Big 5 personality trait correlated with the Self-compassion Scale and its subscales was neuroticism.*

INTRODUCTION

The mental health of the population has been a research topic for decades. Also, it is one of the crucial conditions of efficient education (Cornaglia et al., 2015; Mahdavi et al., 2021). A student with considerable mental problems loses attention, general cognitive capacity, and – unfortunately – loses interest. Sadly, the recent pandemic situation brings general impairment of mental health issues, although it evokes some positive changes in educational processes (Dvořáková et al., 2021; Kotera et al., 2021). One of the recent trends that seek for improvement of the well-being in population is the expansion of the mindfulness-based interventions (Carmody and Baer, 2008) that are successfully applied at various levels of the educational system (Altner et al., 2018) including university students (Medlicott et al., 2021).

To support an empirical validity of the mindfulness-based intervention programs, it is necessary to identify personality traits and abilities that are cultivated by these training and mediate the impact on general well-being. According to the research, the core concept of these processes is the self-

compassion (Neff, 2015; Kirschner et al., 2019; Medlicott et al., 2021) understand as emotionally positive, caring, and concerning attitude towards self especially in challenging or critical situations. Based on the philosophy of Buddhism, this construct refers about noncritical perception and experiencing of own's inadequacies and failures, which has a protective impact on well-being (APA dictionary of psychology, 2022). It 'entails three basic components: (a) self-kindness - extending kindness and understanding to oneself rather than harsh judgment and self-criticism, (b) common humanity - seeing one's experiences as part of the larger human experience rather than seeing them as separating and isolating, and (c) mindfulness - holding one's painful thoughts and feelings in balanced awareness rather than over-identifying with them' (Neff, 2003a:89).

In the population of university students, the self-compassion not only increases the general well-being, but also the study engagement, because it supports a transfer from extrinsic motivation to intrinsic motivation (Kotera et al., 2021). Thus, the self-compassion also contributes to better academic performance, which is associated

with a higher intrinsic motivation (Fortier et al., 1995). An inherent connection between self-compassion (SC) and educational processes is mirrored also in the correlation between the SC and self-efficacy (Liao et al., 2021). This attitude of belief in capacity to manage own life events (Bandura, 1986) was further specified in education as the academic self-efficacy manifesting in specific achievement strategies (self-enhancing attributions, failure expectation, task relevant behavior or activity vs. passivity) (Pajares, 1996). Similar impacts of SC were studied by Zhang et al. (2021) who proved a positive correlation between SC growth mindset and intelligence growth mindset by university students. Aside from academic-specific self-compassion that reflects feelings in academic difficult situations and predicts university adaptation (Martin et al., 2019), the general self-compassion influences the educational achievement of the individual also in the field of ethical judgment, improving the outcomes from the ethical training (Conway and Kotera, 2020).

Apparently, the SC affects academic achievement at many levels and significantly influences the mental health of students. According to Lee and Lee (2020), students with the high level of self-compassion may experience feelings of burnout because of the academic demands, nevertheless, they are at a lower risk of depression in comparison with their less self-compassionate peers. This finding is supported by results of Poots and Cassidy (2020) who revealed that SC, psychological capital, and social support mediate the relationship between academic stress and well-being. The strong potential of SC and its influence on well-being was not proved by the study of Kroshus et al. (2020). According to their results, not SC nor coping strategies buffered effects of chronic stressors on negative outcomes. However, the SC was the strongest and most consistent predictor of a successful transition to college in their study. Interestingly, the level of self-compassion may be specific for the area of study. In the research of Kotera et al. (2019), students of business in the United Kingdom scored lower in self-compassion than students of social work.

Further, the level of SC and its elements seem to be gender-sensitive to a certain extent. The meta-analytical study by Yarnell et al. (2015) refers to a slightly higher level of self-compassion by males in comparison with females, especially by the non-caucasian population. Neff et al. (2005) observed lower level of female self-compassion in her study of achievement goals and coping with academic failure. Based on this knowledge, Smeets et al. (2014) researched the impact of self-compassion-directed intervention on the resilience and well-being by female university students. The results proved an increase in SC, mindfulness, self-efficacy, and optimism, whereas tendencies to ruminate decreased in comparison with a control group undergoing the course of time management.

