

SHORT COMMUNICATION

Rethinking students' psychological need states: The unique role of need unfulfilment to understanding ill-being in academic settings

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Abstract

Prior research has shown that students face various stressors which can affect their psychological health. The present study examines the role of students' psychological need states in explaining their burnout and dropout intentions. More precisely, relying on recent findings from Self-Determination Theory research, we examined whether students' psychological need unfulfilment could contribute to explain their ill-being over and above need satisfaction and frustration. To this end, we also tested the validity of a tripartite instrument allowing to assess these need states in academic settings (Psychological Need States in Education-Scale [PNSE-S]). A study was conducted among two samples of high school ($N = 473$; Sample 1) and college ($N = 1143$; Sample 2) students. Results supported the construct validity of the 35-item PNSE-S in both samples by showing that students' relatedness, autonomy, and competence unfulfilment can be modelled as distinct need states alongside the frustration and satisfaction of those three needs. Moreover, these different need states displayed a well-differentiated pattern of associations with various facets of student burnout and with dropout intentions. Results also showed the critical role of psychological need unfulfilment in explaining students' ill-being.

KEYWORDS

burnout, dropout, need frustration, need satisfaction, need unfulfilment, psychological need states in education-scale

1 | INTRODUCTION

Student burnout and dropout have become a major concern for students and their families, but also for high schools, universities, and governments (e.g., World Economic Forum, 2022). Indeed, these key indices of students' ill-health or ill-being (e.g., Hardré & Reeve, 2003; Lee et al., 2010), resulting from various stressors experienced by

students, have critical implications in terms of psychological functioning, academic performance, and reduced professional opportunities (e.g., Gillet et al., 2020; Lee et al., 2010). Student burnout refers to a syndrome characterised by feelings of exhaustion or weariness (cognitive, physical, and emotional exhaustion), by a cynical or detached attitude towards different targets (e.g., detachment towards studies, teachers, and other students), and by feelings of inadequacy

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(Berjot et al., 2022; also see Salmela-Aro et al., 2022). Dropout intentions refer to students' thoughts regarding the possibility of leaving their school or university program before they complete it or graduate; such intentions are recognized to be a key predictor of actual dropout behaviours (Gillet et al., 2020).

Given their detrimental consequences, researchers have looked into the antecedents of student burnout and dropout intentions to identify possible levers for intervention. Interestingly, research based on Self-determination theory (SDT, Ryan & Deci, 2017) has shown the satisfaction and frustration of students' needs for relatedness (feeling connected to others), competence (feeling able and adequate) and autonomy (feeling responsible for one's actions) to be important drivers of student burnout and dropout intentions (e.g., Gillet et al., 2020; Zhang & Jiang, 2023). Need satisfaction reflects a positive state where students' psychological needs are fulfilled (i.e., feeling affiliated, competent and volitional), while need frustration refers to the negative state where students' psychological needs feel undermined (i.e., feeling rejected, useless, and coerced).

Importantly, recent research suggests that considering the 'dim light colours' of psychological needs, alongside their bright (need satisfaction) and dark (need frustration) sides, could extend our understanding of students' ill-being (see Ntoumanis, 2022). Indeed, building upon theoretical suggestions (Bhavsar et al., 2020; Cheon et al., 2019; Costa et al., 2015), recent research in the work domain indicates that psychological need experiences are not Manichean or black-and-white in nature (need satisfaction and frustration), but that individuals can also experience a foggier and insidious need experience labelled need unfulfilment (i.e., feeling that one's psychological needs are in a state of neglect or abandonment; Huyghebaert-Zouaghi et al., 2021, 2023). More precisely, individuals may experience uncertainty, ambiguity and a lack of purpose or meaning (autonomy unfulfilment), a sense of not fitting in or not having much in common with their peers (relatedness unfulfilment), and a feeling of not performing or improving as well/much as they could (competence unfulfilment). Huyghebaert-Zouaghi et al. (2021) demonstrated the existence of this psychological need experience (and its distinctiveness from need frustration and satisfaction), in samples of French and English-speaking workers. Interestingly, Huyghebaert-Zouaghi et al. (2021) also showed need unfulfilment to independently explain indices of ill- and well-being (i.e., work-related rumination, job boredom, job satisfaction) over and above what was explained by need satisfaction and frustration. As such, examining the dim light colours of students' psychological needs (i.e., need unfulfilment) could enrich our understanding of the psychological experiences that might lead to students' burnout and dropout and, thus, allow for better prevention strategies.

