

Received: 19 June 2026; **Revised:** 21 August 2026; **Accepted:** 09 September 2026; **Published:** 30 September 2026

Archs Sci. (2026) Volume 76(3), Pages 101-110, Paper ID 2026312.
<https://doi.org/10.68304/as/76312>

Wellbeing, Fatigue and Refreshed Awakening in a Slovak Sample of Teachers and Teacher-Education Students: An Aggregate-Data Study

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Abstract Positive wellbeing and recovery-related difficulties should be distinguished when interpreting educational surveys. This exploratory study examined archived aggregate data from an online survey of teachers and teacher-education students in Slovakia, conducted from 1 to 25 March 2025, with 107 completed questionnaires. Selected, modified items drawn from the WHO-5, Perceived Stress Scale and PHQ-9 were analysed descriptively rather than scored as validated instruments. Frequencies were checked against charts and accompanying documentation; inconsistent distributions were excluded from substantive interpretation. Calmness and relaxation were reported always, mostly or often by 85 respondents (79.4%), and an interesting daily life by 79 (73.8%). Nevertheless, 49 respondents (45.8%) reported awakening fresh and rested only sometimes or never, while 25 (23.4%) reported fatigue or low energy on more than half the days or nearly every day during the preceding two weeks. Sleep (55.1%) and active sport (44.9%) were the most frequently selected wellbeing-maintenance practices. Conditional logical bounds illustrated possible co-occurrence of positive experiences and infrequent refreshed awakening, without reconstructing individual records. Findings identify recovery-related questions for further investigation, not clinical prevalence, occupational causes or intervention effects. The study supports assessing positive experiences and difficulties separately and developing institutionally supported prevention alongside individual self-care. Non-probability recruitment, unavailable microdata, adapted measures and questionnaire-version discrepancies limit inference and require verification before further analysis.

Index Terms teacher wellbeing, teacher education, fatigue, refreshed awakening, mental health prevention, aggregate-data analysis

1. Introduction

Teacher wellbeing is relevant to both the quality of working life and the organisation of educational support. It should not, however, be reduced to the absence of illness or interpreted through a single positive-mood rating. The World Health Organization places mental health promotion within a broader account of the conditions that enable people to function and participate in everyday life [1]. In an educational setting, a useful analytical starting point is therefore to distinguish how individuals feel, the demands they face and the support available to them, rather than assuming that any one of these dimensions establishes the others.

The OECD framework developed by Viac and Fraser differentiates physical and mental, cognitive, subjective and social dimensions of teacher wellbeing, while locating working conditions and potential consequences at different levels of analysis [2]. A conceptual review by Kurrle and Warwas similarly identifies the importance of separating wellbeing components from their conditions and outcomes [3]. These distinctions

are empirically important: feeling cheerful, feeling rested, experiencing fatigue and having access to help are related research concerns, but they are not interchangeable constructs or measurements. A questionnaire that mixes them does not automatically provide a valid overall wellbeing index.

Research on the consequences of teacher wellbeing reinforces the need for careful interpretation. Dreer's systematic review identified relationships with teacher-related and student-related outcomes, while also emphasising the limited basis for causal conclusions in much of the literature [4]. A descriptive survey cannot establish that positive emotions improve teaching quality, that distress causes poorer performance, or that a particular school has implemented effective preventive measures. Such claims require outcomes and explanatory conditions to be measured directly and investigated using an appropriate design.

Slovak research and policy materials provide an established context for studying educators' mental health. Petrík and colleagues' 2022 report addressed the mental health of pedagog-

ical employees, including physical, psychological and professional difficulties and questions of support [5]. The Ministry of Education's guidance for the 2021/2022 school year included a dedicated section on employees' mental health, with attention to supportive communication, peer assistance and work-life balance [6]. Accordingly, the present study does not claim to introduce this topic to the Slovak educational context. Its contribution is a focused reanalysis of a subsequent local survey, with explicit attention to what its aggregate evidence can and cannot support.

Barnová and colleagues [7] provide a school-specific complement by examining organisational climate among Slovak vocational-school teachers with the OCDQ-RS. They distinguished principal support and direction from teacher engagement, frustration and collegial intimacy, and found that the smallest schools did not have the most favourable openness ratings. This finding cautions against inferring supportive working conditions from school size alone and identifies potentially relevant contextual variables for future research. Neither school openness nor these organisational dimensions is interchangeable with the present indicators of fatigue and refreshed awakening.