The lower level of the SC in females is not surprising because it relates to generally higher vulnerability to stress and, consequently, higher prevalence of difficulties such as anxiety and depression (Grevenstein et al., 2017; Marsh et al., 2018; Gutiérrez-Hernández et al., 2021). However, the interpretation of the females' SC as generally lower may be simplifying and even misleading according to some authors (Muris and Otgaar, 2020) because it ignores subtle differences between the SC components. Further, a mere interpretation of the SC as lower

by females may overshadow the fact that the support of self-compassion turns out to be beneficial also for males, e.g., for lowering self-coldness associated with the gender role-specific stigma for seeking help (Booth et al., 2019).

In the previous research (Krejčová and Chýlová, 2022), we observed more intensive isolation and over-identification but also a higher level of self-kindness by females using the Self-compassion Scale (Neff, 2003a). A former study of the SC in the Czech environment (Benda and Reichová, 2016) proved better values of mindfulness, over-identification, isolation, and self-judgement in the male sample and a higher level of self-kindness and common humanity in the female sample. However, the results are not fully comparable with our study because the authors decided to exclude some items from the questionnaire (Benda and Reichová, 2016).

Our results are in partial correspondence with the study by Cunha et al. (2016) noticing better scores in isolation and over-identification by males. Nevertheless, they obtained better results by males also in subscales of self-kindness, self-judgment, and mindfulness. Bluth and Blanton (2015) observed higher scores in all negative subscales by females but no gender differences in positive subscales. This result may mirror the fact that females are more self-uncompassionate, but they are not less self-compassionate at the same time (Muris and Otgaar, 2020).

Based on the described studies, the goal of our research is to assess the level of self-compassion by bachelor students of the Faculty of Economics and Management at the Czech University of Life Sciences (FEM CZU) and reveal possible gender-related specifics and connections to the self-reported academic success.

The grounds of these objectives reflect a planned involvement of the elements of mindfulness-based programs in the education of ethics at the Department of Psychology, as well as to the providing of Mindfulness Based Cognitive Therapy (MBCT) to clients of university counseling services. Research background for these interventions is observable e.g., in the study of Conway and Kotera (2020) referring to the impact of self-compassion on the efficiency of the ethical training or in the findings of Kotera et al. (2019) that point out to the lower level of self-compassion by the business students in comparison with the students of social work. Our results may support understanding to students' self-compassion at other Czech faculties dealing with business education as well as in international comparison. In the first step, our objectives were to measure the level of SC and its subscales and to observe gender specifics and relationships by the self-reported grade mean (Krejčová and Chýlová, 2022). In the current study, we intend to enrich our analysis with exploring the relationships of SC subscales to basic personality traits using the NEO Five-Factor Inventory. Using of this widespread personality questionary ensures comparability with the similar research by Neff et al. (2007).

Based on our objectives, we formulated this set of hypotheses:
H1: The self-grade mean does not correlate significantly with the level of the self-compassion.

H2: The gender of respondents does influence the level of the self-compassion.

H3: There are no significant correlations between Big-5 personality factors and the level of the self-compassion.

MATERIALS AND METHODS

In correspondence with our objectives, we used the Self-compassion Scale (Neff, 2003a) to assess the level of respondents' self-compassion score. Moreover, we added two demographical questions (age, gender) and one question on the Self-reported grade mode (SGM), meaning the most frequent grade by the exam at university.

The Self-compassion Scale consists of 26 items that cover 6 subscales of Self-kindness, Self-judgment, Common humanity, Isolation, Mindfulness, and Over-identification. The dimensions of Self-kindness vs. Self-judgment refer to feelings of understanding towards oneself in hard times vs. being roughly self-critical; Common humanity vs. Isolation relate to perception of own problems as a part of human experience; Mindfulness vs. Over-identification indicate acceptance of negative emotions vs. feeling consumed by them (Neff, 2003b).

The internal and test-retest reliability of the instrument was verified by the research, similarly as a good discriminative validity (Neff, 2015). The respondents answered on the 5–point scale from 1= 'almost never' to 5= 'almost always'. The negative subscales (self-judgment, isolation, and over-identification) were coded reversely for our purposes.

