

The Validation of the Malaysian Basic Psychological Need Satisfaction and Frustration Scale

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Abstract

This study examined the validity and reliability of the Malaysian version of the Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS) for assessing the basic psychological needs of lecturers, administrative personnel, and management staff in Malaysian educational institutions. The original instrument was developed by (Chen et al., 2019) and was culturally adapted for the Malaysian context. Content validity was evaluated through expert review involving five subject-matter experts. The evaluation focused on the minimum, maximum, and mean scores assigned to each item. Internal consistency reliability was assessed using Cronbach's alpha coefficient. Overall, the experts agreed that the instrument items were relevant and appropriate for measuring the intended constructs. Nevertheless, minor revisions were recommended to improve sentence clarity, wording, and the distinction between behavioural action statements and belief-based statements. The instrument achieved an overall mean content validity score of 8.83, indicating excellent content validity. Furthermore, the reliability analysis yielded a Cronbach's alpha coefficient of 0.80, demonstrating good internal consistency. These findings suggest that the Malaysian version of the BPNSFS is a valid and reliable instrument for measuring the satisfaction and frustration of basic psychological needs among educational personnel in Malaysia. The instrument is therefore suitable for use in future research and psychological assessment within Malaysian educational settings.

Keywords: Basic psychological needs, satisfaction, frustration, validity, reliability

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INTRODUCTION

Psychological well-being has emerged as a key issue inside educational institutions, since staff members are required to consistently adjust to evolving organisational requirements, technology innovations, and heightened professional obligations. In academic institutions, educators, administrative staff, and management may encounter substantial workloads, unclear roles, organisational transformations, and performance demands that can affect their motivation, involvement, and mental health. Recent findings indicate that employees whose psychological requirements are sufficiently met tend to exhibit greater work engagement, organisational loyalty, job satisfaction, and resilience, while unfulfilled psychological needs correlate with burnout, emotional fatigue, and psychological turmoil (Kim, 2026; Li et al., 2025a).

Self-Determination Theory (SDT) offers a significant paradigm for comprehending human motivation and psychological processes. Basic Psychological Need Theory, a subset of Self-Determination Theory, posits that every human has three fundamental psychological needs: autonomy, competence, and relatedness that are crucial for good functioning, personal development, and psychological health (Ryan & Deci, 2000). Autonomy pertains to the sensation of volition and psychological liberty in one's behaviours, competence relates to the perception of efficacy and capability in engaging with the surroundings, while relatedness signifies the feeling of connection and appreciation from important individuals. When these requirements are fulfilled, individuals encounter improved intrinsic motivation, well-being, and optimal performance. On the other hand, ongoing dissatisfaction of these requirements leads to maladjustment, poor well-being, reduced drive, and psychological turmoil (Hagger et al., 2020; Li et al., 2025a).

In order to operationalise these theoretical categories, (Chen et al., 2019) developed an assessment instrument known as the Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS). This scale evaluates both need satisfaction and need frustration simultaneously across all three psychological needs. This signified a significant progression compared to previous tools that mainly evaluated need fulfilment only. The differentiation between satisfaction and frustration holds theoretical significance, as the lack of need fulfilment does not inherently indicate the existence of need frustration; instead, need frustration signifies an active encounter with psychological need impediment that forecasts adverse psychological consequences beyond mere low need fulfilment. The BPNSFS has emerged as one of the most extensively utilised tools for examining motivation, psychological health, and behavioural results in educational, organisational, health, and sports settings (Heissel et al., 2023; Holden et al., 2025a; Tabi et al., 2021).