A complementary Slovak perspective is provided by Olejníková and colleagues [8], who used the Pohodoměr tool to examine pupils' wellbeing and resilience and discuss positive-psychology approaches. Their reported profile combined stronger family relationships and future-oriented goals with weaker community engagement and peer support. This domain-specific pattern supports the present study's decision to analyse positive experiences, difficulties and support as distinct dimensions rather than infer a uniformly favourable condition from any single indicator. However, school pupils and teachers constitute different populations; the study provides contextual support for differentiated assessment, not evidence that a resilience intervention improves teachers' recovery.

Preventive approaches also require a clear distinction between individual practices and organisational responsibilities. WHO guidance on mental health at work addresses organisational interventions, training and individual support rather than prescribing self-care as a substitute for working conditions [9]. Teacher education is another relevant setting. Dreer's study of student teachers found associations between observed in-service teacher wellbeing during field experiences and student teachers' own wellbeing [10]. That finding does not establish a transmission mechanism, but it provides a reason to consider wellbeing across preparation and practice without assuming that these populations have identical experiences.

Measurement validity is especially important when a practical survey adapts items from established questionnaires. The official WHO-5 contains five items, a two-week reference period and six response categories [11]. The Perceived Stress Scale was developed to assess perceived stress through a specified set of items [12], and the PHQ-9 evaluates nine symptom domains using a defined response format [13]. Selecting a few items, changing their response options or altering their reference periods changes the evidence that the resulting in-

strument provides. Population-specific validation work, such as the evaluation of the GHQ-12 in German teachers, further illustrates why measurement properties need to be examined rather than assumed [14].

Against this background, the present research examines positive experiences, refreshed awakening, selected difficulties and reported wellbeing-maintenance practices in a mixed Slovak sample. Three questions guide the analysis: What item-level patterns are recoverable from the archived results? Which maintenance practices were selected? What, if anything, can the marginal counts establish about the co-occurrence of positive experiences and infrequent refreshed awakening? The analysis is explicitly exploratory and descriptive in scope. It does not test differences between teachers and students, estimate national prevalence, diagnose mental disorders or evaluate a preventive intervention. Its intended contribution is a transparent descriptive account that can inform better targeted and better documented follow-up research.

II. Materials and Methods

A. Design, Source and Analytical Scope

This study constitutes a secondary analysis of aggregate documentation derived from a cross-sectional online survey conducted in Slovakia. The source materials were the 2025 research documentation prepared at DTI University by Jaroslav Malík [15]: the reproduced questionnaire, numerical charts and accompanying methodological and results descriptions. These materials constituted the documentary evidence supplied for the present analysis. Respondent-level records, the original Survio export and the complete open-response corpus were not available. The present article therefore reports a reanalysis of documented aggregate frequencies rather than a newly administered survey or a reconstruction of individual-level records.

The research focus was narrowed to variables with recoverable item-level distributions and relevant prevention implications. Broad original questions concerning occupational expectations, institutional provision and motivation could not all be answered from the available measures. Reporting was informed by the distinction between design, participants, variables, bias and limitations in STROBE [16], and by the attention to recruitment and participation denominators in CHERIES [17]. These frameworks were used to strengthen reporting transparency; full checklist compliance is not claimed where the required information was absent from the archived documentation.

B. Recruitment, Setting and Documented Sample

The online survey was hosted on the Survio platform from 1 to 25 March 2025. Recruitment targeted teacher-education students and practising educators through contacts with educational institutions. The documentation lists intended contacts at teacher-education faculties in Bratislava, Trnava, Nitra, Ružomberok, Banská Bystrica and Prešov, alongside school and university contacts. This information describes the intended recruitment network and does not verify participation

by every institution named in the source documentation. No probability-based sampling frame was documented. The sample is consequently treated as a non-probability, self-selected sample reached through educational contacts.

The source reports 107 completed, relevant questionnaires and 273 recorded survey views. The resulting ratio of 39.2% is presented only as the number of completed questionnaires divided by the number of recorded survey views. The records do not establish that views represent distinct eligible invitees, consenting participants or unique starts. The ratio is therefore not labelled a population response rate or a verified completion rate. The reasons for non-completion, duplicate-response safeguards, eligibility screening and the number of invitations were not documented sufficiently for independent verification.

Sex counts were 67 women and 40 men. The age distribution was also reported for 107 respondents, although one age-band boundary differs between the questionnaire and results. Professional-status selections comprised 53 teachers and 58 teacher-education students, totalling 111. Multiple selection was described as possible; however, the available records do not distinguish genuine dual-role status from a possible recording inconsistency. The exact overlap cannot be determined. The entire sample is therefore analysed as a pooled sample; mutually exclusive professional groups and teacher–student comparisons are not constructed. Table 1 preserves these qualifications.