The NEO-PI-R is a 240-item measure of the five basic personality factors: Neuroticism (N), Extraversion (E), Openness to Experience (O), Agreeableness (A), and Conscientiousness (C). Each factor is represented by six 8-item facet scale. Items are answered on a five-point Likert scale from strongly disagree to strongly agree. Evidence on the reliability and validity of the instrument is given in detail in Costa and McCrae (1992). Cronbach's alphas of the Czech version are rather high (from .88 at agreeableness to .91 at Neuroticism and Conscientiousness). For more psychometric characteristics of the Czech NEO-PI-R see McCrae et al. (2004).

The research sample was constructed by the method of convenience choice and involved 206 respondents with mean age 21.639 (median 21, min 19, max 28) and the gender structure of 127 females and 79 males. All respondents were students of bachelor programs of FEM CZU.

For data processing, the software IBM SPSS 27 was used. The strength of association between the variables was tested by parametric measures, Pearson correlation coefficient, and the t-test for equality of means. The normality of the distribution of Self-Compassion was tested by Shapiro-Wilk test of normality (sig. 0.883).

Further, we used the Structural Equation Modeling (software IBM SPSS Amos 28) to gain a more complex output than the results of the classical methods of multidimensional statistics. This approach allows the representation of the causal processes as the series of structural equations and their representation in a visual form that enables better conceptualization of the studied phenomenon. The consistency of the theoretical model with the data undergoes statistical analysis (Byrne, 2010). In our case, the path analysis was used. The model fit was assessed with the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), the Root Mean Square Error of Approximation (RMSEA), and Akaike's Information Criterion (AIC). RMSEA is an absolute measure of the distance between the hypothesized model and a perfect model, whereas CFI and TLI are incremental indices comparing hypothesized model with a baseline model (Xia, Yang, 2019). For the interpretation, we followed the widely used cutoffs proposed by Byrne (2010): CFI and TLI with values close to .95 indicating superior fit; RMSEA < .05 good fit, < .08 reasonable errors of approximation in population; .08–.10 mediocre fit; > .10 poor fit.

RESULTS

The descriptive dimension of our results aims mainly at the identification of the general level of self-compassion and its dimension in our research sample. The Self-compassion Scale (SCS) lacks the clinical norms that would ascertain some desirable level of the characteristics. The tool is mostly used in a comparative way. Nevertheless, the author suggested an indicative rating of mean scores 1.0–2.49 to be low, 2.5–3.5 to be moderate, and 3.51–5.0 to be high (Neff, 2003a). According to this guideline, all subscales in our research sample have moderate value with highest value of Mindfulness by males (approaching the border of the higher rank) and lowest value of Overidentification by females (approaching the border of the lower rank) (see Table 1). Apparently, higher values of means by Self-kindness and Self-judgement are due to the higher number of items included in the questionnaire in comparison with other scales. Therefore, means of scores are more relevant for mutual comparisons.

Subscale	Gender	Mean/scale	Std. deviation	Mean/score
Self-kindness	M	14.19	3.32	2.84
	F	15.25	3.79	3.05
Self-judgment	M	14.70	3.08	2.94
	F	15.28	3.79	3.06
Common humanity	M	12.37	3.13	3.09
	F	12.53	3.23	3.13
Isolation	M	12.68	3.53	3.17
	F	11.59	3.70	2.90
Mindfulness	M	13.62	2.87	3.41
	F	12.95	3.13	3.24
Over-identification	M	11.63	3.67	2.90
	F	10.59	2.84	2.65

Table 1: Subscales of SCS – descriptive statistic, 2021 (source: own calculation)

H1: The self-grade mean does not correlate with the level of the self-compassion.

Using the measure of Pearson correlation coefficient, we revealed no significant correlations between the Self-reported grade mean (most frequent grade by exams at the university) and the subscales of SCS (see Table 2). Thus, the first hypothesis (H1) was not rejected. However, we found a significant correlation between the scales of the SCS which supported the inner consistency of the questionnaire as well as of the concept itself.

		Self-kindness	Self-judgment	Common humanity	Isolation	Mindfulness	Overidentification
SGM	Pearson Corr.	.112	-.013	.102	.111	-.001	.105
	Sig. (2-tailed)	.123	.859	.161	.127	.994	.148

Table 2: Correlation of the Self-reported grade means with the SCS subscales, 2021 (source: own calculation)

H2: The gender of respondents does not influence the level of the self-compassion.

