

Driven or Drained? Associations between Student Perfectionism, Basic Psychological Need Satisfaction, Self-Compassion, and Subjective Vitality

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Abstract. This study examined associations between university students' subjective vitality, perfectionism subtypes, basic psychological need satisfaction, and self-compassion. The study tested whether differences in vitality across perfectionism groups could be explained by self-compassion and the satisfaction of autonomy, competence, and relatedness needs.

A total of 166 students from Lithuanian universities completed an online questionnaire. Measures included the Almost Perfect Scale-Revised, the Subjective Vitality Scale, the Self-Compassion Scale-Short Form, and the Basic Psychological Need Satisfaction Scale. Cluster analysis identified adaptive perfectionist, maladaptive perfectionist, and non-perfectionist profiles among the participants. Data were analyzed by using Pearson correlation, ANOVA, and parallel mediation analysis.

Results showed significant group differences across vitality, self-compassion, and all three basic psychological needs. Adaptive perfectionists reported the highest vitality, need satisfaction, and self-compassion. Maladaptive perfectionists reported significantly lower scores compared to adaptive perfectionists on all variables. Non-perfectionists showed lower basic psychological need satisfaction and self-compassion than adaptive perfectionists, except for vitality – it did not differ between the two groups. No differences were found between maladaptive perfectionists and non-perfectionists.

Mediation analysis showed that self-compassion, competence need satisfaction, and relatedness (only for maladaptive perfectionism) need satisfaction significantly mediated the relationship between perfectionism and vitality. The findings suggest that adaptive perfectionism is linked to higher vitality through greater self-compassion and stronger satisfaction of competence and relatedness needs.

Keywords: perfectionism, subjective vitality, self-compassion, basic psychological need satisfaction.

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Siekiantys ar išsekę? Studentų perfekcionizmo, bazinių psichologinių poreikių patenkinimo, atjautos sau ir subjektyvaus gyvybingumo sąsajos

Santrauka. Tyrimas nagrinėjo sąsajas tarp studentų subjektyvaus gyvybingumo, perfekcionizmo tipų, bazinių psichologinių poreikių patenkinimo ir atjautos sau. Tyrime buvo tikrinama, ar subjektyvaus gyvybingumo skirtumai tarp perfekcionizmo grupių gali būti paaiškinti atjauta sau bei autonomijos, kompetencijos ir susietumo poreikių patenkinimu.

Atlikta internetinė apklausa, iš viso anketą užpildė 166 studentai iš Lietuvos universitetų. Tyrimo konstruktais vertinti buvo naudojama Beveik tobula skalė – pataisyta, Subjektyvaus gyvybingumo skalė, Atjautos sau skalė – trumpoji forma ir Bazinių psichologinių poreikių patenkinimo skalė. Klasterinė analizė tarp tyrimo dalyvių identifikavo adaptyvių perfekcionistų, neadaptyvių perfekcionistų ir neperfekcionistų grupes. Duomenys buvo analizuoti naudojant Pearsono koreliaciją, ANOVA ir daugianarę paralelinę mediacinę analizę.

Rezultatai atskleidė reikšmingus gyvybingumo, atjautos sau ir bazinių psichologinių poreikių patenkinimo skirtumus tarp tyrimo grupių. Adaptyvūs perfekcionistai pasižymėjo didžiausiu gyvybingumu, bazinių poreikių patenkinimu ir atjauta sau. Neadaptyvūs perfekcionistai pasižymėjo reikšmingai mažesniais, palyginti su adaptyviais perfekcionistais, visų matuotų konstrukto įverčiais. Neperfekcionistai pasižymėjo prastesniu bazinių psichologinių poreikių patenkinimu ir atjauta sau nei adaptyvių perfekcionistai, tačiau jų gyvybingumas nesiskyrė. Tarp neadaptyvių perfekcionistų ir neperfekcionistų nebuvo rasta reikšmingų skirtumų.

Mediacinė analizė atskleidė, kad atjauta sau, kompetencijos poreikio ir susietumo poreikio patenkinimas (tik neadaptyvaus perfekcionizmo atveju) reikšmingai medijavo ryšį tarp perfekcionizmo ir gyvybingumo. Rezultatai atskleidžia, jog adaptyvus perfekcionizmas siejasi su didesniu gyvybingumu per didesnę atjautą sau bei geriau patenkintus kompetencijos ir susietumo poreikius.

Pagrindiniai žodžiai: perfekcionizmas, subjektyvus gyvybingumas, atjauta sau, bazinių psichologinių poreikių patenkinimas.

Introduction

Perfectionism has been increasing among university students (Curran & Hill, 2019; Pfau et al., 2024). Although the exact prevalence of perfectionism is hard to estimate, recent studies indicate that the majority of higher education students tend to set high standards for themselves and experience discomfort when they fail to meet these standards, or when they make mistakes (Marchetti et al., 2026; Pfau et al., 2024). This could potentially be due to various cultural and socioeconomic changes, ranging from increasingly anxious and controlling parenting practices to a more demanding and competitive economic, occupational, and social environment, further reinforced by social media's emphasis on wealth and success (Kurz, 2021).

