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ORIGINAL ARTICLE

Association between time management practices and perceived stress levels in preclinical chiropractic students

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ABSTRACT

Objective: The demands of chiropractic education often result in significant stress for students, highlighting the need for effective stress management strategies, including time management practices. This study examined the relationship between time management practices and perceived stress levels among preclinical chiropractic students at 1 university.

Methods: A cross-sectional survey-based study was conducted with 40 preclinical chiropractic students, using the Time Management Behavioral Scale and the Perceived Stress Scale to assess time management practices and perceived stress levels. Data were collected from February to April 2021. Analyses included confirmatory factor analysis and structural equation modeling.

Results: There was a statistically significant negative correlation between time management practices and perceived stress levels, indicating that better time management was associated with lower stress levels. Confirmatory factor analysis and structural equation modeling analyses revealed that setting goals and priorities played a crucial role in managing perceived stress.

Conclusion: This study highlights a significant association between time management practices and perceived stress levels among chiropractic students. These findings contribute to understanding how time management relates to students' well-being and academic performance, providing a foundation for future research in this area.

Key Indexing Terms: Time Management; Stress; Psychological; Chiropractic; Education; Students

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INTRODUCTION

Stress is a natural physiological and emotional response to unfamiliar or demanding scenarios. Physiologically, the body activates the hypothalamic-pituitary-adrenal axis, releasing cortisol and other stress hormones to prepare for perceived threats.[1] Emotionally, stress manifests as anxiety, frustration, or helplessness, affecting mental well-being.[2]

Claude Bernard[3] introduced the concept of maintaining a stable internal environment for optimal functioning, known as "milieu intérieur." Hans Selye[4] expanded on this with the "general adaptation syndrome," describing the body's 3-stage response to prolonged stress: alarm, resistance, and exhaustion. These concepts underscore the detrimental impacts of chronic stress on health.

Lazarus and Folkman[2] developed the transactional model of stress and coping. This model posits that stress results from interactions between individuals and their environment, mediated by perception and coping strategies.[2] The present paper is based on this framework, as it is relevant for understanding the stress experiences of chiropractic students, who navigate a demanding academic and clinical environment.

Stress significantly affects students in health science education, including chiropractic programs, impacting academic performance, well-being, and overall health.[5,6] Students from various professions face rigorous academic requirements, extensive practical training, and high-stakes examinations, all contributing to significant stress levels.[5,7] Factors like academic workload, technological constraints, inconsistent guidance, and personal competitiveness further exacerbate stress.[8] Chiropractic education is intensive, requiring students to master a broad range of knowledge and skills in a short period of time.[6] Rigorous academic requirements and clinical practice responsibilities exacerbate stress levels.[7] The hands-on nature of chiropractic training, involving direct patient care, adds additional pressure.[7] These combined demands can lead to increased stress, impacting students' mental health and academic performance. Kizhakkeveettil et al[7] found that various stress sources negatively impact chiropractic students' confidence. Zhang and Rabatsky[9] observed that high stress levels during practical clinical examinations adversely affected students' performance.

Time management is therefore important in this context, encompassing academic challenges, additional workload, and

new subject assimilation.[10] Britton and Tesser[11] posited that good time management could influence achievements and alleviate student stress. These studies emphasize the need for a better understanding of the unique stressors encountered by chiropractic students and the potential of tailored stress and fatigue management interventions to improve outcomes.[12,13] Effective time management may be essential to mitigate these adverse effects. The present paper deepens the understanding of the relationship between time management and stress, contributing valuable insights to chiropractic education and providing data related to improving student well-being in this discipline. Understanding stress sources in chiropractic education may be important for developing effective management strategies.

This study uses the Time Management Behavioral (TMB) Scale and the Perceived Stress Scale (PSS) to capture dimensions of stress and time management. The TMB Scale and the PSS have emerged as reliable tools in measuring these constructs.

The TMB Scale, developed by Macan et al,[10] measures how individuals manage their time in work-related activities and their control over time. Macan et al[10] found significant correlations between higher TMB scores and reduced stress levels, highlighting effective time management in mitigating stress. The study revealed that understanding time management led to better self-control and self-efficacy, allowing for improved management of time and stress. Students practicing time management behaviors reported clearer role understanding and perceived themselves as performing better. Research by Kelly[14] emphasized the TMB Scale's significance in academic settings, which showed that effective time management behaviors correlated with improved academic performance, reduced stress, and enhanced job satisfaction.