The BPNSFS has shown good psychometric characteristics in different cultural settings. Studies of validation in Portugal, Italy, Spain and other countries have consistently supported the multidimensional structure of the instrument, giving satisfactory evidence of reliability and construct validity (Bal et al., 2026; Li et al., 2025). These findings suggest that the BPNSFS is a culturally flexible measure that can be used to assess basic psychological need satisfaction and frustration in diverse communities. However, cross-cultural adaptation goes beyond a straight linguistic translation because psychological categories could be understood differently according to cultural norms, organisational settings and language use. Therefore, any translated version should be submitted to a thorough psychometric examination before being used in a new cultural situation.

Although SDT is frequently used in Malaysian educational research, there is still a lack of validated instruments that precisely measure both psychological need satisfaction and need frustration among educational staff (Fathihah et al., 2024). Existing Malaysian research have tended to focus on students, or employed tools that have been translated without full psychometric testing. Hence, there is no culturally validated instrument for researchers and practitioners to use in assessing the psychological requirements of academics, administrative staff and managerial staff in Malaysian educational institutions. Without sufficient validation, measurement errors may reduce the validity of psychological assessment and prevent comparability with worldwide findings.

Therefore, the validity and reliability of the Malaysian version of the BPNSFS should be established to guarantee that the instrument appropriately measures the constructs of interest in the local educational context.

Accordingly, this study aims to evaluate the psychometric properties of the Malaysian adaptation of the Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS) developed by (Chen et al., 2019). Specifically, the study examines the instrument's content validity through expert evaluation and its internal consistency reliability using Cronbach's alpha coefficient among lecturers, administrative personnel, and management staff working in Malaysian educational institutions. Establishing a valid and reliable Malaysian version of the BPNSFS will provide researchers, counsellors, psychologists, and educational administrators with a robust assessment tool for evaluating employees' psychological needs. Furthermore, the availability of a culturally validated instrument will facilitate future research on psychological well-being, work motivation, organisational health, and employee development within Malaysian educational settings while enabling meaningful cross-cultural comparisons with international studies.

METHODS

Research Design

This study employed a quantitative methodological design to evaluate the psychometric properties of the Malaysian adaptation of the Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS) developed by (Chen et al., 2019). Psychometric evaluation is an essential process in instrument adaptation because it determines whether the translated instrument accurately measures the intended constructs within a different linguistic and cultural context (Boateng et al., 2018). The present study focused specifically on two fundamental psychometric properties, namely content validity and internal consistency reliability, to establish the suitability of the Malaysian version of the BPNSFS for measuring the satisfaction and frustration of basic psychological needs among employees in Malaysian educational institutions.

The research was conducted in two sequential phases. The first phase involved evaluating the content validity of the translated instrument through expert judgment, while the second phase assessed the internal consistency reliability of the revised instrument using empirical data collected from the target population. This two-stage validation procedure is consistent with recommendations for cross-cultural adaptation studies, whereby expert evaluation precedes reliability testing to ensure that translated items are conceptually and linguistically equivalent to the original instrument before field administration (Beaton et al., 2000; Boateng et al., 2018).

Instrument

The instrument examined in this study was the Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS) developed by Chen et al. (2019), which is grounded in Basic Psychological Need Theory (BPNT), one of the six mini-theories of Self-Determination Theory (Ryan & Deci, 2017). The BPNSFS was specifically developed to measure both the satisfaction and frustration of the three universal psychological needs: autonomy, competence, and relatedness, which are considered fundamental for optimal psychological functioning, motivation, and well-being. Unlike earlier instruments that focused solely on psychological need satisfaction, the BPNSFS conceptualises need satisfaction and need frustration as two theoretically distinct yet complementary constructs rather than opposite ends of a single continuum. Psychological need satisfaction reflects experiences of volition, effectiveness, and meaningful interpersonal relationships, whereas psychological need frustration represents the active obstruction or thwarting of these needs through controlling, rejecting, or unsupportive environmental conditions. This distinction enables researchers to comprehensively examine how supportive and adverse

environments independently influence individuals' psychological functioning, motivation, engagement, and overall well-being.