Students with perfectionism – despite striving for perfection, due to fear of not meeting their standards or experiencing failure – tend to procrastinate their tasks, which negatively impacts their academic achievements (Madigan, 2019). Student perfectionism is linked with heightened pre-exam anxiety, burnout, and exhaustion (Burcaș & Crețu, 2021; Lee & Anderman, 2020). Additionally, perfectionist students experience difficulties in satisfying or even frustration of their basic psychological needs (Andrade et al., 2025; Kleszewski & Otto, 2023); therefore, they exhibit lower levels of vitality (Gaudreau & Verner-Fillion, 2012). Vitality is crucial in higher education because it relates to commitment to long-term goals, academic flourishing, and adapting to university life (Fini et al., 2010; Malik & MacIntosh, 2015; Zhou, 2021). Vitality is also necessary for navigating both

academic and personal life dynamically. Given the importance of vitality, understanding how perfectionistic tendencies relate to students' vitality, and what may protect against its decline, is critical.

Perfectionism

Perfectionism is generally defined as a personality trait that involves striving for high-performance standards. In contemporary literature, perfectionism is viewed as a multidimensional construct (see Smith et al., 2022 for a review). While there are several perfectionism classification systems, they all acknowledge the distinction between adaptive and maladaptive forms (Stumpf & Parker, 2000). One way to distinguish between these two forms is by examining different combinations of perfectionistic strivings and concerns levels. Perfectionistic strivings refer to seeking flawlessness and setting high standards, while perfectionistic concerns indicate overly critical evaluation of oneself (Gäde et al., 2017).

Adaptive or healthy perfectionism is characterized by a combination of high perfectionistic strivings and low perfectionistic concerns (Stoeber, 2012). It involves setting high but realistic standards, being able to enjoy the efforts, and sufficient flexibility to tolerate when standards are not met (Farrell & Vaillancourt, 2019). Individuals with this type of perfectionism are motivated by desire to achieve (Andrade et al., 2025). Research has shown that adaptive perfectionists report better well-being, less negative affect, burnout, and overall more adaptive functioning than maladaptive perfectionists (Benedetto et al., 2024; Kleszewski & Otto, 2023; Mohr et al., 2023; Vanstone & Hicks, 2019). However, despite more adaptive functioning, these individuals do not have a reduced risk of maladaptive outcomes (Franche & Gaudreau, 2016).

Maladaptive perfectionism is characterized by a combination of both high perfectionistic strivings and perfectionistic concerns (Stoeber, 2012). This perfectionism type involves setting high, often unrealistic, standards for oneself and an intolerance of failure to meet them. Maladaptive perfectionists are rarely satisfied with their own work and are often driven by fear of failure (Benedetto et al., 2024). Individuals with this type of perfectionism report higher distress, depression, anxiety, and lower life satisfaction and well-being (Kruger et al., 2023; Rice et al., 2015; Simon et al., 2025).

Although these two perfectionism types are distinguished theoretically by using a combination of perfectionistic strivings and concerns, they have also been identified as distinct groups by using cluster and latent profile analysis (Daniilidou, 2023; Park, 2025). These findings suggest that adaptive perfectionists, maladaptive perfectionists, and non-perfectionists can be meaningfully distinguished as separate groups of individuals.

Research has shown consistent differences in functioning and well-being between adaptive and maladaptive perfectionism. Non-perfectionism is rarely included in comparisons, but existing empirical evidence reveals contradictory results. Lee and Anderman's (2020) research found that, compared with non-perfectionists, both adaptive and maladaptive perfectionists reported higher negative affect, exhaustion, and burnout, although adaptive perfectionists reported higher well-being than non-perfectionists. In contrast,

other studies revealed that non-perfectionists and adaptive perfectionists did not differ in negative affect or exhaustion, but adaptive perfectionists reported higher positive affect than non-perfectionists (Crocker et al., 2014; Franche & Gaudreau, 2016). It has also been established that non-perfectionists and maladaptive perfectionists experience similar levels of academic stress, while adaptive perfectionists tend to experience lower academic stress (Rice et al., 2015).

Subjective Vitality and Basic Psychological Need Satisfaction of Students with Perfectionism

Subjective vitality is a potentially important outcome in the context of perfectionism. It is a key aspect of eudaimonic well-being defined as a positive feeling of being alive and full of energy, which is more than just physical arousal (Ryan & Frederick, 1997). Research examining dimensions of perfectionism has shown that they relate to subjective vitality in different ways. Perfectionistic strivings are associated with higher vitality, while perfectionistic concerns tend to be associated with lower subjective vitality (Atienza et al., 2020; Gaudreau & Verner-Filion, 2012). Research has also found that non-perfectionists exhibited similar levels of vitality with adaptive perfectionists, but had significantly higher vitality than maladaptive perfectionists (Gaudreau & Verner-Filion, 2012).

Subjective vitality is positively associated with such positive outcomes as better life skills and relations with peers, self-efficacy, adjustment to college, life satisfaction, well-being, hope, and is negatively linked with stress (Fini et al., 2010; Miksza et al., 2021; Muyan-Yılık & Bakalım, 2022). Therefore, this construct is particularly important when talking about young adults.