The PSS measures the degree to which situations are appraised as stressful, considering unpredictability, lack of control, and overload.[15] The PSS, examined by Baik et al[16] for its psychometric properties, has been used among diverse populations, including Hispanic Americans. However, it has not been extensively validated with Asian populations or chiropractic students, presenting a gap this study aims to address.

This study investigates the interplay between time management practices and perceived stress among chiropractic students. First, it identifies prevalent time management practices, including setting goals, planning, scheduling, perceived control of time, and preference for disorganization. Next, the study measures levels of perceived stress. Finally, the study explores the association between time management practices and perceived stress levels.

METHODS

Design and Participants

This cross-sectional survey focused on preclinical chiropractic students in their sixth semester at IMU University, specifically those from the second intake of 2018. At the time of data collection, these students were in their final preclinical stage before transitioning to clinical training. The group consisted of 40 students, representing a critical phase in their education.

Data collection occurred from February to April 2021, including all students from this group without restrictions on gender or academic status, including repeaters. The study was approved by the 213th Joint-Committee on Research and Ethics of the IMU University (Project ID: BCh I/2021(02). Informed consent was obtained from all participants. Confidentiality and anonymity of data were ensured. The questionnaire was distributed via Google Forms (Alphabet Inc).

Instruments

This study utilized 2 validated instruments to assess time management and perceived stress among preclinical chiropractic students: the TMB Scale and the PSS.

Developed by Macan et al[10] in 1990, the TMB Scale assesses individual time management practices through a self-report questionnaire. It consists of 34 items across 4 domains: Setting Goals and Priorities, Planning and Scheduling, Perceived Control of Time, and Preference for Disorganization, using a 5-point Likert scale.[10,17] The TMB Scale has demonstrated high internal consistency reliability, with Cronbach's alpha values ranging from 0.83 to 0.86.[16] The TMB Scale maintained high internal consistency reliability.[14] The TMB Scale has been validated and shown reliability in various contexts, including academic and organizational settings.[18]

Developed by Cohen et al[15] in 1983, the PSS measures the degree to which situations in one's life are appraised as stressful. It consists of 10 items assessing feelings and thoughts over the past month on a 5-point Likert scale.[15] The PSS has been validated extensively, demonstrating good internal consistency reliability with Cronbach's alpha values of 0.83 and 0.86 in different language groups.[16] Additional studies have confirmed its reliability and validity in diverse populations, with Cronbach's alpha values as high as 0.91.[19–21] The PSS has been specifically validated in various health-related contexts and among different population groups, including students and healthcare professionals.[22–24]

The PSS showed good internal consistency reliability and convergent validity, supporting its use in measuring perceived stress. Barbosa-Leiker et al[19] found the PSS to have excellent internal consistency. Golden-Kreutz et al[20] reported significant correlations between PSS scores and physical health measures, such as chronic illness, and mental health measures, including perceived stress and emotional distress, in a sample of 500 cancer patients. Reis et al[21] confirmed the scale's validity, showing significant correlations with measures of stress and coping strategies.

Statistical Models

The statistical analysis for this study was designed to address 2 primary objectives: to identify the underlying factorial structure of the questionnaire combining TMB and PSS items and to model the relationship among the factors that emerged in the measurement model.

Factorial Structure Identification

To identify the underlying factorial structure, confirmatory factor analysis (CFA) was employed. This method involves specifying a model, estimating parameters, and evaluating model fit, including factor loadings, variances, covariances, and error variances.[25–28]

Table 1 - Key Variable in the Model (N = 40)