Table 1: Documented sample characteristics (N = 107).

Variable	Category	n (%)
Sex	Women	67 (62.6)
Sex	Men	40 (37.4)
Age	Under 20 years	5 (4.7)
Age	20–30 years*	26 (24.3)
Age	31–40 years	26 (24.3)
Age	41–50 years	34 (31.8)
Age	51 years to retirement age	16 (15.0)
Age	Retirement age	0 (0.0)
Reported role†	Teacher	53 (49.5)
Reported role†	Teacher-education student	58 (54.2)

*The results chart labels this band 20–30; the reproduced questionnaire uses 21–30. The chart label is preserved, not reconciled. †Role counts total 111 and are not an exclusive partition. They do not establish the exact number of dual-role respondents. Source: research documentation, charts 1, 3 and 4 (PDF pp. 35–37).

C. Measures and Interpretation

Four items concerned cheerful mood, calmness and relaxation, awakening fresh and rested, and a daily life filled with interesting things. Each used five categories: always, mostly, often, sometimes and never. These items were treated as separate indicators of positive experience. They are not the complete WHO-5 and do not retain its standard response format [11]. Calmness, refreshed awakening and daily interest referred to the preceding month. The cheerful-mood item has an unresolved reference-period discrepancy: one month in the reproduced questionnaire and two months in the results. Its distribution is retained with an explicit qualification, but it is excluded from cross-item overlap calculations.

The stress-related items concerned anger following unexpected events and perceived inability to control important matters. The former distribution was numerically inconsistent with the documented sample size and was therefore excluded from substantive analysis. The latter referred to the preceding month and used never, almost never, sometimes, fairly often and often. The translated categories preserve the source wording rather than substitute standard scale labels. The retained item was analysed descriptively, without a PSS total or stress-severity classification [12].

Three further items concerned fatigue or low energy, negative self-evaluation and concentration difficulties. Their categories were not at all, several days, more than half the days and nearly every day. Fatigue explicitly referred to two weeks; concentration referred to one month. The negative self-evaluation question did not explicitly state a reference period. These selected and partly modified items cannot provide a PHQ-9 score or a diagnostic conclusion [13]. Reported wellbeing-maintenance practices were a multiple-response question with sleep, active sport, “passive sport”, arts, meditation and other options. The term “passive sport” was not operationally defined and is retained literally, without assuming its meaning.

D. Numerical Audit and Descriptive Analysis

Counts visible in the archived charts were transcribed and systematically compared with the accompanying descriptions and reproduced questionnaire. A distribution was retained for the main analysis when its categories summed to 107 and no unresolved numerical contradiction prevented interpretation. This arithmetic verification does not establish the validity or completeness of the underlying respondent-level records. Inconsistent results were not silently corrected, rescaled to a new denominator or converted into an assumed missing category. Appendix A records the issues, the affected source locations and the analytical decisions.

Percentages were recalculated as $100 \times \text{count}/107$ and rounded to one decimal place. Multiple-response practice percentages use respondents, not the total number of selections, as the denominator and therefore need not sum to 100%. Positive-item summaries combine always, mostly and often; infrequent refreshed awakening combines sometimes and never. For the selected difficulty items, the two higher-frequency categories were combined where useful. These are descriptive groupings chosen for this reanalysis, not validated clinical cut-offs. Full distributions are retained to allow alternative interpretations.

No imputation, statistical weighting, regression modelling, significance testing or scale-reliability estimation was undertaken. The available marginals do not support correlations, subgroup cross-tabulations or internal-consistency coefficients. Confidence intervals intended to represent the Slovak teaching population were not calculated because the recruitment design and coverage do not justify that interpretation. Arithmetic was checked programmatically; all inputs needed

to reproduce the retained descriptive results appear in the tables or accompanying text.

E. Conditional Bounds on Co-Occurrence

For the three positive-experience items sharing a common one-month reference period, a supplementary analysis applied elementary set-theoretic bounds. If A and B are two response groups within the same N individuals, their overlap satisfies:

$$\max(0, nA + nB - N) \leq n(A \cap B) \leq \min(nA, nB).$$

The lower bound follows because the union of the two groups cannot exceed the total sample size N , whereas the upper bound cannot exceed the size of either group considered separately. Here, B comprised the 49 respondents reporting refreshed awakening sometimes or never. A comprised either frequent calmness or frequent daily interest. The calculation is conditional on the documented counts representing the same 107 individuals with one response per relevant item. Equal marginal totals alone do not verify that assumption. A sensitivity analysis restricted A to always or mostly. These ranges represent logical constraints rather than observed joint distributions, confidence intervals or statistical estimates of association.