The BPNSFS comprises six interrelated dimensions, namely autonomy satisfaction, competence satisfaction, relatedness satisfaction, autonomy frustration, competence frustration, and relatedness frustration, representing the positive and negative experiences associated with each basic psychological need. The instrument has demonstrated strong psychometric properties across diverse cultural settings, with previous studies consistently supporting its six-factor structure, satisfactory reliability, and cross-cultural measurement invariance (Chen et al., 2019). These findings indicate that the BPNSFS is suitable for investigating the universality of basic psychological needs while allowing meaningful comparisons across different populations and cultural contexts. Consequently, the BPNSFS has become one of the most widely adopted instruments for assessing psychological need satisfaction and frustration in educational, organisational, health, and counselling research.

For the present study, the original English version of the BPNSFS was translated and culturally adapted into the Malay language using internationally recognised cross-cultural adaptation procedures to ensure conceptual, semantic, idiomatic, and cultural equivalence (Beaton et al., 2000). The adaptation process involved forward translation by bilingual experts, synthesis of the translated versions, independent back-translation, and expert committee review to evaluate the clarity, relevance, and cultural appropriateness of each item. Throughout this process, particular attention was given to preserving the original psychological meaning of each item while ensuring that the translated statements were linguistically accurate, culturally appropriate, and easily understood by Malaysian educational personnel. Following the translation and adaptation procedures, the Malay version of the BPNSFS was subjected to comprehensive psychometric evaluation, including content validity, construct validity, and reliability analyses, to establish its suitability for measuring basic psychological need satisfaction and frustration within the Malaysian educational context.

Content Validity

The content validity of the Malaysian version of the BPNSFS was established through expert evaluation. Five experts were purposively selected based on their academic qualifications, professional expertise, and extensive experience in counselling, educational psychology, psychometrics, and instrument development. The use of five experts is considered adequate for content validation studies and is widely recommended in psychometric literature to obtain reliable judgments regarding item relevance and representativeness (Lynn, 1986; Polit & Beck, 2006). Each expert independently evaluated every translated item with respect to four criteria: relevance, clarity, language appropriateness, and conceptual equivalence with the original English version. The evaluation employed a 10-point rating scale, with higher scores indicating greater agreement regarding the appropriateness of each item.

The quantitative analysis involved calculating the minimum score, maximum score, and mean score for every item as indicators of expert agreement. These descriptive statistics provided an overall assessment of the adequacy of the translated instrument. In addition to numerical ratings, qualitative comments from the experts were systematically reviewed to identify items requiring revision. Based on the recommendations received, minor modifications were made to improve sentence structure, simplify wording, and distinguish more clearly between behavioural action statements and belief-oriented statements without altering the theoretical meaning of the original constructs.

Participants and Data Collection

Following the completion of the content validation process, the revised Malaysian version of the BPNSFS was administered to 64 lecturers employed in Malaysian educational institutions to

examine the instrument's internal consistency reliability. The participants were selected using convenience sampling, as this approach is commonly employed in preliminary psychometric evaluation studies where the primary objective is to assess measurement properties rather than population generalisation (Boateng et al., 2018). Participation in the study was voluntary, and respondents were informed about the purpose of the research before completing the questionnaire. Ethical principles concerning confidentiality, anonymity, and voluntary participation were strictly observed throughout the data collection process.

Reliability Analysis

The internal consistency reliability of the Malaysian BPNSFS was evaluated using Cronbach's alpha coefficient, one of the most widely accepted indices for assessing the consistency of items within a psychological measurement instrument. Cronbach's alpha estimates the degree to which items measuring the same construct produce consistent responses among participants. The collected data were analysed using the Statistical Package for the Social Sciences (SPSS) version 27.0. According to Hair et al., (2019) Cronbach's alpha values of 0.70 or higher indicate acceptable internal consistency, values exceeding 0.80 represent good reliability, and coefficients above 0.90 indicate excellent reliability. The reliability findings obtained from this study were subsequently interpreted according to these recommended benchmarks.