Characteristics	Mean (SD)
Independent Variable: Time Management Behavioral Scale	
Domain 1	
D1Q1: When I decide on what I will try to accomplish in the short term, I keep in mind my long-term objectives.	4.35 (1.10)
D1Q2: I review my goals to determine if they need revising.	4.03 (1.31)
D1Q3: When I find that I am frequently contacting someone, I record that person's name address and phone number in a special file.	2.95 (1.69)
D1Q4: I set short-term goals for what I want to accomplish in a few days or weeks.	4.38 (1.13)
D1Q5: I block out time in my daily schedule for regularly scheduled events.	4.05 (1.41)
D1Q6: I write notes to remind myself of what I need to do.	3.47 (1.40)
D1Q7: I make a list of things to do each day and check off each task as it is accomplished.	3.60 (1.46)
D1Q8: I finish top priority tasks before going on to less important ones.	4.62 (0.84)
D1Q9: I find that I can do a better job if I put off tasks that I don't feel like doing than if I try to get them done in the order of their importance.	3.40 (1.52)
D1Q10: I set priorities to determine the order in which I will perform tasks each day.	4.43 (1.13)
Domain 2	
D2Q1: I carry a notebook to jot down notes and ideas.	2.63 (1.84)
D2Q2: I schedule activities at least a week in advance.	2.95 (1.68)
D2Q3: When I make a things-to-do list at the beginning of the day, it is forgotten or set aside by the end of the day.	2.85 (1.48)
D2Q4: I break complex, difficult projects down into smaller manageable tasks.	4.28 (1.24)
D2Q5: The time I spend scheduling and organizing my workday is time wasted.	1.58 (1.04)
D2Q6: I must spend a lot of time on unimportant tasks.	2.05 (1.24)
D2Q7: I set deadlines for myself when I set out to accomplish a task.	4.12 (1.29)
D2Q8: I carry an appointment book with me.	2.00 (1.55)
D2Q9: I look for ways to increase the efficiency with which I perform my work activities.	4.25 (1.15)
D2Q10: I keep a daily log of my activities.	3.20 (1.65)
D2Q11: I find myself procrastinating on tasks that I don't like but that must be done.	4.13 (1.31)
D2Q12: I review my daily activities to see where I am wasting time.	3.20 (1.74)
D2Q13: During a workday, I evaluate how well I am following the schedule I have set down for myself.	3.60 (1.57)
D2Q14: If I know I will have to spend time waiting, I bring along something I can work on.	4.22 (1.33)
Domain 3	
D3Q1: I underestimate the time it will take to accomplish tasks.	2.85 (1.51)
D3Q2: I feel in control of my time.	3.68 (1.31)
D3Q3: My workdays are too unpredictable for me to plan and manage my time to any great extent.	2.18 (0.98)
D3Q4: I find it difficult to keep to a schedule because others take me away from my work.	2.13 (1.16)
Domain 4	
D4Q1: At the end of the workday, I leave a clear, well-organized workspace.	4.00 (1.24)
D4Q2: I can find the things I need for my work more easily when my workspace is messy and disorganized than when it is neat and organized.	2.22 (1.29)
D4Q3: I have some of my most creative ideas when I am disorganized.	2.00 (1.06)
D4Q4: When I am somewhat disorganized I am better able to adjust to unexpected events.	2.30 (1.24)
D4Q5: I use an in-basket and out-basket for organizing paperwork.	2.30 (1.42)
D4Q6: I find places to work that will allow me to avoid interruptions and distractions.	4.50 (1.11)
Dependent Variable: Perceived Stress Scale	
PSSQ1: In the last month, how often have you been upset because of something that happened unexpectedly?	1.85 (1.21)
PSSQ2: In the last month, how often have you felt that you were unable to control the important things in your life?	1.57 (1.13)
PSSQ3: In the last month, how often have you felt nervous and "stressed"?	2.03 (1.21)
PSSQ4: In the last month, how often have you felt confident about your ability to handle your personal problems?	2.35 (0.89)
PSSQ5: In the last month, how often have you felt that things were going your way?	2.33 (0.86)
PSSQ6: In the last month, how often have you found that you could not cope with all the things that you had to do?	1.53 (0.93)
PSSQ7: In the last month, how often have you been able to control irritations in your life?	2.30 (1.09)
PSSQ8: In the last month, how often have you felt that you were on top of things?	2.30 (0.88)
PSSQ9: In the last month, how often have you been angered because of things that were outside of your control?	1.68 (0.92)
PSSQ10: In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	1.60 (1.06)