F. Ethical Information and Data Provenance

The reproduced questionnaire stated the wellbeing-related purpose of the research and described participation in the survey as anonymous. The present reanalysis used aggregate information exclusively and made no attempt to identify individual respondents. The materials supplied for this analysis did not include a study-specific ethics approval or exemption decision, documented consent records or a secondary-publication licence. The under-20 age category does not establish that all participants were adults. The authors report the relevant approval, consent and publication-rights arrangements in the Declarations; however, the corresponding institutional records were not included in the documentary corpus analysed here and should be verified before submission. The responsible authors and data holder must confirm the applicable decision, consent arrangements and permission before submission.

III. Results

A. Positive Experiences and Refreshed Awakening

Table 2 presents the four positive-experience distributions. Calmness and relaxation were reported always, mostly or often by 85 respondents (79.4%); the corresponding count for daily interest was 79 (73.8%). For refreshed awakening, the same three response categories accounted for 58 respondents (54.2%). The remaining 49 (45.8%) selected sometimes or never, including five (4.7%) who selected never. Thus, favourable responses concerning calmness and daily interest were more numerous than favourable responses concerning refreshed awakening within the documented one-month marginal distributions. This is not a test of within-person differences.

For cheerful mood, 93 respondents (86.9%) selected one of the three higher-frequency categories. This item is not used to compare the same observation window with the other items because its reference period differs across source versions. In particular, neither its relatively favourable distribution nor the low number selecting never establishes successful prevention by respondents' institutions.

Table 2: Positive-experience items: full distributions, n (%).

Item	Always	Mostly	Often	Sometimes	Never
Cheerful and in good spirits	8 (7.5)	57 (53.3)	28 (26.2)	13 (12.1)	1 (0.9)
Calm and relaxed	4 (3.7)	53 (49.5)	28 (26.2)	22 (20.6)	0 (0.0)
Awakening fresh and rested	4 (3.7)	40 (37.4)	14 (13.1)	44 (41.1)	5 (4.7)
Daily life filled with interesting things	9 (8.4)	39 (36.4)	31 (29.0)	27 (25.2)	1 (0.9)

N = 107 for each item. Reference period: one month for calmness, refreshed awakening and daily interest; unresolved one-month/two-month discrepancy for cheerful mood. "Frequent" in the text combines always, mostly and often; it is not a validated threshold. Percentages may not total exactly 100 because of rounding. Source: research documentation, charts 6–9 (PDF pp. 39–41).

B. Selected Difficulties and Perceived Control

Fatigue or low energy was reported on several days by 65 respondents (60.7%), on more than half the days by 19 (17.8%) and nearly every day by six (5.6%). Consequently, 25 respondents (23.4%) selected the two higher-frequency categories over the preceding two weeks. Seventeen (15.9%) reported no fatigue or low energy. The distribution documents the reported frequency of one experience and should not be interpreted as an estimate of the prevalence of depression or burnout.

For negative self-evaluation, seven respondents (6.5%) selected the two higher-frequency categories, but a reference period was not explicitly specified. For concentration difficulties over the preceding month, nine (8.4%) selected those categories and 55 (51.4%) selected several days. Table 3 retains these differences in timing. Regarding inability to control important life matters, the five counts were 17 never (15.9%), 47 almost never (43.9%), 32 sometimes (29.9%), 11 fairly often (10.3%) and zero often. The item refers to important life matters generally and does not specifically measure perceived control over teaching tasks, institutional demands or school-level decisions.

Table 3: Selected difficulty items: full distributions, n (%).

Item	Reference period	Not at all	Several days	More than half the days	Nearly every day
Fatigue or low energy	Two weeks	17 (15.9)	65 (60.7)	19 (17.8)	6 (5.6)
Negative self-evaluation	Not explicit	60 (56.1)	40 (37.4)	3 (2.8)	4 (3.7)
Concentration difficulties	One month	43 (40.2)	55 (51.4)	6 (5.6)	3 (2.8)

N = 107 for each item. These are selected, partly modified items, not a PHQ-9 administration. Negative self-evaluation concerns feeling a failure or having disappointed oneself or one's family; no reference period is supplied for that item. Source: research documentation, charts 12–14 and questionnaire (PDF pp. 44–45, 63).

C. Wellbeing-Maintenance Practices

Sleep was selected by 59 respondents (55.1%) and active sport by 48 (44.9%). The other options were selected less frequently: "passive sport" by 30 (28.0%), arts by 24 (22.4%), meditation by 15 (14.0%) and other practices by eight (7.5%).