According to Self-Determination Theory (Ryan & Deci, 2017), the ability to satisfy one's basic psychological needs of autonomy, competence, and relatedness is essential in supporting well-being in general and subjective vitality in particular. A satisfied competence need means that a person feels capable of handling tasks successfully. Autonomy satisfaction means that a person feels that everything they do is of their own volition. Whereas, a satisfied relatedness need means that a person feels connected to others (Vansteenkiste et al., 2023). Difficulties in satisfying these three needs, and especially their frustration, reduce subjective vitality and hinder the full functioning and flourishing of the individual (Ryan & Deci, 2017; Vansteenkiste et al., 2020).

The satisfaction of basic psychological needs may therefore help explain differences in subjective vitality among adaptive perfectionists, maladaptive perfectionists, and non-perfectionists. Previous research has examined basic psychological need satisfaction as a mechanism linking perfectionism dimensions with the broader construct of well-being (Kleszewski & Otto, 2023). However, subjective vitality is a distinct aspect of well-being and has not been examined specifically in this context. Therefore, it remains unclear whether basic psychological need satisfaction accounts for differences in subjective vitality among these perfectionism groups.-

In this study, we hypothesized that the relationship between perfectionism and subjective vitality is mediated by the challenges that perfectionists, especially those with maladaptive tendencies, face in meeting their basic psychological needs. Research shows that perfectionistic strivings are positively associated with both the satisfaction and frustration of basic psychological needs (Andrade et al., 2025; Herrera et al., 2021). However, these contradictory relationships may stem from different combinations of perfectionistic strivings and concerns. Adaptive perfectionism includes high perfectionistic strivings but low concerns. This type is positively correlated with the satisfaction of all three psychological needs (Kleszewski & Otto, 2023). For example, setting high yet realistic goals is more likely to result in these goals being achieved. Successful achievements help strengthen the satisfaction of competence needs. Since adaptive perfectionists are more motivated by an internal desire to achieve, they feel that they are proactively choosing to act of their own volition, thus satisfying their autonomy need. Adaptive perfectionists are also not preoccupied with the fear of external evaluations; therefore, they may engage in more genuine relationships which satisfy their relatedness need.

In contrast, maladaptive perfectionism, which involves both high strivings and high concerns, tends to predict need frustration or reduced satisfaction (Andrade et al., 2025; Kleszewski & Otto, 2023). For example, the self-loathing and constant second-guessing, which is typically observed in the maladaptive form of perfectionism, can diminish the sense of being capable, thus interfering with competence need satisfaction. Fear of evaluation and the defensiveness that stems from it can make it difficult to satisfy the need for relatedness. Maladaptive perfectionists are motivated by external factors, such as the fear of failure or social evaluation, and their actions are more guided by these fears, rather than their own will, thus diminishing the satisfaction of their autonomy need.

Therefore, the different ways in which adaptive and maladaptive perfectionists pursue their goals and react when they do not meet them may either support or interfere with the satisfaction of basic psychological needs, which may then affect their subjective vitality.

Based on such reasoning, we raise the following hypotheses:

H1: *Subjective vitality will differ among participants in adaptive perfectionism, maladaptive perfectionism, and non-perfectionism groups.*

H1a: *Participants in the adaptive perfectionism group will report higher subjective vitality than participants in the maladaptive perfectionism group.*

H1b: *Participants in the non-perfectionism group will report higher subjective vitality than participants in the maladaptive perfectionism group.*

H2: *Basic psychological need satisfaction will differ among participants in adaptive perfectionism, maladaptive perfectionism, and non-perfectionism groups.*

H2a: *Participants in the adaptive perfectionism group will report higher basic psychological need satisfaction than participants in the maladaptive perfectionism group.*

H2b: *Participants in the non-perfectionism group will report higher basic psychological need satisfaction than participants in the maladaptive perfectionism group.*

Self-Compassion – Potential Explanatory Mechanism

Differences in subjective vitality among perfectionism profiles may also be associated with self-compassion.

Self-compassion is a positive and caring attitude towards oneself (Ewert et al., 2021). Perfectionism, and especially its maladaptive form, is essentially the opposite of this construct, as it involves constant self-doubt, overassessment of past and potential future work, and a negative attitude towards oneself. Research shows that maladaptive perfectionists tend to have lower levels of self-compassion (Tobin & Dunkley, 2026). Adaptive perfectionists tend to be more self-compassionate (Daniilidou, 2023; Stoeber et al., 2020; Tobin & Dunkley, 2021), although they can still experience self-judgmental thoughts (Linnett & Kibowski, 2020). Since non-perfectionists are characterized by a lower tendency to set high standards and agonize over not meeting them, they may report higher levels of self-compassion; however, there is no empirical evidence to provide for this assumption yet.