Table 2 - Correlation Matrix for Time Management Behavioral Scale

Variable	Sex	Age	D1Q1	D1Q2	D1Q3	D1Q4	D1Q5	D1Q6	D1Q7	D1Q8	D1Q10	D2Q2
Sex	1.000											
Age	−.083	1.000										
D1Q1	.000	−.093	1.000									
D1Q2	.019	−.020	.546**	1.000								
D1Q3	.000	−.128	0.216	.463**	1.000							
D1Q4	.113	.156	.513**	.272	.441**	1.000						
D1Q5	.179	.058	.484**	.456**	.419**	.697**	1.000					
D1Q6	.163	.098	.206	.344*	.412**	.227	.339*	1.000				
D1Q7	.069	−.067	.424**	.553**	.385*	.420**	.530**	.547**	1.000			
D1Q8	−.212	.134	.174	.126	.330*	.615**	.558**	.200	0.272	1.000		
D1Q10	−.067	−.281	.559**	.374*	.346*	.497**	.468**	.210	.446**	.579**	1.000	
D2Q2	−.121	−.260	.274	.502**	.504**	.214	.423**	.306	.346*	.096	.201	1.000
D2Q3	.034	−.132	.049	.240	.458**	.066	.090	.446**	.161	.036	.070	.555**
D2Q4	−.184	.132	.511**	.406**	.287	.439**	.577**	.115	.429**	.398*	.134	.401*
D2Q7	.020	−.222	.222	.181	.392*	.410**	.406**	.409**	.286	.521**	.528**	.431**
D2Q8	−.228	−.174	.225	.315*	.293	.029	.222	.556**	.361*	.138	.161	.600**
D2Q9	−.397*	−.085	.193	.183	.296	.382*	.308	.100	.244	.499**	.311	.379*
D2Q10	−.153	−.098	.229	.400*	.618**	.331*	.358*	.425**	.617**	.315*	.283	.337*
D2Q11	−.019	−.063	−.049	.328*	.374*	−.103	.149	−.048	.121	−.120	.067	.307
D2Q12	−.145	.033	.324*	.447**	.516**	.366*	.485**	.150	.555**	.299	.268	.310
D2Q13	−.388*	.002	.277	.342*	.360*	.218	.241	.148	.298	.352*	.374*	.256
D2Q14	−.019	−.180	.085	.291	.324*	.439**	.635**	.038	.363*	.377*	.276	.361*
D4Q1	−.041	−.068	.376*	.552**	.342*	0.147	.483**	.281	.579**	.099	.238	.406**
D4Q5	.036	−.130	.063	.230	.220	.072	.210	.444**	.294	.162	.158	.373*
D4Q6	.046	.084	.358*	.256	.123	.298	.720**	.306	.474**	.207	.256	.386*

*p < .05; **p < .01.

Relationship Modeling

To model the relationship among the factors identified in the CFA, a full structural equation model (SEM) was constructed and tested. SEM allows for the examination of complex models involving multiple equations and paths simultaneously, including both the measurement model and the structural model.[29,30]

Analytic Plan

A 2-step approach was implemented to evaluate whether the hypothesized model fit the data. The first step involved estimating and testing a measurement model using CFA. The second step involved estimating a predictive model where Goals, Planning, and Preference served as predictors of Stress. CFA and SEM were estimated using Mplus 8.2 (Muthén & Muthén), with maximum likelihood as the estimation mechanism. Model fit was evaluated using various fit indices.[31–34]

RESULTS

Demographics

This study collected sociodemographic data such as gender and age. Participants were equally distributed across sex, with 20 (50%) male and 20 (50%) female respondents. The average age for the respondents was M = 25.6, SD = 1.5. Table 1 presents the definitions and descriptive statistics for the key variables used in the study, displaying a detailed breakdown of each variable's role in the research.

Bivariate Relationships

The correlation matrix for the TMB Scale is presented in Table 2, displaying the relationships among its measured variables. Similarly, Table 3 presents the correlation matrix for the PSS, displaying the interconnections between its variables. The correlations between the TMB items among themselves are mostly positive and significant ($p < .01$), implying that participants who score high on 1 aspect of time management behavior are likely to score high on another. PSS items are also positively and significantly correlated with each other ($p < .01$), which is expected as they all aim to measure aspects of perceived stress. Individuals who report higher stress on 1 item are likely to report higher stress on another. When examining the interaction between TMB and PSS items, patterns of negative correlations are observed, suggesting that individuals who score higher on the time management scale perceive lower levels of stress, or conversely, higher perceived stress is associated with poorer time management.

Furthermore, a negative, statistically significant correlation was found between the total TMB score and total PSS score ($r = -.39$, $p < .05$). High scores on certain TMB items, which indicate better time management skills, tend to be associated with lower scores on PSS items, suggesting lower perceived stress. Correlation magnitudes were categorized as follows: small ($r = .10$ to .29), medium ($r = .30$ to .49), and large ($r \geq .50$).

Reliability

The reliability of each set of variables used as indicators for each factor was estimated using Cronbach's alpha coefficient.