The multiple-response question generated 184 selections (Table 4). No information about practice frequency, duration, access barriers or effectiveness was available. In particular, selecting sleep does not establish either adequate sleep or its effect on wellbeing.

Table 4: Reported practices for maintaining wellbeing

Practice	n	% of respondents
Sleep	59	55.1
Active sport	48	44.9
“Passive sport” (undefined)	30	28.0
Arts	24	22.4
Meditation	15	14.0
Other	8	7.5

Multiple responses were permitted; N = 107 respondents and 184 selections. Practice labels do not establish dose, quality or effectiveness. “Passive sport” is reproduced literally because the category is undefined. Source: research documentation, chart 15 (PDF p. 48).

D. Conditional Co-Occurrence and Sensitivity

Under the common-sample assumption described in Section II-E, the 85 frequent-calmness responses and 49 infrequent-refreshed-awakening responses require an overlap of at least 27 and at most 49 individuals: 25.2–45.8% of 107. For frequent daily interest and infrequent refreshed awakening, the admissible overlap is 21–49 individuals (19.6–45.8%). These calculations show what the supplied marginals would imply under the stated conditions, without identifying the actual overlapping respondents.

The sensitivity analysis is important. When positive experience was restricted to always or mostly, calmness included 57 respondents and daily interest included 48. The resulting lower bounds were zero for both comparisons (Table 5). A non-zero minimum overlap therefore depends on the broader descriptive definition of frequent positive experience. This dependence rules out presenting the analysis as evidence for a stable psychological profile or as a measurement-independent finding.

Table 5: Conditional logical bounds on co-occurrence.

Positive-experience group (A)	nA	nB	Overlap, n	Overlap, %
Calm: always, mostly or often	85	49	27–49	25.2–45.8
Interesting day: always, mostly or often	79	49	21–49	19.6–45.8
Calm: always or mostly (sensitivity)	57	49	0–49	0.0–45.8
Interesting day: always or mostly (sensitivity)	48	49	0–48	0.0–44.9

B = refreshed awakening sometimes or never (49 responses). Bounds assume the same 107 individuals and one response per relevant item. They are not observed joint counts, confidence intervals or estimates of association. The broader and stricter definitions of A are descriptive sensitivity choices, not clinical cut-offs. Calculations use Table 2.

IV. Discussion

A. Positive Experience Is Not a Complete Account of Wellbeing

The main descriptive finding is a contrast between relatively frequent calmness and daily interest and less frequent refreshed awakening. Almost half of the documented sample reported awakening fresh and rested only sometimes or never, and approximately one quarter reported fatigue on more than

half the days or nearly every day in the two-week item. These observations justify retaining recovery-related questions in future educational wellbeing assessments rather than relying on favourable affective responses alone. They do not establish a clinical problem in any particular respondent.

The conditional bounds add a limited but useful perspective. Under a shared-sample assumption, the broader response grouping makes complete separation of frequent calmness and infrequent refreshed awakening mathematically impossible. However, a stricter grouping removes that conclusion. The substantive message is therefore not that a newly identified subgroup has been discovered. Rather, the available counts caution against reading a positive item distribution as evidence that everyone reporting that experience is also consistently rested. Linked data and more defensible measurement are needed to investigate whether, and in whom, these experiences co-occur.

This interpretation is compatible with the distinction between different wellbeing components in the OECD framework [2] and with Kurrle and Warwas’s emphasis on conceptual clarity [3]. The current items nevertheless concern general daily experiences; they do not directly measure occupational wellbeing, psychological recovery from work or the causes of fatigue. The word “recovery-related” is used as an interpretive description of refreshed awakening and energy, not as the name of a validated scale. It would be equally inappropriate to infer that favourable daily interest compensates for exhaustion or that exhaustion necessarily originates in teaching.

B. From Individual Practices to Supported Prevention

The reported practice frequencies describe what respondents selected as ways of maintaining wellbeing. They do not establish a comparative ranking of effective interventions or preventive strategies. The difference between these two questions is consequential: a common practice might be accessible, culturally familiar or urgently needed, while a less commonly selected practice might be unavailable rather than ineffective. The survey did not measure such explanations. It also cannot establish whether people selecting sleep were the same people reporting fatigue or infrequent refreshed awakening.

Intervention research offers a useful contrast. In the MYRIAD cluster randomised trial, school-based mindfulness training produced some short-term improvements in teacher burnout and school climate, but burnout effects were not significant at one-year follow-up [18]. The present survey’s meditation category is not equivalent to that structured intervention. Together, the distinction between intervention exposure and self-selected practice, and the trial’s limited durability of effects, argue against treating a brief recommendation to meditate as an evidence-based solution for all educators.