Indeed, just like employees, students may experience need unfulfilment (e.g., feelings of uncertainty and disconnection) which could contribute to explaining passive forms of ill-being characterised by withdrawal (e.g., boredom, disengagement, dropout intentions; Ntoumanis, 2022). Unfortunately, research attempting to demonstrate the distinctiveness of these need states among students has been incomplete. Cheon et al. (2019) supported the distinctiveness of

autonomy unfulfilment (relative to autonomy frustration and satisfaction) in a sample of Korean middle- and high-school students, yet this study only considered the need for autonomy, thus failing to test the distinctiveness of competence and relatedness unfulfilment. However, all three psychological needs have been demonstrated to be important 'psychological nutrients' that are critical for psychological functioning (Vansteenkiste et al., 2020), so that one or more need(s) cannot be set aside if one wishes to get a complete understanding of experiential need states and their implications for individuals' health.

As such, the main aim of this paper was to examine the unfulfilment, frustration, and satisfaction of students' psychological needs (see Huyghebaert-Zouaghi et al., 2021) in relation to students' burnout (i.e., emotional, physical, and cognitive exhaustion; psychological disengagement from other students, teachers and studies; feelings of inadequacy) and dropout intentions, as these are known to be critical indicators of student ill-health (Berjot et al., 2022; Hardré & Reeve, 2003). Providing support for the incremental value of need unfulfilment (relative to need frustration and satisfaction) in explaining these important outcomes in samples of high school and college students would contribute to assert its distinctiveness, provide further evidence that need unfulfilment is a key mechanism in understanding ill-being in education, and would replicate past work in sport and work settings. To this end, we also aimed to examine the validity of the Psychological Need States in Education-Scale (PNSE-S), an adapted version of the Psychological Need States at Work-Scale (PNSW-S, validated in English and French by Huyghebaert-Zouaghi et al., 2021), to allow researchers and practitioners to simultaneously measure the bright, dark, and dim light colours of students' psychological need states and access their possibly distinct consequences.

1.1 | Hypotheses

In line with prior research findings, we expect students' need satisfaction states to have negative associations with their burnout (e.g., Salmela-Aro et al., 2022; Zhang & Jiang, 2023) and dropout intentions (e.g., Gillet et al., 2020). We thus hypothesise that when students feel competent, autonomous, and related to others, they are more energised and reassured about their own capabilities, hence are less likely to feel exhausted, cynical or inadequate (burnout) and less likely to think about quitting (dropout intentions) (Hypothesis 1). With regard to need frustration, research has, to the best of our knowledge, not yet examined the links between this need state and students' dropout intentions, while very few studies have looked into the relations between need frustration and student burnout. These rare studies found that students characterised by higher levels of general need frustration experience higher levels of burnout (Kusurkar et al., 2021; Zhang & Jiang, 2023). Indeed, when experiencing coercion, isolation and worthlessness, students may tap into their resources in an effort to cope with this negative experience, eventually draining these resources and their energy (i.e., burnout).

Moreover, when their integrity is threatened (i.e., need frustration), individuals tend to initiate self-protective and defensive processes (Vansteenkiste et al., 2020), which may take the form of intentions to withdraw from the education setting altogether. We can thus expect need frustration states to relate to increased burnout and to fuel dropout intentions (Hypothesis 2).