Self-compassion may be especially important in the context of perfectionism because the way individuals respond when they fail to meet their standards is one of the central features of maladaptive perfectionism. Harsh self-criticism, rumination, and negative emotions may make it more difficult to recover from perceived failure and may reduce the feelings of energy and vitality. In contrast, a more understanding and less judgmental attitude towards oneself may help individuals recover more easily and preserve their subjective vitality. Research also shows that self-compassion is positively associated with vitality (Akin & Akin, 2015; Kaya, 2024).

Although self-compassion is positively linked with basic psychological need satisfaction (Wouters-Soomers et al., 2022), it may contribute to subjective vitality through a different psychological process. Basic psychological need satisfaction reflects whether individuals experience autonomy, competence, and relatedness in their lives, whereas self-compassion may help individuals cope more adaptively with difficulties and perceived failures. Therefore, self-compassion may be associated with subjective vitality even when basic psychological needs satisfaction is being considered simultaneously.

Based on the theoretical considerations and empirical findings reviewed above, the following hypotheses are proposed.

H3: *Self-compassion will differ among participants in adaptive perfectionism, maladaptive perfectionism, and non-perfectionism groups.*

H3a: *Participants in the adaptive perfectionism group will report higher self-compassion than participants in the maladaptive perfectionism group.*

H3b: *Participants in the non-perfectionism group will report higher self-compassion than participants in the maladaptive perfectionism group.*

H4: *Differences in subjective vitality among adaptive perfectionism, maladaptive perfectionism, and non-perfectionism groups will be mediated by self-compassion and satisfaction of autonomy, competence, and relatedness needs when these variables are being considered simultaneously.*

Present Study

Previous research suggests that perfectionistic strivings, perfectionistic concerns, basic psychological need satisfaction, self-compassion, and subjective vitality are related. However, it remains unclear how adaptive perfectionists, maladaptive perfectionists, and non-perfectionists differ in subjective vitality. In addition, findings regarding non-perfectionism are inconsistent, with some studies linking it to more favorable outcomes than adaptive perfectionism and others suggesting the opposite. Finally, although basic psychological need satisfaction and self-compassion have been associated with both perfectionism and well-being, it is not clear whether they explain differences in subjective vitality between perfectionism types.

The present study extends previous research by including non-perfectionists alongside adaptive and maladaptive perfectionists in comparisons of subjective vitality, basic psychological need satisfaction, and self-compassion. It also examines whether differences in vitality between these perfectionism types can be explained by basic psychological need satisfaction and self-compassion when they are considered in the same mediation model. This makes it possible to examine whether self-compassion is related to vitality beyond its association with basic psychological need satisfaction.

The aim of this study is to empirically examine connections between student subjective vitality, basic psychological need satisfaction, various perfectionism subtypes, and self-compassion.

Method

Participants

The sample included students studying at Lithuanian universities during the time of the study. The participants were recruited through various social media platforms, either by sharing an invitation to complete a questionnaire on different pages or groups, or by sending the invitation and the questionnaire link via a direct message.

A total of 166 students completed the questionnaire (37 men, 125 women, 2 other, and 2 chose not to disclose their gender). The age of the participants ranged from 18 to 36 ($M = 22.19$; $SD = 2.53$). The majority of the respondents were 4th-year students (37.3%), followed by 3rd-year students (17.5%), 2nd-year students (26.5%), and 1st-year students (16.9%). Only 1.8% of the participants were in their 5th year of studies. Most participants were undergraduate students (74.1%), with 21.7% pursuing a Master's degree. Additionally, 3.6% were enrolled in integrated programs, and only 1 participant was pursuing a doctoral degree.

Measures

The participants filled out an online questionnaire where they provided their demographic information (age, gender, their study degree, and which year they are in), and completed the scales measuring perfectionism, subjective vitality, self-compassion and basic psychological need satisfaction.

Perfectionism was assessed by using the *Almost Perfect Scale – Revised* version (Slaney et al., 2001). This is a 23-item scale, where each item has to be rated on a 7-point Likert scale, where ‘1’ means “Strongly disagree”, and ‘7’ means “Strongly agree”. The scale consists of three subscales: Standards, Order, and Discrepancy. The Standards subscale measures the respondents’ tendency to set high requirements for themselves. The sample item “I have high standards for my performance at work or at school” is presented. The order scale indicates to what extent cleanliness and organization matter to the respondent. The sample item “I think things should be put away in their place” is presented. Lastly, the Discrepancy scale measures how much the respondent believes they meet their high standards. The sample item “I often feel frustrated because I can’t meet my goals” is provided. We conducted a *Confirmatory Factor Analysis* (CFA), which confirmed the 3-factor structure of this scale (CFI = 0.91, TLI = 0.90, SRMR = 0.09, RMSEA = 0.08). The internal consistency of each subscale is good (see Table 1). There is no cut-off score for the Lithuanian sample to categorize the respondents into perfectionism subtypes. To achieve this objective, data-driven cluster analysis was employed: the respondents with lower-than-average scores on all subscales were classified as non-perfectionists; those with higher-than-average scores on Order and Standards but lower than average scores on Discrepancy were classified as adaptive perfectionists; and the respondents with higher-than-average scores on all subscales were classified as maladaptive perfectionists. The clustering procedure and the resulting profiles are described in the Data Analysis and Results sections.