Further, we observed the gender differences in our research sample. The Levene's test for equality of variances proved similarity/equality by vast majority of the subscales (Table 3). Thus, the *t*-test for equality of means was used. In terms of statistical significance, we found small but existing gender specificity by Self-kindness, Isolation and Overidentification (see Table 4). By the subscales with bordering values in Levene's test for equality of variances, the *t*-test values were similar even when the equality of variances was not assumed (Table 5). From the descriptive statistics (see Table 1), we can infer a higher level of self-kindness by females. The values of Isolation and Overidentification are higher by men. However, the negative scales of the SCS are reversely coded in our research, which means that both Isolation and Overidentification are stronger by females. The second hypothesis was rejected.

Subscale	F	Sig.
Self-kindness	1.883	.171
Self-judgment	4.597	.033
Common humanity	.039	.844
Isolation	.003	.957
Mindfulness	.813	.368
Overidentification	3.933	.049

Table 3: Gender differences; Levene's Test for Equality of Variances, 2021 (source: own calculation)

Subscale	t	df	Sig. (2-tailed)
Self-kindness	-2.050	204	.042
Self-judgment	-1.144	204	.254
Common humanity	-.351	204	.726
Isolation	2.096	204	.037
Mindfulness	1.536	204	.126
Overidentification	2.285	204	.023

Table 4: Gender differences; *t*-test for equality of means, 2021 (source: own calculation)

Subscale		t	df	Sig. (2-tailed)
Self-judgment	Equal variances assumed	-1.144	204	.254
	Equal variances not assumed	-1.200	189.74	.232
Overidentification	Equal variances assumed	2.285	204	.023
	Equal variances not assumed	2.155	135.34	.033

Table 5: Gender differences; *t*-test for equality of means by specific subscales, 2021 (source: own calculation)

H3: There are no significant correlations between Big-5 personality factors and the level of the self-compassion.

Further statistical analysis dealt with the relationships between the SC subscales and the Big 5 personality traits using the Pearson correlation coefficient (Table 6). The power of the correlations was assessed in line with Cohen (1998): $r = .01–.03$ small association, $r = .03–.05$ middle association, $r > .05$ strong association. The correlations on the required level of significance ($\alpha = 0.01$) were observed namely between the SC and neuroticism with the largest effect size in the case of the total SC score and subscale Isolation. The middle strength of correlation was measured between the Neuroticism and Over-identification, Self-kindness, and Self-judgement. All observed correlation between Neuroticism and the SC and its subscales were negative. Besides, we found a weak but significant positive association between the Openness and Mindfulness subscale as well as between Extraversion and Self-kindness and the

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total SC score. Generally, the third hypothesis (H3) can be rejected. We involved also the Self-reported grade in the correlational analysis, however, just a weak correlation ($r = -.153$, $p = .034$) with Conscientiousness was detected.

		Extroversion	Agreeableness	Conscientiousness	Neuroticism	Openness
Self-kindness	Pearson Correlation	.242**	.146*	.073	-.315**	.071
	Sig. (2-tailed)	.000	.036	.294	.000	.311
Self-judgment	Pearson Correlation	.143*	.004	-.068	-.398**	-.066
	Sig. (2-tailed)	.040	.949	.331	.000	.347
Common humanity	Pearson Correlation	.099	.059	.082	-.041	.071
	Sig. (2-tailed)	.156	.401	.241	.563	.311
Isolation	Pearson Correlation	.157*	.082	.040	-.561**	-.176*
	Sig. (2-tailed)	.024	.239	.565	.000	.012
Mindfulness	Pearson Correlation	.107	.094	.130	-.162*	.252**
	Sig. (2-tailed)	.125	.179	.062	.020	.000
Overidentification	Pearson Correlation	.084	.028	.013	-.470**	-.134
	Sig. (2-tailed)	.232	.690	.850	.000	.056
Total Score	Pearson Correlation	.234**	.115	.071	-.549**	-.005
	Sig. (2-tailed)	.001	.100	.309	.000	.946

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 6: Correlation of the NEO-PI-R with the SCS total score and subscales, 2022 (source: own calculation)