Because no study has yet examined autonomy, competence, and relatedness unfulfilment in education contexts, we lack evidence regarding their links with student burnout and dropout. However, Cheon et al. (2019) found classroom disengagement to be more strongly predicted by autonomy unfulfilment than by autonomy frustration. Similarly, in the work context, job boredom was predicted by need unfulfilment but not by need frustration, while work-related rumination was predicted by need frustration but not by unfulfilment states (Huyghebaert-Zouaghi et al., 2021). Interestingly, these results are in line with theoretical suggestions arguing that these need states contribute to explain ill-being indices of a different nature (Cheon et al., 2019; Huyghebaert-Zouaghi et al., 2021, 2023): While intense maladaptive outcomes (e.g., ruminative thoughts, contingent self-worth, psychological distress) are proposed to stem primarily from need frustration, maladaptive outcomes characterised by passivity and deactivation (e.g., amotivation, boredom, disengagement) are thought to mainly result from need unfulfilment. Indeed, when individuals perceive their psychological needs to be undermined (need frustration) they may engage in self-criticism (e.g., feelings of inadequacy) and defensiveness to cope with this adverse experience, which may come with resource depletion (e.g., exhaustion). Contrastingly, feeling that these needs are in a state of abandonment (i.e., need unfulfilment) may trigger consequences characterised by passivity, withdrawal and deactivation, as individuals give in to this seemingly insoluble ambiguous experience of nothingness. As such, we expect need frustration states to best predict consequences characterised by self-criticism and depletion (i.e., feelings of inadequacy and the exhaustion dimensions of burnout) and need unfulfilment states to most strongly predict outcomes characterised by passivity and withdrawal (i.e., dropout intentions, detachment facets of burnout) (Hypothesis 3).

2 | METHOD

2.1 | Participants and procedure

We did not apply for university ethics approval, based on French national regulations regarding this type of research. Nonetheless, this study was conducted in compliance with the American Psychological Association ethical standards and with the Helsinki Declaration and its amendments. A convenience sample was recruited, and participants did not receive compensation for their participation. They were sent an email summarising the objectives of the research, reminding them of the voluntary and anonymous nature of their participation, and providing them with a link to the online survey. They were then invited to provide written informed consent to take part in the study.

In total, 473 high school students (Sample 1; $M_{\text{age}} = 16.47$; $SD_{\text{age}} = 0.86$; 82.9% female) and 1143 college students (Sample 2; $M_{\text{age}} = 20.47$; $SD_{\text{age}} = 4.11$; 78.2% women), living in France, completed the survey.

2.2 | Measures

To estimate reliability of each of the a priori factors, we relied on model-based coefficients of composite reliability (Omega coefficient: ω ; McDonald, 1970), a measure of reliability known to overcome the limitations of more traditional reliability estimates such as Cronbach's Alpha (see Hayes & Coutts, 2020).

Psychological need states were assessed with the French version of PNSE-S. We adapted some of the items developed by Huyghebaert-Zouaghi et al. (2021) by changing words such as 'professional tasks' to 'activities'; we also changed the stem "In my job ..." to "In my studies ...". Students were invited to indicate their level of agreement with each of the 37 statements (13 items for need frustration, 12 for need satisfaction, and 12 for need unfulfilment) while thinking of their general experience in their studies (autonomy satisfaction: $\omega_{S1} = 0.856$, $\omega_{S2} = 0.862$, competence satisfaction: $\omega_{S1} = 0.907$, $\omega_{S2} = 0.913$, relatedness satisfaction: $\omega_{S1} = 0.926$, $\omega_{S2} = 0.929$, autonomy frustration: $\omega_{S1} = 0.749$, $\omega_{S2} = 0.734$, competence frustration: $\omega_{S1} = 0.956$, $\omega_{S2} = 0.956$, relatedness frustration: $\omega_{S1} = 0.937$, $\omega_{S2} = 0.923$, autonomy unfulfilment: $\omega_{S1} = 0.836$, $\omega_{S2} = 0.870$, competence unfulfilment: $\omega_{S1} = 0.773$, $\omega_{S2} = 0.830$, relatedness unfulfilment: $\omega_{S1} = 0.883$, $\omega_{S2} = 0.895$) on a seven-point response scale.