Subjective Vitality was measured by using the *Subjective Vitality Scale – Individual Difference Level* version (Ryan & Frederick, 1997). It is a 7-item scale, where each statement is rated on a 7-point Likert scale, with ‘1’ indicating “Not at all true”, and ‘7’ indicating “Very true”. An example item is offered: “I have energy and spirit”. We conducted *Confirmatory Factor Analysis* (CFA), which confirmed the unifactorial structure of the scale (CFI = 0.98, TLI = 0.97, SRMR = 0.03, RMSEA = 0.09). The scale showed good internal consistency (see Table 1).

Whereas, *Self-compassion* was measured by using the *Self-Compassion Scale – Short Form* (Raes et al., 2011), which is a 12-item scale where each item is rated on a 5-point Likert scale, with ‘1’ being “almost never”, and ‘5’ standing for “almost always”. A sample item is featured: “I’m disapproving and judgmental about my own flaws and inadequacies”. CFA confirmed the unifactorial structure of this scale (CFI = 0.94, TLI = 0.91, SRMR = 0.06, RMSEA = 0.07). The internal consistency of the scale is good (see Table 1).

Finally, *Basic Psychological Need Satisfaction* was measured by using *The Basic Psychological Need Satisfaction Scale* (Deci & Ryan, 2000; Gagné, 2003), a 21-item scale using a 7-point Likert scale, where ‘1’ means “not at all true”, and ‘7’ means “very true”. A sample item is included: “I generally feel free to express my ideas and opinions”. The scale contains three subscales: Autonomy (I feel like I am free to decide for myself how to live my life), Competence (Often, I do not feel very competent), and Relatedness (I really like the people I interact with). The results of the confirmatory factor analysis indicated that the proposed three-factor model demonstrated an acceptable, though not

optimal, fit to the data (CFI = 0.88, TLI = 0.86, SRMR = 0.07, RMSEA = 0.06), thereby suggesting that the hypothesized structure is broadly supported but may benefit from further refinement. The internal consistency of each subscale is sufficient (see Table 1).

Data Analysis

SPSS and the *PROCESS* macro, as developed by Hayes (2018), were used for data analysis. To identify the perfectionism profiles, k-means cluster analysis was conducted by using standardized scores of Standards, Order, and Discrepancy subscales of the *Almost Perfect Scale-Revised* instrument. Two-, three-, and four-cluster solutions were analyzed. The two-cluster model did not differentiate the non-perfectionist group, whereas the four-cluster model differentiated a small ($n = 16$) additional group that represented a stronger pattern of non-perfectionism rather than the distinct perfectionism profile. Therefore, the three-cluster solution was retained.

All respondents were assigned to one of the three clusters by the k-means procedure based on their relative scores across the Standards, Order, and Discrepancy subscales. No predefined cut-off scores were used. The maladaptive perfectionism cluster was characterized by higher-than-average scores on the Standards and Discrepancy scales. Adaptive perfectionism was defined by a higher-than-average score on the Standards subscale but a relatively low score on the Discrepancy subscale. The non-perfectionism cluster was characterized by lower-than-average scores on the Standards and Discrepancy subscales. All three *Almost Perfect Scale-Revised* subscales were included as clustering indicators. Although the labels were primarily based on the Standards and Discrepancy patterns, Order also differentiated the profiles, with adaptive perfectionists displaying the highest Order scores. The cluster analysis results are presented in Table 2.

Descriptive statistics and stem-and-leaf diagrams were examined with the objective to assess data normality and identify potential outliers. No extreme outliers were identified, and all continuous variables exhibited acceptable levels of normality, with skewness and kurtosis values not exceeding ± 2 . Visual inspection of scatterplots and residual plots did not indicate problematic heteroscedasticity or nonlinearity. No evidence of multicollinearity was found as the tolerance and VIF statistics were within acceptable limits.

In order to determine associations between the variables, Pearson's correlation was employed. To assess variable differences among the perfectionism groups, ANOVA was used. Parallel mediation analysis was employed to examine whether the link between perfectionism and subjective vitality was mediated by the independent variables. Self-compassion and satisfaction of autonomy, competence, and relatedness needs were entered simultaneously as parallel mediators. Thus, the indirect effect of each mediator was estimated while accounting for its overlap with the other proposed mediators. When applicable, bootstrapping with 5000 samples was used to estimate 95% confidence intervals. Since the perfectionism variable was categorical, it was recoded by using indicator coding into two dummy variables. Adaptive perfectionism was used as a reference category; therefore, there were two comparison groups: maladaptive perfectionism compared to adaptive perfectionism, and non-perfectionism compared to adaptive perfectionism.

Results

Table 1.