For practice development, a proportionate response would combine opportunities for personal restoration with scrutiny of institutional arrangements. WHO guidance explicitly includes organisational and individual approaches [9]. Slovak guidance has also proposed supportive peer relationships, reducing unnecessary tasks and protecting opportunities for

breaks [6]. These are external guidance-based options, not interventions tested by this survey. The present findings could help institutions decide which questions to ask first: whether educators can rest adequately, which routine demands interfere with rest, and whether confidential support is understandable and accessible.

In a Ghanaian university survey using 2019 data, Lawer and colleagues [19] identified large classes, marking and supervision among prominent perceived stressors, while consulting a counsellor was the least frequently reported coping strategy. Their descriptive findings make workload and actual support use relevant questions alongside self-care. They do not show that counselling is ineffective or establish the causes of fatigue in the present Slovak sample; those questions require direct measurement of demands, access barriers and support experiences.

At a conceptual level, treating prevention as an institutional responsibility also raises questions about the environments that educational organisations create. Konvit, Jaseckova and Vartiak's account of the Planetary Oikos examines how technology and management shape a shared habitat across physical, virtual and hybrid spaces [20]. Jasečková, Konvit and Vartiak's discussion of Vernadsky's noosphere addresses scientific reason, collective knowledge and the ethical problem of their possible misuse [21]. We draw on these philosophical perspectives to frame a normative question for educational management: do organisational and digital arrangements serve the people working and learning within them? This is an interpretive extension to education, not a wellbeing mechanism demonstrated by either philosophical analysis or the present survey.

An initial local response should be designed as an assessable process rather than announced as a proven programme. For example, a school could invite staff to identify avoidable demands, agree one feasible organisational change, and monitor a small set of clearly defined outcomes over a stated period. Participation and mental-health information should be kept separate from performance appraisal. A teacher-education provider could similarly examine scheduling and placement demands. These proposals would need co-design, ethical safeguards and evaluation; neither their effectiveness nor their costs can be estimated from the current data.

C. Implications for Teacher Education and Professional Support

The inclusion of teacher-education students broadens the potential relevance of prevention-oriented discussion, but it also complicates interpretation of the pooled findings. Some respondents may combine study and employment, and the role counts do not support separate categories. The study therefore cannot establish whether students are less fatigued than teachers, whether expectations deteriorate after entry to the profession, or whether a particular career stage needs greater support. Those are future questions, not findings hidden within the pooled percentages.

Dreer's field-experience study provides an external rationale for considering the wellbeing encountered during teacher preparation, while its observational associations should not be converted into causal claims [10]. A practical implication for programme design is to make discussion of workload, recovery and support part of supervised reflection, rather than present wellbeing only as personal resilience. Mentors could help students distinguish ordinary variation in daily experience, persistent difficulties that merit professional advice, and institutional issues that require collective action. These are proposed educational applications, not effects demonstrated here.

Classroom communication offers another topic for supervised reflection, but should be investigated alongside, rather than inferred from, wellbeing. Gabrhelova, Porubcanova and Pasternakova [22] surveyed 143 students in two Slovak vocational secondary schools. Students often perceived explanations as clear while also describing lessons as dominated by teacher talk and closed questions. Their study points to a distinction between understandable speech and opportunities for dialogic participation. A follow-up design could therefore combine educators' wellbeing reports with student perspectives and observations of classroom interaction. The current survey contains neither such observations nor linked student outcomes, so it cannot establish that fatigue affects communication or participation.

Digital learning conditions provide a further, population-specific comparison. Yaroshchuk and colleagues [23] studied 86 Ukrainian pupils aged 10–14 with executive function difficulties and reported greater cognitive load, lower accuracy and longer completion times with visually overloaded than with minimalist learning interfaces. This evidence concerns a defined pupil population and measured interface conditions; it cannot explain the concentration difficulties or fatigue reported in the present mixed sample. For teacher education, it nevertheless motivates reflection on cognitively accessible material design and avoidable visual complexity. In follow-up wellbeing research, digital task demands and interface exposure would need to be measured directly before any association with educators' concentration or recovery could be examined.

The wider outcomes literature also sets a boundary on claims about educational quality [4]. No classroom observation, student outcome, teaching-performance measure or absenteeism record was collected for the present reanalysis. Accordingly, neither favourable nor unfavourable questionnaire responses justify classifying respondents as better or worse educators. The same caution applies to occupational motivation: without the original open-response corpus and a documented coding procedure, the available summaries cannot sustain a qualitative typology of suitable and unsuitable motives for teaching.