Student burnout was measured with the Burnout Integrative Measure (BIM; Berjot et al., 2022) validated in French to measure student burnout. Students indicated their degree of agreement with each of the 27 statements (cognitive exhaustion: $\omega_{S1} = 0.926$, $\omega_{S2} = 0.936$, physical exhaustion: $\omega_{S1} = 0.885$, $\omega_{S2} = 0.863$, emotional exhaustion: $\omega_{S1} = 0.852$, $\omega_{S2} = 0.837$, detachment towards other students: $\omega_{S1} = 0.761$, $\omega_{S2} = 0.815$, teachers: $\omega_{S1} = 0.843$, $\omega_{S2} = 0.841$, studies: $\omega_{S1} = 0.840$, $\omega_{S2} = 0.892$, inadequacy: $\omega_{S1} = 0.895$, $\omega_{S2} = 0.908$) on a six-point response scale.

Dropout intentions were measured through three items ($\omega_{S1} = 0.741$, $\omega_{S2} = 0.846$) adapted from Hardré and Reeve (2003). Students indicated their level of agreement on a six-point response scale.

3 | RESULTS

3.1 | Construct validity

The psychometric properties of the PNSE-S were tested via preliminary factor analyses using Mplus 8.6 (Muthén & Muthén, 2021) and the maximum likelihood robust estimator. More precisely, relying on prior procedures (e.g., Bhavsar et al., 2020; Huyghebaert-Zouaghi et al., 2021, 2023), multiple confirmatory factor analyses (CFA),

exploratory structural equation modelling (ESEM), bifactor CFA and bifactor ESEM (B-ESEM) models were tested and compared within each sample. Due to space restrictions, these analyses (factor structure and composite reliability) are detailed in the Supporting Information S1. The construct validity of a 35-item version of the PNSE-S was supported (see Appendix). More precisely, in both samples, even though the nine-factor CFA solution (and its bifactor counterpart) displayed adequate levels of fit to the data and well-defined factors, the ESEM solution with nine factors and the B-ESEM solution with nine specific (S-) factors and one global (G) factor both displayed superior levels of fit to the data (compared to the CFA solutions) and well-defined factors. We decided to rely on the nine-factor ESEM solution to continue our analyses in both samples, as this solution seemed more conceptually consistent with SDT and in line with previous studies of psychological need states (see Bhavsar et al., 2020; Huyghebaert-Zouaghi et al., 2021; also see the Supporting Information S1 for more details).

3.2 | Criterion-related validity

A predictive model was tested for each sample, including psychological need states represented as a nine-factor ESEM solution and outcomes represented as CFA solutions (see Figure 1 for an overview of the overall model and the Supporting Information S1 for more details on the measurement model for the outcomes). This predictive model reached an adequate level of fit to the data both in Sample 1: $\chi^2(df) = 3279.376 (1671)$, CFI = 0.928, TLI = 0.910, SRMR = 0.045, RMSEA = 0.045 (0.043; 0.047) and Sample 2: $\chi^2(df) = 5338.779 (1671)$, CFI = 0.932, TLI = 0.915, SRMR = 0.045, RMSEA = 0.044 (0.043; 0.045). Results revealed the different need states to have

well-differentiated relations with a wide array of outcomes (see Table 1), thus supporting the criterion-related validity of the PNSE-S. We further discuss these associations in the following section.

4 | DISCUSSION

The present work aimed to provide a first examination of students' need unfulfilment states (alongside their need frustration and satisfaction) and of their implications for students' ill-being (i.e., burnout and dropout intentions).