Descriptive statistics, Pearson correlation coefficients, and reliability statistics of measures used

	M	SD	1	2	3	4	5	6	7	8
1.VIT	3.96	1.37	(0.91)							
2.SCOMP	2.87	0.71	0.49***	(0.84)						
3.ANS	4.98	0.85	0.51***	0.49***	(0.72)					
4.CNS	4.63	0.98	0.62***	0.46***	0.59***	(0.73)				
5.RNS	5.27	0.83	0.43***	0.3***	0.53***	0.40***	(0.73)			
6.STAND	39.11	7.72	0.09	-0.10	0.06	0.15	0.04	(0.88)		
7.ORDER	20.89	5.26	0.06	0.13	0.16*	0.15	0.10	0.42***	(0.87)	
8.DISCR	50.12	17.99	-0.32***	-0.54***	-0.41***	-0.49***	-0.31***	0.40***	-0.03	(0.95)

*Note. Abbreviations in use: VIT – Vitality; SCOMP – Self-Compassion; ANS – Autonomy Need Satisfaction; CNS – Competence Need Satisfaction; RNS – Relatedness Need Satisfaction; STAND – High standards; DISCR – Discrepancy; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. Cronbach's alpha is provided in brackets diagonally.*

Table 2.

Final Cluster Centers for the Almost Perfect Scale-Revised Subscales

	Cluster		
Subscale	1 – Non-perfectionists	2 – Maladaptive perfectionists	3 – Adaptive perfectionists
Standards	-1.11	0.64	0.20
Order	-1.00	0.19	0.58
Discrepancy	-0.27	0.98	-0.80
<i>n</i>	46	61	59

Note. Values represent the mean standardized scores (z-scores) of the subscales within each cluster. Positive values indicate scores above the sample mean; negative values indicate scores below the sample mean.

To test whether the sociodemographic characteristics differed among the perfectionism groups, *Fisher-Freeman-Halton Exact Tests* were used. The results showed that the gender distribution ($p = 0.08$), study degree distribution ($p = 0.73$), and study year distribution ($p = 0.44$) did not differ significantly among the perfectionism groups. Age did not differ among the perfectionism groups, either: $F(2,163) = 0.313$, $p = 0.732$. Therefore, sociodemographic characteristics were not included as control variables in the subsequent analyses.

To test for our H1 regarding Subjective vitality differences among perfectionism subgroups, we used *ANOVA*. The results (see Table 3) showed significant differences in vitality among the three perfectionism groups: $F(2, 163) = 5.96$, $p = 0.003$, $\eta_p^2 = 0.07$,

thus supporting our H1. Pairwise comparisons revealed that maladaptive perfectionists ($M = 3.60$; $SD = 1.38$) were significantly less vital than adaptive perfectionists ($M = 4.43$; $SD = 1.25$). However, no significant differences were observed between non-perfectionists and both maladaptive perfectionists and adaptive perfectionists. These results support our H1a but *not* H1b.

Table 3.

Study variable differences among perfectionism subgroups

	Non-perfectionists		Maladaptive		Adaptive		F	η_p^2	df	p
	M	SD	M	SD	M	SD				
Vitality	3.86 ^{ab}	1.35	3.60 ^b	1.38	4.43 ^a	1.25	5.96	0.07	2	0.003
Self-compassion	2.77 ^b	0.65	2.54 ^b	0.65	3.29 ^a	0.60	21.25	0.21	2	<0.001
ANS	4.81 ^b	0.93	4.74 ^b	0.84	5.37 ^a	0.65	10.52	0.11	2	<0.001
RNS	5.17 ^b	0.83	5.06 ^b	0.85	5.56 ^a	0.83	6.37	0.07	2	0.002
CNS	4.44 ^b	0.94	4.30 ^b	0.98	5.12 ^a	0.83	13.06	0.14	2	<0.001

Note. Abbreviations in use: ANS – Autonomy Need Satisfaction; RNS – Relatedness Need Satisfaction; CNS – Competence Need Satisfaction. Significant p values ($p < 0.05$) are marked in bold. Post-hoc comparisons were conducted for pairwise comparisons across the groups. The Bonferroni correction was applied to all variables except ANS, which was evaluated by using the Games-Howell test due to unequal variances. Within each row, means sharing the same superscript letter (a or b) do not differ significantly from one another ($p > 0.05$), whereas means with no superscript letter in common differ significantly ($p < 0.05$). Thus, a mean marked ‘ab’ does not differ significantly from means marked either ‘a’ or ‘b’.

To test for our H2 regarding differences of basic psychological need satisfaction between the perfectionism subtypes, we used *ANOVA*. The results demonstrated significant differences across all three variables among the perfectionism groups, thus supporting our H2. Pairwise comparisons (see Table 3) revealed that adaptive perfectionists reported that all their basic psychological needs were more satisfied than those of maladaptive perfectionists or non-perfectionists. No significant differences were observed between maladaptive perfectionists and non-perfectionists. These results confirm H2 and H2a, while H2b was *not* confirmed.

To test for our H3 regarding self-compassion differences among the perfectionism subgroups, we used *ANOVA*. The results (see Table 3) showed significant differences in self-compassion among the three perfectionism groups $F(2, 163) = 21.25$, $p < 0.001$, $\eta_p^2 = 0.21$, thus supporting our H3.