Based on theoretical knowledge and previous research in this area, we created the theoretical model tested via the path analysis to validate and enrich the outputs of the multidimensional statistic (Figure 1). According to all used criteria, the model fits our data well (Table 7). Both incremental indices commonly used to measure data fit (CFI, TLI) demonstrate very good fit as they exceeded the level of .95. The absolute fit index RMSEA reaches an acceptable level approaching the critical value of .05. The AIC informational criterium proved the best comparability between saturated and tested models.
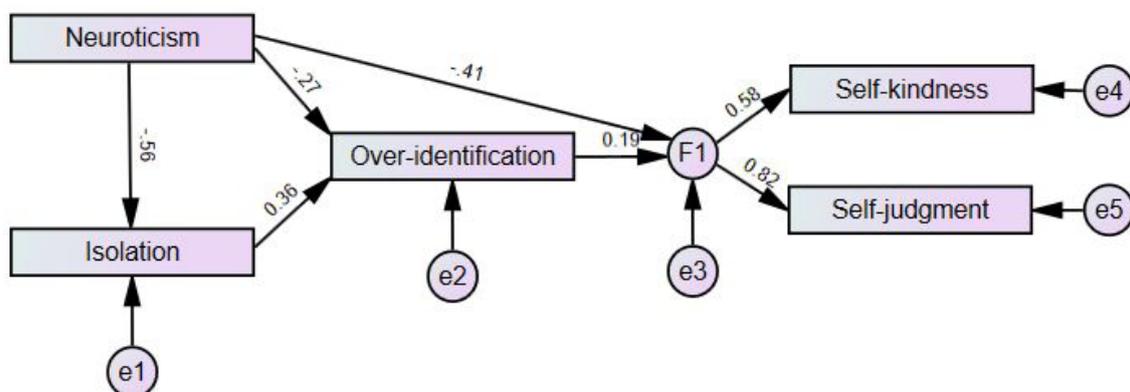

Figure 1: Results for theoretical model with standardized coefficients, 2022 (source: IBM SPSS Amos 28)

	χ2	df	p	CFI	TLI	RMSEA	Our model	Saturated model
							AIC	
Model	5.558	3	.135	.990	.965	.065	39.558	40.000

Table 7: Fit indicies of the path analysis, 2022 (source: own calculation)

DISCUSSION

The first objective of our study was to assess a general level of the SC by students of FEM CZU to verify the relevance of using mindfulness-based methods in education and in the counselling center. For this purpose, the Self-compassion Scale (Neff, 2003a) was used. The mean scores in all subscales indicate that the level of SC is not literally low by our participants, however, there is still a space to support it.

Many papers (Medlicott et al., 2021; Lee and Lee, 2020; Kotera et al., 2019; Smeets et al., 2014) support the arranging of mindfulness-based interventions for students. We intend to use certain elements of mindfulness-based programs in the subject Psychology and Ethics in Business following a study by Conway and Kotera (2020). According to their results, the mindfulness-based methods support not only well-being, but also the ethical judgment. However, we do not plan to involve the whole mindfulness course in the education, because we appreciate the mandatory attendance in such activities. Thus, offering mindful training in university counseling services appears more relevant.

Our next research intention was to observe the relationships between the SC and academic achievement that was operationalized as the most frequent grade by exams at the university (Self-reported grade mean – SGM). Nevertheless, the correlations between the CGM and the SCS subscales were insignificant. This finding is in correspondence with the study by Neff et al. (2005) that found no significant correlations between the SC and Self-reported grade point average. We assume that the SC is not related to the academic achievement expressed by grades; however, the connections between the SC with other dimensions of educational achievement needs further research in the form of comparative analysis as in meta-analytical study by Liao et al. (2021) that revealed larger associations between SC and self-efficacy by non-student than by students.

Further, our study dealt with the gender specifics of the SC concept. This question is the subject of several research. Neff et al. (2005) proved slightly lower self-compassion by females in comparison with males, similarly to a meta-analytical study by Yarnell et al. (2015) that also assigned women as more compassionate to others than men. Our result correspondence with described studies only to a certain extent. The scores from negative subscales (Isolation, Overidentification) were significantly lower by females; however, the self-kindness was significantly lower by males. Although the significance of these differences is not high, they are in certain correspondence with cited studies as well as with findings by Booth et al. (2019) who referred about the male-typical self-coldness resulting in stigma for seeking help.