4.1 | Theoretical and practical implications

This research supported the distinctiveness of students' need unfulfilment states when modelled alongside their need frustration and need satisfaction states. These distinct psychological need states were found to have well-differentiated patterns of relations with outcomes among high school and college students, thus, enriching our understanding of the psychological experiences leading to students' burnout and dropout intentions.

More specifically, as expected, need satisfaction states were negatively related to burnout dimensions and to dropout intentions in both samples, thus confirming that when their psychological needs are fulfilled, students are less at risk of experiencing maladjustment (Ryan & Deci, 2017). Only one exception was found among college students, for whom competence satisfaction positively predicted detachment from teachers (although this relation was much weaker than those held by other predictors). It is possible that the more college students feel efficient and confident, the more they become

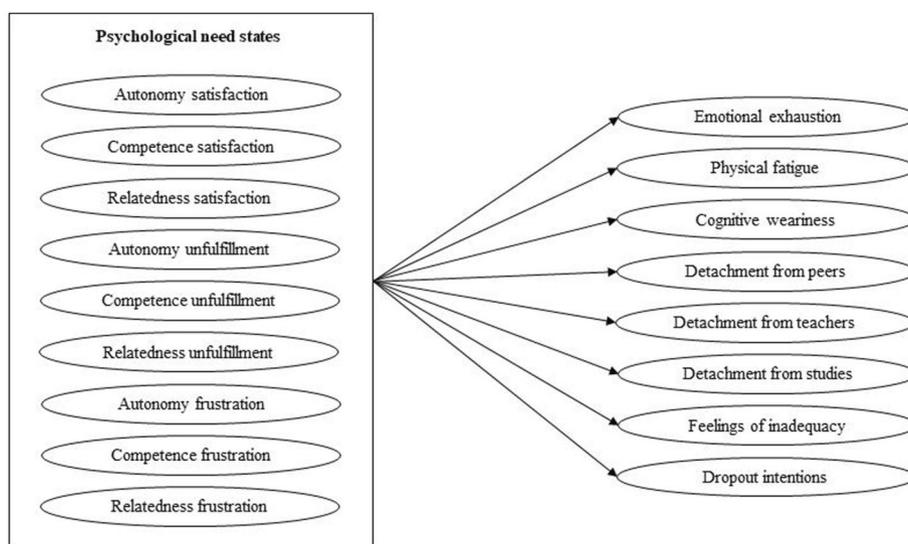


FIGURE 1 Overall Predictive Model Tested in Sample 1 and Sample 2. Psychological need states were represented as a nine-factor exploratory structural equation modelling solution and outcomes were represented according to a confirmatory factor analyses model with eight distinct but correlated factors. In each sample, a total of 72 links were specified between the nine psychological need states and the eight outcome factors.

TABLE 1 Results from the predictive model.