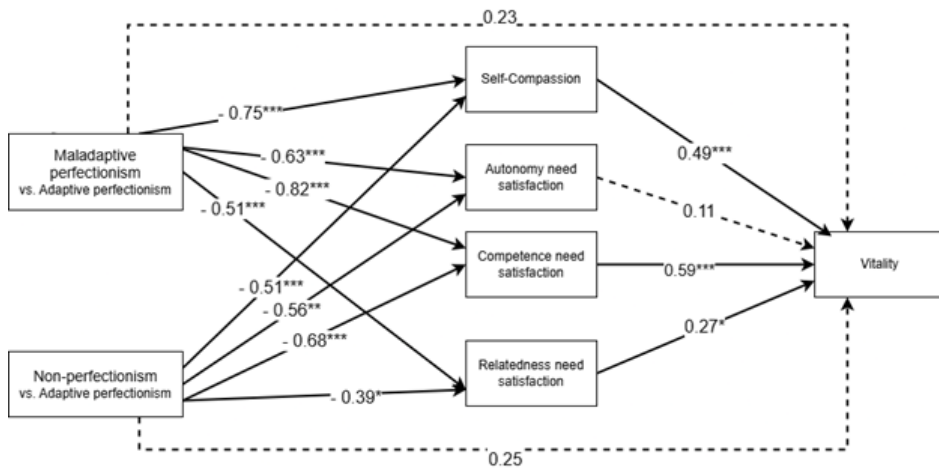
Pairwise comparisons revealed that maladaptive perfectionists ($M = 2.54$; $SD = 0.65$) and non-perfectionists ($M = 2.77$; $SD = 0.65$) were significantly less self-compassionate than adaptive perfectionists ($M = 3.29$; $SD = 0.60$). However, no significant differences were observed between non-perfectionists and maladaptive perfectionists. These results support our H3a but *not* H3b.

To test for our H4 regarding basic psychological need satisfaction and self-compassion mediating the link between perfectionism and subjective vitality, we conducted a parallel mediation analysis. As shown in Table 4 and Figure 1, self-compassion significantly mediates the association for both groups. The relative indirect relationship between perfectionism and vitality through self-compassion is negative. This means that maladaptive perfectionists and non-perfectionists, compared to adaptive perfectionists, report lower self-compassion, which, in turn, is associated with lower subjective vitality.

The satisfaction of the competence need significantly mediates the association for both groups, while the relatedness need satisfaction was a significant mediator only for the maladaptive perfectionism group. The relative indirect relationships between perfectionism and vitality through these needs are negative. This means that maladaptive perfectionists and non-perfectionists, compared to adaptive perfectionists, report lower satisfaction of competence (along with lower relatedness for the maladaptive group), which, in turn, is associated with lower subjective vitality. Thus, our H4 is supported only partially, while self-compassion is a significant mediator for both groups. Autonomy was not a significant mediator for either group, and relatedness was only significant for the maladaptive perfectionism group.

Figure 1.

Mediation Model of the Relationship between Perfectionism and Subjective Vitality through Self-Compassion and the Satisfaction of Basic Psychological Needs



Note. Unstandardized B coefficients are presented in the graph. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. Dashed lines represent non-significant effects.

Table 4.

Relative Direct, Total, and Indirect Effects of Perfectionism Groups on Subjective Vitality via Self-Compassion and Basic Psychological Need Satisfaction

Path	Coefficient (B)	95% confidence interval
Relative direct effect		
Maladaptive perfectionism → Vitality	0.23	[-0.19; 0.65]
Non-perfectionism → Vitality	0.25	[-0.17; 0.68]
Relative total effect		
Maladaptive perfectionism → Vitality	-0.83***	[-1.31; -0.35]
Non-perfectionism → Vitality	-0.57*	[-1.09; -0.05]
Relative indirect effect		
Maladaptive perfectionism → SCOMP → Vitality	-0.36	[-0.59; -0.14]
Non-perfectionism → SCOMP → Vitality	-0.25	[-0.44; -0.09]
Maladaptive perfectionism → ANS → Vitality	-0.07	[-0.25; 0.09]
Non-perfectionism → ANS → Vitality	-0.06	[-0.23; 0.08]
Maladaptive perfectionism → CNS → Vitality	-0.48	[-0.80; -0.23]
Non-perfectionism → CNS → Vitality	-0.40	[-0.69; -0.17]
Maladaptive perfectionism → RNS → Vitality	-0.14	[-0.32; -0.004]
Non-perfectionism → RNS → Vitality	-0.11	[-0.27; 0.0009]

Note. Abbreviations in use: Unstandardized B coefficients are presented in the table. SCOMP = Self-Compassion; ANS = Autonomy Need Satisfaction; CNS = Competence Need Satisfaction; RNS = Relatedness Need Satisfaction. The adaptive perfectionism group serves as the reference category to which the other two groups presented in the table are compared. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. Statistically significant mediations are marked in bold.