Data Analysis

The statistical analyses were conducted using descriptive and reliability analyses. Descriptive statistics, including minimum, maximum, mean, and standard deviation, were used to summarise the expert evaluations during the content validation stage. The overall mean score represented the degree of agreement among experts regarding the appropriateness of the translated items. Subsequently, the internal consistency reliability of the instrument was assessed by calculating Cronbach's alpha coefficients for the overall instrument. The findings from both the content validity and reliability analyses were integrated to determine whether the Malaysian adaptation of the BPNSFS demonstrated satisfactory psychometric properties for measuring the satisfaction and frustration of basic psychological needs among lecturers, administrative personnel, and management staff in Malaysian educational institutions.

FINDING

The results of this research are structured based on the two main research aims. Initially, the content validity of the Malaysian adaptation of the Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS) was assessed by expert evaluations to ascertain the pertinence, clarity, representativeness, and cultural suitability of each translated component. This assessment sought to confirm that the modified tool accurately represented the theoretical principles of basic psychological satisfaction and frustration need in the Malaysian setting.

Secondly, the internal consistency reliability of the Malaysian BPNSFS was assessed to evaluate how consistently the items within each subscale measured the desired psychological constructs. The reliability was evaluated by Cronbach's alpha coefficient, demonstrating the instrument's measurement consistency. These results collectively provide empirical validation for the psychometric soundness of the Malaysian adaptation of the BPNSFS and its appropriateness for evaluating the satisfaction and frustration of the three fundamental psychological needs autonomy, competence, and relatedness among Malaysian participants.

Content Validity

The content validity values of the Malaysian version of the Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS) are presented in Table 1. The evaluation of five experts in the fields

of psychology, counselling, psychometrics, and educational measurement was conducted to establish content validity. The experts evaluated each translated item on the basis of its conceptual equivalence with the original English version, linguistic appropriateness, clarity, and relevance. The results suggest a high degree of expert consensus regarding the Malaysian adaptation of the BPNSFS. The aggregate content validity score was 8.83 (SD = 0.91) with a range of minimum values of 7.29 to maximum values of 9.71. These results indicate that the translated instrument accurately reflects the theoretical constructs that underlie fundamental psychological need satisfaction and frustration. As a result, all items were retained for the subsequent reliability analysis.

Competence satisfaction achieved the highest mean score ($M = 9.10$, $SD = 0.88$) among the six subscales, followed by competence frustration ($M = 9.05$, $SD = 1.23$) and relatedness frustration ($M = 8.85$, $SD = 1.05$). The remaining constructs, including autonomy frustration ($M = 8.55$), relatedness satisfaction ($M = 8.65$), and autonomy satisfaction ($M = 8.80$), also received high expert ratings. It is crucial to note that all subscales exceeded the minimum acceptable level of expert agreement, suggesting that the translated items were deemed conceptually appropriate and culturally relevant for the Malaysian educational context. The Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS) Content Validity Value is illustrated in Table 1.

Table 1: Value of the content validity of Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS)

Construct	N	Minimum value	Maximum value	Mean	Std. Deviation	Expert review
1. Overall BPNSFS	5	7.29	9.71	8.83	.91	Accepted
a. autonomy satisfaction	5	8.00	9.75	8.80	.69	Accepted
b. autonomy frustration	5	7.75	9.00	8.55	.48	Accepted
c. relatedness satisfaction	5	6.25	10.00	8.65	1.41	Accepted
d. relatedness frustration	5	7.00	9.50	8.85	1.05	Accepted
e. competence satisfaction	5	7.75	10.00	9.10	.88	Accepted
f. competence frustration	5	7.00	10.00	9.05	1.23	Accepted

Reliability Analysis

The internal consistency reliability of the Malaysian version of the Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS) was evaluated using Cronbach's alpha coefficient based on responses from 64 participants, comprising lecturers, administrative personnel, and management staff employed in Malaysian educational institutions. Cronbach's alpha was used to determine the degree of consistency among items measuring the same construct. The internal consistency reliability coefficients for the overall BPNSFS and its six subscales are presented in Table 2.