Predictors	Feelings of inadequacy		Emotional exhaustion		Physical fatigue		Cognitive weariness		Detachment from peers		Detachment from teachers		Detachment from studies		Dropout intentions	
	b	SE	b	SE	b	SE	b	SE	b	SE	b	SE	b	SE	b	SE
Sample 1																
Autonomy satisfaction	0.101	0.096	0.039	0.089	0.078	0.095	0.027	0.079	0.015	0.082	-0.005	0.084	0.070	0.080	-0.034	0.084
Competence satisfaction	-0.598	0.160**	-0.224	0.121	-0.031	0.115	-0.249	0.105*	-0.141	0.118	-0.089	0.111	-0.280	0.114*	-0.172	0.103
Relatedness satisfaction	-0.090	0.112	-0.197	0.097*	-0.217	0.089*	-0.156	0.087	-0.160	0.086	-0.324	0.090**	-0.096	0.089	0.094	0.080
Autonomy unfulfilment	0.365	0.125**	0.231	0.141	0.072	0.186	0.200	0.112	-0.130	0.107	0.674	0.106**	0.499	0.107**	0.406	0.097**
Competence unfulfilment	0.371	0.119**	0.267	0.103**	0.358	0.118**	0.496	0.108**	0.083	0.097	0.041	0.089	-0.031	0.091	-0.083	0.089
Relatedness unfulfilment	0.295	0.119*	0.218	0.104*	0.165	0.107	0.064	0.099	0.798	0.124**	0.140	0.097	0.204	0.104*	0.143	0.095
Autonomy frustration	0.392	0.233	0.508	0.272	0.454	0.377	0.384	0.181*	0.089	0.137	0.106	0.126	0.233	0.149	0.134	0.140
Competence frustration	0.792	0.149**	0.336	0.125**	0.322	0.116**	0.132	0.104	-0.105	0.116	0.031	0.112	0.154	0.115	0.148	0.106
Relatedness frustration	0.001	0.123	-0.073	0.107	0.020	0.100	-0.069	0.101	0.333	0.108**	0.032	0.110	0.006	0.111	0.025	0.103
Sample 2																
Autonomy satisfaction	0.084	0.053	-0.007	0.053	-0.031	0.049	-0.004	0.046	-0.116	0.054	-0.084	0.052	0.024	0.048	0.006	0.046
Competence satisfaction	-0.493	0.077**	-0.107	0.064	-0.082	0.059	-0.123	0.055*	-0.149	0.064*	0.218	0.063**	-0.241	0.060**	-0.183	0.058**
Relatedness satisfaction	-0.180	0.052**	-0.321	0.052**	-0.252	0.049**	-0.156	0.047**	-0.009	0.054	-0.419	0.048**	-0.174	0.046**	-0.046	0.042
Autonomy unfulfilment	0.398	0.061**	0.373	0.059**	0.224	0.054**	0.205	0.050**	0.086	0.059	0.527	0.060**	0.450	0.059**	0.344	0.054**
Competence unfulfilment	0.429	0.070**	0.333	0.068**	0.312	0.070**	0.470	0.066**	0.033	0.068	0.039	0.062	0.008	0.061	-0.114	0.056*
Relatedness unfulfilment	0.018	0.054	0.024	0.053	-0.028	0.053	-0.067	0.048	0.931	0.080**	-0.047	0.051	0.190	0.052**	0.208	0.053**
Autonomy frustration	0.032	0.066	0.126	0.069	0.117	0.072	0.019	0.060	-0.055	0.068	0.089	0.065	0.100	0.063	0.030	0.060
Competence frustration	0.889	0.093**	0.330	0.071**	0.201	0.066**	0.100	0.058	0.047	0.075	0.042	0.067	0.251	0.068**	0.193	0.066**
Relatedness frustration	0.054	0.065	0.066	0.065	0.065	0.058	0.130	0.056*	0.271	0.077**	0.094	0.063	-0.007	0.063	-0.072	0.063

Abbreviations: b, unstandardised regression coefficient; SE, standard error of the coefficient.

* $p < 0.05$; ** $p < 0.01$.

critical of and cynical about their teachers. More research is clearly needed to examine the psychological processes at play.

Need frustration states were, as expected, positively related to burnout dimensions and to dropout intentions in both samples. More precisely, in line with our expectations, feelings of inadequacy were most strongly predicted by competence frustration in both samples, thus confirming that when students' psychological needs are undermined, they are more inclined to experience actively negative consequences characterised by rumination and self-criticism (Cheon et al., 2019; Huyghebaert-Zouaghi et al., 2021, 2023). Unexpectedly, the exhaustion facets were not best predicted by need frustration but rather equally, if not more strongly, by need unfulfilment states. This was even more true among college students for whom unfulfilment states (particularly those related to autonomy and competence) were the strongest predictors of all three exhaustion facets, thus showing the detrimental effect of need unfulfilment and its importance in the prediction of depletion. Interestingly, Huyghebaert-Zouaghi et al. (2021, 2023) suggested that perceiving one's psychological needs to be in a state of abandonment may trigger deactivation, which characterises exhaustion.