Discussion

The present study examined whether students in the three identified perfectionism groups differed in subjective vitality, self-compassion, and basic psychological need satisfaction, as well as whether self-compassion and need satisfaction explained differences in vitality. Within the present sample and the selected three-cluster solution, the group labeled ‘adaptive perfectionism’ reported significantly higher subjective vitality than the maladaptive perfectionism group. However, non-perfectionists’ vitality did not differ significantly from either maladaptive or adaptive perfectionists’ vitality scores. Therefore, the results do not support a conclusion that non-perfectionism is either more or less beneficial than adaptive or maladaptive perfectionism in terms of vitality.

Basic psychological need satisfaction and self-compassion showed a slightly different pattern. The adaptive perfectionism group reported significantly higher satisfaction of autonomy, relatedness, and competence needs, as well as higher self-compassion, than both the maladaptive perfectionism and non-perfectionism groups, whereas the latter two types

did not differ significantly from one another. This is in accordance with earlier research (Benedetto et al., 2024; Daniilidou, 2023; Kleszewski & Otto, 2023; Mohr et al., 2023; Tobin & Dunkley, 2026; Vanstone & Hicks, 2019), which found that adaptive perfectionism is associated with more optimal functioning, whereas maladaptive perfectionism is linked to less beneficial outcomes.

The lack of difference in basic psychological need satisfaction and self-compassion between maladaptive perfectionists and non-perfectionists is somewhat unusual but not unheard of. Earlier research has not found differences between these perfectionism subtypes in constructs such as positive mental health, self-efficacy, positive affect, or autonomy (Alanna et al., 2022; Buliņa, 2014; Fallahchai et al., 2019). Non-perfectionists displayed slightly inconsistent results, which is in line with earlier research (Crocker et al., 2014; Franche & Gaudreau, 2016; Lee & Anderman, 2020). Therefore, the present findings suggest that the absence of high perfectionistic standards and concerns should not automatically be interpreted as an indicator of more optimal psychological functioning. In this sample, non-perfectionists tended to report lower self-compassion and need satisfaction than adaptive perfectionists, even though their vitality did not differ significantly from either comparison group.

A central finding of this study concerns the indirect associations between perfectionism profiles and vitality. Self-compassion and need satisfaction showed significant indirect associations with vitality for both the maladaptive and non-perfectionism groups compared to the adaptive perfectionism group. Competence need satisfaction showed a significant indirect association with vitality for both maladaptive and non-perfectionism groups, while relatedness need satisfaction showed a significant indirect association only for maladaptive perfectionists. This pattern may indicate that competence need satisfaction is particularly relevant to vitality across the different perfectionism profiles, whereas relatedness may be especially relevant when high standards are accompanied by high discrepancy and self-critical concerns. Moreover, self-compassion remained a significant indirect pathway while all three basic psychological needs were included in the same parallel mediation model. This suggests that self-compassion may be associated with vitality beyond its overlap with basic psychological need satisfaction.

The findings concerning non-perfectionists require particular caution. The mediation model showed significant indirect associations through self-compassion and competence need satisfaction, whereas *ANOVA* pairwise comparison did not show a significant difference in vitality between non-perfectionists and adaptive perfectionists. This apparent inconsistency may partly reflect the fact that the pairwise comparisons and mediation estimates use different inferential procedures. Therefore, the role of non-perfectionism in vitality and psychological functioning requires further examination.

When interpreting the results of this study, certain limitations must be taken into account. This study used a cross-sectional design, which does not allow to draw causal conclusions about the associations of study variables. Future longitudinal studies could reveal important insights about vitality dynamics of adaptive and maladaptive perfectionists during the academic year. Experimental research would also be important for examining

whether interventions designed to strengthen self-compassion or support competence and relatedness need satisfaction can increase subjective vitality among students with elevated perfectionistic concerns.

Additionally, all variables were assessed via self-report, which may have introduced desirability bias. Convenience sampling was used, which may limit the generalizability of these results. Lastly, a relatively small sample size, divided into three perfectionism groups, might have reduced the statistical power, which may have also determined the emergence of contradictory results regarding vitality differences between non-perfectionists and adaptive perfectionists. Additionally, estimating four simultaneous mediators may have further limited the statistical power to detect small indirect effects. Due to the limited statistical power, important links might have appeared to be statistically non-significant and were thus overlooked. Therefore, future studies should employ larger samples to increase statistical power and provide more robust and reliable estimates of the observed associations.

An additional limitation concerns the cluster analysis. The clustering process was data driven, and the resulting profiles are specific to the present sample, which may limit their replicability across the samples. Future studies should use more stable and less data-dependent perfectionism categorization measures.

Despite its limitations, this research provides preliminary evidence that the association between the perfectionism profiles and subjective vitality may involve both self-compassion and basic psychological need satisfaction. In particular, the finding that self-compassion remained significantly associated with vitality when need satisfaction was included simultaneously is theoretically meaningful, because it suggests that self-compassion may represent more than simply a correlate of need satisfaction. Given that self-compassion can be fostered (Neff, 2023), it may be a promising target for future intervention research. The assumption that an increase in self-compassion will augment vitality among maladaptive perfectionists should be examined through longitudinal and experimental studies.

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Author contributions

Emilija Petraitytė: conceptualization, formal analysis, investigation, methodology, writing – original draft.

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