The next phase of the research deals with the relationships between the SCS subscales and personality traits measured by NEO Five-Factor Inventory. In the previous research, the total SCS score proved the strongest and negative association with Neuroticism. Further, significant positive correlation with Agreeableness, Extroversion and Conscientiousness was proved (Neff et al. 2007). The significant connection between neuroticism and self-compassion appears also in further studies (Neff, 2003a; Arslan, 2016; Pyszkowska, 2020; Tamcan and Dag, 2021). On the contrary, Di Fabio and Saklofske (2020) proved a significant relationship between compassion for others and agreeableness. This finding points out personality-related specifics of the self-compassion and compassion to others. Also, it brings a new viewpoint on the gender differences between these two concepts (Yarnell et al., 2015).

In correspondence with the cited studies, our research revealed a negative connection between self-compassion and neuroticism, correlations with other personality traits measured by the NEO-PI-R Inventory did not reach the border for a middle strength of power and/or statistical significance. In comparison with other research, our analysis goes deeper into the mutual differences between the SC subscales. The strongest association was observed between Neuroticism and Isolation, further by Over-identification and Self-judgement. The correlation of neuroticism with the self-kindness was also significant but weak (see Table 6). The connection between neuroticism and mindfulness/common humanity was insignificant. This observation has a substantial practical impact. The "pure" mindfulness intervention does not have to be sufficient for students with a high level of neuroticism or should also involve strategies that would relieve feelings of loneliness and being totally consumed by the suffering. For instance, the Mindfulness Based Cognitive Therapy (MBCT) could be beneficial for this kind of personality.

Armstrong and Rimes (2015) demonstrated significant reductions in rumination and increase in self-compassion and decentering in respondents with ahigh level of neuroticism after the MBCT intervention. This conclusion corresponds with our findings, namely with the in-depth analysis using the SEM approach (see Figure 1). Apparently, Neuroticism increases the "isolated" style of thinking such as being separated from the rest of the world with own problems which lead to Over-identification with negative emotions that is very close to rumination (fixation on everything that's wrong, etc.). In our model, the further direction of connections leads to the factor of the self-concept, composed of the Self-judgement and the Self-kindness. To understand our findings correctly, it is necessary to realize that the negative scales are reversely coded. Generally, the Over-identification, as well as Neuroticism, lead to the "less healthy" self-concept with the decrease in Self-kindness and the increase in Self-judgement.

Our model of connections between cognition, emotions, and consequences (self-concept) is in line with the classical paradigm of cognitive-behavioral therapy (Beck, 1976) and puts it into the new context of the SC and its element.

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Further, our model brings impulses for the discussion about effectiveness of self-compassion-related therapies. A meta-analysis of this issue (Wilson et al., 2018) revealed certain (not statistically analyzed) tendency to greater improvement in the negative SC subscales than in positive ones. If we accepted this assumption, our model would speak for the effectiveness of these therapies in neuroticism (or anxiety-related disorders) because the negative subscales were identified as more relevant at this regard. This observation has a considerable practical impact as these disorders belong among the most frequently treated in counselling centers at universities (Barnett et al., 2021).

The future theoretical frame of this research could involve relationships between SC scales and six factors of the HEXACO model of personality. This issue was researched by a pilot study in depressed vs. non-depressed populations that brought important findings for lowering of the severity of depressive symptoms (Fadaei et al., 2019). The HEXACO inventory covers the same personality variance as the Big-5 and Dark Triad conceptions together (Ashton and Lee, 2009). Therefore, it is very relevant for university students of economy and management because of proven connection between Dark Triad personality traits and unethical behavior in the management profession (Mutschmann et al., 2022).

CONCLUSION

Mindfulness-based self-compassion-directed interventions belong to the current trends in the support of well-being. Nowadays, they become more urgent considering the negative impacts of the Covid-19 related restrictions especially by children and young adults. According to the cited research, the cultivation of self-compassion by university students appears more than relevant to support their well-being as well as ethical judgment. Its suitability for the students of FEM CZU is supported by our results, revealing also gender and personality specifics. Further research should concentrate on the relationship between self-compassion and non-grade indicators of academic achievement at different levels of the educational system. Also, subtle gender differences between dimensions of self-compassion should be further verified for possible gender-related adjustments of mindful-based interventions as well as analysis of further individual specifics that would establish the self-compassion between personality structures crucial for maintaining mental health.

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