Need unfulfilment states were also, as hypothesised, positively related to the indices of ill-being in both samples, thus confirming this psychological need state to be deleterious. Only one exception was found among high school students for whom competence unfulfilment negatively predicted dropout intentions. This could be explained by the possibility that, when they feel like they are not performing as well as they could, students lack the confidence and drive to quit their current situation and pursue new challenges. More importantly, in line with our expectations, the detachment facets of burnout and dropout intentions were most strongly predicted (as indicated by high to very high associations) by need unfulfilment states in both samples. Such findings offer support to the argument that ill-being forms characterised by passivity, withdrawal, and deactivation stem from students perceiving their psychological needs to be in a state of abandonment (Huyghebaert-Zouaghi et al., 2021, 2023). Students may give in to this ambiguous experience of nothingness (need unfulfilment) with resignation and disengagement.

This research also contributes to SDT by showing the 3 × 3 psychological need states conceptual model (see Huyghebaert-Zouaghi et al., 2021) to generalise to both high school and college students. As such, we extend knowledge on the essence of students' psychological need states as we show that students' need states are not Manichean or black-and-white (need frustration and satisfaction) in nature. Rather, students can also experience a negative psychological experience of a hazy and deactivated nature, reflected by feelings of disconnection, dullness, and uncertainty (need unfulfilment). In this paper, we also provided validity evidence for a 35-item multidimensional instrument (i.e., the PNSE-S) of psychological need states, based on SDT (Ryan & Deci, 2017). Importantly, despite the superiority of nine-factor (bifactor-) ESEM solutions to represent ratings on the PNSE-S, the nine-factor (bifactor) CFA solutions were also satisfactory. These alternative models suggest that researchers and practitioners interested in less complex statistical

representations of these need states could confidently rely on more traditional methods (e.g., nine-factor CFA). More generally, our research opens new horizons for SDT researchers to further shed light on these experiential states in different school settings (e.g., primary schools) by relying on the extended conceptualisation and measure of psychological need states provided in this study.

5 | STUDY LIMITATIONS

Even though this research deepens our understanding of students' psychological need states and ill-being, it still has some limitations. First, we relied on self-reported cross-sectional data. Future research using longitudinal designs (e.g., Huyghebaert-Zouaghi et al., 2023) or objective dropout data could strengthen our observations. Second, our findings supported the validity of the PNSE-S in one language only; the scale therefore needs further validation in other languages such as English (see item translations in the Appendix). This would allow future studies to test the generalisability of this 3 × 3 psychological need states model in different cultures, which would contribute to support the universality claim of basic psychological needs theory (Vansteenkiste et al., 2020). Notwithstanding these limitations, this research contributes to the stress and health literature by supporting the necessity of comprehending not just the dark (need frustration) and the bright (need satisfaction) sides, but also the dim light colours (need unfulfilment) of psychological need states to explain individuals' psychological health. Future research would gain in exploring the predictors of these psychological need states among students to identify levers for intervention. For instance, studies could examine how students' psychological need states are predicted by teachers' or peers' interpersonal styles (i.e., need-supportive, -thwarting, -indifferent; Bhavsar et al., 2019; Huyghebaert-Zouaghi et al., 2023). Moreover, in the present research, we focused on the dark side of students' psychological health and future studies could extend knowledge on the relations between these different psychological need states and well-being indices (alongside ill-being; e.g., Huyghebaert-Zouaghi et al., 2021), to get a more complete understanding of their implications for students' health.

CONFLICT OF INTEREST STATEMENT

The authors have declared that they have no conflict of interest.

DATA AVAILABILITY STATEMENT

Data available upon request from the authors.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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APPENDIX

Final 35-item version of the PNSW-S in English and in French

Stem: In my studies, ... [Dans mes études, ...]