D. Measurement and Documentation as Substantive Findings

The numerical and documentary audit is not merely an editorial concern; it is a substantive methodological component of the study. Differences between questionnaire versions change what a response means, while inconsistent category totals change which denominator can legitimately be used. In this case, the cheerful-mood reference period differs across versions; the negative self-evaluation period is unstated; professional-status selections exceed the number of completed questionnaires; and one stress item totals 108. A help-initiation chart also conflicts with its narrative description and with the reproduced response options. These problems constrain the questions that the study can answer.

Referring to the names of established instruments does not resolve these measurement and documentation issues. WHO-5, PSS and PHQ-9 evidence relates to specified measures, not any collection of similarly worded questions [11]–[13]. Validation research on other teacher mental-health measures illustrates the additional work required to support a particular interpretation in a defined population [14]. The present item frequencies remain usable as descriptions of the archived responses, but not as substitute scale scores. Removing clinically suggestive labels is therefore a methodological correction, not a loss of a valid diagnostic result.

A useful feature of aggregate reanalysis is that it exposes this boundary. Reproducibility here means that another analyst can recover the percentages and bounds from the reported counts. It does not mean that the original recruitment process, the psychometric properties of the adapted survey or the underlying individual data have been verified. Reporting guidance for observational studies and online surveys supports making those distinctions visible rather than masking uncertainty with additional statistical procedures [16], [17].

E. Limitations and Priorities for Further Research

Several substantive methodological limitations remain and should be considered when interpreting the findings. Recruitment through accessible educational contacts and voluntary participation can produce selection bias, and the number and characteristics of non-participants are unknown. The sample mixes teachers, students and potentially dual-role respondents without reliable cross-classification. Demographic coverage cannot be taken as national representativeness. The survey also provides only one period of observation; there is no baseline or follow-up against which to interpret change.

The selected items differ in wording and recall period and were not validated as a combined instrument. A one-month concentration item cannot be numerically equated with a two-week fatigue item, and no common window can be assumed for negative self-evaluation. Refreshed awakening is not a direct measure of sleep duration or of recovery from work. General life experiences may reflect personal, health-related, educational and occupational circumstances that were not distinguished. The absence of individual records further

prevents assessment of item dependencies, role differences and the relationship between practices and experiences.

The most immediate research priority is to obtain the original survey export and the exact questionnaire version administered, while also resolving and documenting ethics approval, consent procedures and secondary-use authorisation. A subsequent study should define teacher, student and dual-role status separately; document invitations and unique participation stages; preserve the wording and scoring of chosen validated instruments; and measure work-related exposures separately from general wellbeing. Follow-up questions about access to support should distinguish awareness, availability, help-seeking initiation, actual use and perceived benefit. These are different outcomes and should not be collapsed into one item.

For intervention evaluation, repeated assessments with a suitable comparison group would provide stronger evidence than a second convenience survey alone. An analysis plan should specify outcomes, time windows, missing-data handling and the treatment of institutional clustering before testing effects. Workload and recovery opportunities could be examined alongside positive wellbeing, with teacher-education students and employed educators analysed according to their actual roles. Such research would build on existing Slovak work [5], while addressing the specific measurement and documentation limitations identified here.

V. Conclusion

In the documented Slovak sample, frequent calmness and daily interest were accompanied at the aggregate level by less frequent refreshed awakening and a notable frequency of fatigue. The findings support separate assessment of positive experiences and difficulties rather than a single favourable wellbeing narrative. Conditional overlap bounds illustrate what the marginal counts can imply under a shared-sample assumption, but their sensitivity to response grouping prevents stronger conclusions. Reported sleep and sport practices identify preferences or habits, not proven protective effects. The contribution of this research is a transparent and explicitly non-diagnostic account of the recoverable survey findings, together with a documented audit of their methodological and evidential limits. Prevention-oriented follow-up should combine more reliable measurement, verified ethical and data-use documentation, and evaluation of institutional support alongside individual practices.

Author Contributions

S.J., V.M. and L.S. contributed equally to the conceptualisation, methodology, aggregate-data analysis, interpretation, visualisation, manuscript preparation, and review and editing. All authors have read and approved the final version of the manuscript and agree to its submission.

Funding

This research received no external funding.

Institutional Review Board Statement

The authors report that DTI University granted ethical approval for the underlying 2025 research project, “Prevencia duševného zdravia v profesii učiteľ’a”, including permission to extend the research and publish its results. The approval documentation was not included in the aggregate documentary materials analysed for this article and should be verified against the original institutional record before submission.