Table 2: The reliability of the Malaysian Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS)

No	Construct	N	α
1.	Overall BPNSFS	64	.80
	a. autonomy satisfaction	64	.72
	b. autonomy frustration	64	.88
	c. relatedness satisfaction	64	.72
	d. relatedness frustration	64	.75
	e. competence satisfaction	64	.76
	f. competence frustration	64	.84

(The validation of the Malaysian Basic Psychological Need Satisfaction and Frustration Scale)

Table 2 illustrates that the Malaysian BPNSFS exhibited satisfactory internal consistency, with an overall Cronbach's alpha coefficient of 0.80, suggesting excellent reliability for measuring the satisfaction and frustration of basic psychological needs among educational personnel in Malaysia. Acceptable to good internal consistency was indicated across all dimensions by the reliability coefficients of the six subscales, which ranged from 0.72 to 0.88.

Autonomy frustration exhibited the highest reliability coefficient ($\alpha = 0.88$) among the six subscales, suggesting exceptional internal consistency. In contrast, the reliability coefficients for autonomy satisfaction ($\alpha = 0.72$) and relatedness satisfaction ($\alpha = 0.72$) were the lowest. However, both values exceeded the minimum threshold of 0.70, which suggests that these subscales also have acceptable reliability (Hair et al., 2019). Therefore, the results indicate that all six dimensions of the Malaysian BPNSFS consistently measure their respective constructs and are appropriate for evaluating the satisfaction and frustration of basic psychological needs among lecturers, administrative personnel, and management staff in Malaysian educational institutions.

DISCUSSION

The primary objective of this study was to evaluate the psychometric properties of the Malaysian adaptation of the Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS). The findings provide evidence that the translated instrument possesses satisfactory content validity and internal consistency reliability, supporting its suitability for assessing the satisfaction and frustration of basic psychological needs among educational personnel in Malaysia.

The expert evaluation demonstrated a high overall mean content validity score ($M = 8.83$), indicating substantial agreement regarding the relevance, clarity, and conceptual appropriateness of the translated items. This finding suggests that the adaptation process successfully preserved the theoretical meaning of the original BPNSFS while ensuring linguistic and cultural suitability within the Malaysian educational context. These results are consistent with Chen et al. (2019), who reported that the BPNSFS exhibited strong content representation and conceptual consistency across four culturally distinct language versions, namely English, Dutch, Spanish, and Chinese. Similarly, subsequent validation studies conducted in Norwegian by (van der Kaap-Deeder et al., 2022), German by (Heissel et al., 2023), French by (Chevrier & Lannegrand, 2021) and also concluded that the BPNSFS maintains robust psychometric properties following cultural adaptation.

The reliability analysis further supports the applicability of the Malaysian BPNSFS. The overall Cronbach's alpha coefficient of 0.80 indicates good internal consistency and is comparable with previous international validation studies. Chen et al. (2019) reported satisfactory internal consistency across the six BPNSFS dimensions, while (Matt et al., 2022; Holden et al., 2025; Li et al., 2025; Tabi et al., 2021) similarly demonstrated acceptable to high reliability coefficients across different cultural settings. The consistency observed in the present study reinforces the proposition of Self-Determination Theory that autonomy, competence, and relatedness represent universal psychological needs that can be reliably measured across diverse populations when instruments are appropriately adapted.

At the subscale level, all six dimensions achieved acceptable reliability coefficients ranging from 0.72 to 0.88, indicating that each construct consistently measures its intended psychological domain. Notably, autonomy frustration demonstrated the highest reliability coefficient, suggesting that Malaysian educational personnel responded consistently to items reflecting experiences of psychological control and restricted autonomy in the workplace. These findings support Ryan and Deci (2017) assertion that both psychological need satisfaction and psychological need frustration should be conceptualised as distinct yet complementary constructs that contribute uniquely to understanding human motivation and psychological well-being.