Autonomy satisfaction [Satisfaction du besoin d'autonomie]

...I feel free to make choices with regards to the way I work [...je me sens libre de faire des choix quant à ma manière de travailler] (aS1)

...I have a say in how things are done [...j'ai mon mot à dire quant à la manière de faire les choses] (aS2)

...I have the freedom to make decisions about my work [...j'ai la liberté de prendre des décisions quant à mon travail] (aS3)

Competence Satisfaction [Satisfaction du besoin de compétence]

...I feel that I am capable [...je me sens compétent-e] (cS1)

...I feel skilled [...je me sens qualifié-e] (cS2)

...I am able to overcome challenges [...je me sens capable de surmonter des challenges] (cS3)

Relatedness satisfaction [Satisfaction du besoin d'affiliation sociale]

...I feel supported [...je me sens soutenu-e] (rS1)

...I feel listened to [...je me sens écouté-e] (rS2)

(Continues)

(Continued)

...I feel valued [...je me sens estimé-e] (rS3)

...I feel cared for [...j'ai le sentiment d'avoir de l'importance aux yeux des autres] (rS4)

Autonomy frustration [Frustration du besoin d'autonomie]

...I feel pushed to behave in certain ways [...j'ai le sentiment d'être poussé-e à me comporter d'une certaine manière] (aF1)

...I feel forced to follow decisions [...je me sens forcé-e de suivre des décisions] (aF2)

...I feel a lot of unwanted pressure [...je ressens une énorme pression dont je me passerais volontiers] (aF3)

...I feel forced to do tasks that I would not choose to do [...je me sens obligé-e de participer à des tâches que je n'aurais pas choisies] (aF4)

Competence Frustration [Frustration du besoin de compétence]

...I feel like a failure [...j'ai le sentiment d'être un-e raté-e] (cF1)

...I feel useless [...je me sens inutile] (cF2)

...I feel incapable [...je me sens incompetent-e] (cF3)

...I feel hopeless [...je me sens nul-le] (cF4)

Relatedness frustration [Frustration du besoin d'affiliation sociale]

...I feel rejected [...je me sens rejeté-e] (rF1)

...I feel brushed aside [...j'ai le sentiment d'être mis-e à l'écart] (rF2)

...I feel disliked [...je me sens détesté-e] (rF3)

...I feel excluded [...je me sens exclu-e] (rF4)

...I feel isolated [...je me sens isolé-e] (rF5)

Autonomy unfulfilment [Inassouvissement du besoin d'autonomie]

...I am unsure as to why we do certain activities [...je ne sais pas trop pourquoi on fait certaines activités] (aU2)

(Continued)

...I am confused as to when I can make decisions [...je ne sais jamais vraiment quand je peux, ou non, prendre des décisions] (aU5)

...I often do not understand the rationale behind the activities that I am assigned [...souvent, je ne comprends pas la justification des activités que je dois réaliser] (aU6)

...I often do not understand the rationale for how my work is expected to be done [...souvent je ne comprends pas pourquoi mon travail doit être réalisé de cette façon] (aU7)

Competence unfulfilment [Inassouvissement du besoin de compétence]

...I feel like I have achieved less than I would have liked to [...j'ai le sentiment de réaliser moins de choses que ce que je voudrais] (cU2)

...I feel like I have improved less than I would have liked to [...j'ai le sentiment de m'être moins amélioré-e que je ne l'aurais voulu] (cU3)

...Generally, I am not satisfied with my performance [...je ne suis généralement pas satisfait-e de ma performance] (cU6)

Relatedness unfulfilment [Inassouvissement du besoin d'affiliation sociale]

...I have little in common with others [...j'ai peu de choses en commun avec les autres] (rU1)

...I have little shared interest with others [...je partage peu d'intérêts avec les autres] (rU2)

...I feel I don't quite fit in with the others [...je ne me sens pas à ma place avec les autres] (rU3)

...I have no close friends [...je n'ai pas d'ami-e-s proches] (rU4)

...I feel like others know little about me [...j'ai le sentiment que les autres me connaissent peu] (rU5)

Note: The English translations are adapted from the validated English version of the PNSW-S. This English version of the PNSE-S has not yet been validated in education settings.