Informed Consent Statement

The authors report that participants were informed in advance and provided written informed consent in accordance with the approved protocol. Where required, parental or legal-guardian consent and participant assent were obtained. The corresponding consent records were not part of the aggregate documentary corpus analysed here and should be verified before submission.

Publication Rights and Secondary Use

The authors report that, under a licence agreement between DTI University and Jaroslav Malík, DTI University holds the publication rights required for the secondary scholarly use of the underlying research. The relevant agreement should be confirmed against the institutional record before submission.

Data Availability Statement

All aggregate counts used in the reported calculations are presented in Tables 1–5 or in the Results section, with the numerical audit and documented exclusions presented in Appendix A and Table A1. Individual-level records, the original survey export and the complete open-response corpus were not available for this analysis and are not deposited with the manuscript. No authorisation to release those records or the underlying research documentation is asserted.

Consent for Publication

No participant names, identifiable individual-level records or participant photographs are reproduced in this manuscript. Permission to publish the underlying research results is addressed under Publication Rights and Secondary Use and should be confirmed before submission.

Acknowledgements

The authors acknowledge Jaroslav Malík, who conducted and documented the original research in 2025 under the supervision of Dáša Porubčanová at DTI University. The present article draws on the resulting research documentation.

Conflicts of Interest

The authors declare no conflicts of interest.

Use of Generative Artificial Intelligence

ChatGPT was used during manuscript preparation to assist with English-language editing, document formatting and consistency checking. It was not used to generate participant records, fabricate observations, impute missing responses or

substitute simulated outcomes for the original evidence. The authors remain fully responsible for the final verification of the manuscript, including its references, numerical statements, interpretations and publication declarations.

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Appendix A. Audit of the Supplied Research Documentation

The page references below identify the 64-page source PDF supplied for this analysis; they are PDF page numbers, not its printed page labels. The audit distinguishes recoverable aggregate findings from unresolved information. It does not validate respondent-level records or reconcile contradictory versions. The original questionnaire and export remain necessary for any further analysis. Table A1 summarises the principal source discrepancies and the analytical decisions applied in response to each documented inconsistency.

Table A1: Source discrepancies and the decisions applied in this article.

Field	Source location	Documented issue	Analytical decision
Professional status	Chart 1; PDF p. 35	53 teacher and 58 student selections; total 111 versus 107 completed questionnaires.	Reported as unresolved role selections; no exact overlap or subgroup comparison inferred.
Age-band boundary	Chart 4 and questionnaire; PDF pp. 37, 61	Chart: 20–30 years. Questionnaire: 21–30 years.	Chart label retained with a footnote; no silent reconciliation.
School type	Chart 2 and narrative; PDF pp. 35–36	Counts 10, 44 and 10 sum to 64. Narrative percentages imply a different denominator; only 53 teacher-role selections are reported.	Excluded from school-type prevalence statements and comparisons.
Region	Chart 5 and questionnaire; PDF pp. 38, 61	Reported regional counts sum to 108; category sets differ between questionnaire and chart.	Excluded from regional estimates and comparisons.
Cheerful-mood timing	Chart 6 and questionnaire; PDF pp. 39, 62	Results use two months; reproduced questionnaire uses one month.	Counts retained, timing discrepancy flagged; excluded from overlap calculations.
Unexpected-event anger	Chart 10; PDF p. 42	Counts 6, 35, 48, 17 and 2 sum to 108, not 107.	Excluded from the main results. No deletion or denominator substitution.
Negative self-evaluation timing	Chart 13 and questionnaire; PDF pp. 44, 63	No explicit reference period in the item.	Distribution retained without assigning a time window or making direct temporal comparisons.
Help initiation	Chart 16, narrative and questionnaire; PDF pp. 49, 64	Chart: self 76, family 49, friends 24, school 6, other 0. Narrative attributes the six to “other”; questionnaire omits “self”.	Excluded from substantive conclusions about help-seeking or school support. Chart values are provisional, not adjudicated.
Occupational motivation	Narrative and open question; PDF pp. 46–47, 63	Summarised categories are available, but the response corpus and coding protocol are not.	No new qualitative coding, quotations or evaluative claims about motives.
Participation denominator	Survey description and conclusion; PDF pp. 34, 53	107 completed questionnaires and 273 recorded views; unique eligible invitees and starts are unknown.	39.2% is only a completed-questionnaire-to-view ratio.

Charts were read together with their labels and accompanying descriptions. No counts were changed to force agreement with N = 107. Conditional bounds in Table 5 require assumptions beyond arithmetic consistency, as specified in Section II-E.

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