Overall, the findings indicate that the Malaysian adaptation of the BPNSFS preserves the theoretical foundation of the original instrument while demonstrating satisfactory psychometric performance within the Malaysian educational context. Consequently, the instrument can be considered an appropriate measure for future research examining employees' motivation, psychological well-being, organisational behaviour, and workplace functioning.

Practical Implications

The validated Malaysian version of the Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS) offers educational institutions a psychometrically sound instrument for assessing employees' experiences of autonomy, competence, and relatedness in the workplace. By providing reliable information on both need satisfaction and need frustration, the instrument enables educational administrators to identify organisational conditions that either promote or undermine employees' motivation, engagement, and psychological well-being (Handrianto & Nengsih, 2025; Setiawati et al., 2025). Such evidence can inform organisational decision-making, particularly in creating autonomy-supportive work environments that enhance employee functioning and institutional effectiveness, as advocated by Self-Determination Theory (SDT).

From a practical perspective, the instrument can serve as a valuable diagnostic tool for counselling units, human resource departments, and institutional leaders in designing evidence-based interventions to improve staff well-being. Assessment findings may be used to identify specific psychological needs that require organisational attention, allowing institutions to implement targeted initiatives such as leadership development programmes, employee assistance services, mentoring systems, workload management strategies, and professional learning opportunities (Jusoh et al., 2023; Hiltrimartin et al., 2024). These interventions are expected to foster greater autonomous motivation, work engagement, resilience, and psychological wellness while reducing burnout and disengagement among educational personnel. Extensive evidence from SDT research demonstrates that organisational environments supporting employees' psychological needs are associated with improved performance, well-being, and organisational sustainability.

Beyond its institutional applications, the Malaysian BPNSFS also provides researchers with a validated instrument for advancing empirical research on basic psychological needs within Malaysian educational settings. The scale may be employed to examine the relationships between need satisfaction and frustration and a broad range of organisational and psychological outcomes, including job satisfaction, organisational commitment, work engagement, resilience, burnout, psychological well-being, and turnover intention (Arwin et al., 2024; Zainil et al., 2024). Furthermore, the availability of a culturally validated Malaysian version facilitates cross-cultural comparisons and contributes to the growing international body of evidence on the applicability of Self-Determination Theory across diverse educational and organisational contexts. Recent validation studies have similarly demonstrated the robustness of the BPNSFS across educational leadership contexts, supporting its use in examining workplace functioning and psychological well-being.

Limitations

Several limitations should be acknowledged. First, the reliability analysis was conducted using a relatively small pilot sample of 64 respondents, which may limit the generalisability of the findings. Second, participants were recruited from Malaysian educational institutions located within the central zone. Therefore, the findings may not fully represent employees from other geographical regions or educational sectors. Third, this study focused exclusively on content validity and internal consistency reliability. Other psychometric properties, including construct validity, convergent validity, discriminant validity, and measurement invariance, were not examined. Consequently,

additional validation procedures are required before the instrument can be widely generalised across different Malaysian populations.

Future Research

Future studies should employ larger and more heterogeneous samples involving educational personnel from different regions and institutional settings throughout Malaysia. Such investigations would enhance the external validity and generalisability of the instrument. Further psychometric evaluation using Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) is also recommended to verify the factorial structure of the Malaysian BPNSFS. Researchers may additionally examine measurement invariance across gender, occupational groups, and cultural backgrounds to determine whether the instrument functions equivalently among different populations. Future research should also investigate the predictive validity of the Malaysian BPNSFS by examining its relationships with work engagement, psychological well-being, organisational commitment, burnout, resilience, and employee performance.

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