Table 2 - Extended

D2Q3	D2Q4	D2Q7	D2Q8	D2Q9	D2Q10	D2Q11	D2Q12	D2Q13	D2Q14	D4Q1	D4Q5	D4Q6
1.000												
−.005	1.000											
.402*	.203	1.000										
.626**	.240	.450**	1.000									
.189	.436**	.412**	.345*	1.000								
.275	.448**	.326*	.430**	.405**	1.000							
.476**	.010	−.010	.089	−.004	.202	1.000						
.141	.650**	.263	.237	.397*	.716**	.429**	1.000					
.273	.388*	.395*	.348*	.442**	.597**	.427**	.754**	1.000				
.096	.412**	.328*	.137	.264	.306	.294	.589**	.438**	1.000			
.168	.633**	.225	.320*	.270	.551**	.301	.736**	.489**	.529**	1.000		
.377*	.200	.387*	.315*	.268	.226	.062	.120	.113	.113	.350*	1.000	
.000	.513**	.279	.268	.201	.378*	.168	.517**	.340*	.513**	.652**	.196	1.000

The following reliability estimates were obtained: $\alpha = .79$ for Goals, $\alpha = .83$ for Planning, $\alpha = .57$ for Preference, and $\alpha = .80$ for Stress.

CFA

CFA was conducted to verify the factorial structure assumed by the TMB and PSS scales. A 4-factor model emerged with the following fit to the data: $x^2(399) = 942.2$, CFI = .88, TLI = .84, RMSEA = .08 (90% CI, 0.07–0.09). According to common guidelines, a CFI and TLI above .90 indicate good fit, .80 to .89 indicate acceptable fit, and below .80 indicate poor fit.[35,36] RMSEA values below .05 indicate excellent fit, .05 to .08 indicate good fit, .08 to .10 indicate mediocre fit, and above .10 indicate poor fit.[37] The χ^2 test was significant ($p < .01$), indicating that the model does not perfectly fit the data, which is common in large samples. All factor loadings were statistically significant ($p < .01$). The average loadings for Goals was .64, for Planning was .57, for Preference was .66, and for Stress was .80. The CFA model is illustrated in Supplementary File 1, while Table 4 details the standardized factor loadings, showing the strength of relationships between observed indicators and their respective latent constructs.

Correlations between latent factors were calculated within the CFA model, revealing that the factors associated with the TMB scale were positively related. The correlation between Goals and Planning was $r = .73$, $p < .01$; between Goals and Preference, the estimated correlation was $r = .59$, $p < .01$; and the correlation between Planning and Preference was $r = .83$, $p < .01$. Meanwhile, the correlations between Stress and TMB factors were all negative. The correlation between Stress and Goals was $r = –.56$, $p < .01$; between Stress and Planning was $r = –.38$, $p < .01$; and the correlation between Stress and Preference was $r = –.29$, $p < .01$. Table 5 presents the interfactor correlations calculated within the CFA model, displaying the relationships among the latent factors identified.

Table 3 - Correlation Matrix for Perceived Stress Scale

Variable	Sex	Age	PSSQ1	PSSQ9	PSSQ10
Sex	1.000				
Age	−.083	1.000			
PSSQ1	.042	−.064	1.000		
PSSQ9	−.083	.027	.579**	1.000	
PSSQ10	.096	.083	.633**	.735**	1.000

* $p < .05$; ** $p < .01$.

SEM

The following were the estimates of the model fit for the structural model: $x^2(457) = 1127.2$, CFI = .82, TLI = .78, RMSEA = .09 (90% CI, 0.06–0.10). Similar to the CFA model, in the predictive model, all indicators were found to significantly load on the corresponding factors, $p < .01$. The χ^2 test was significant ($p < .01$), indicating a lack of perfect fit, which is common in large samples.[38] The structural component included 3 paths, a path from Goals to Stress ($\beta = –.61$, $p < .01$), a path from Planning to Stress ($\beta = .01$, ns), and a path from Preference to Stress ($\beta = .06$, ns). The overall SEM

Table 4 - Confirmatory Factor Analysis (CFA) Standard Loading for Time Management Behavioral Scale

Indicator	Setting Goals and Priorities	Planning and Scheduling	Preference for Disorganization	Dealing with Stress
D1Q1	.618			
D1Q2	.607			
D1Q3	.598			
D1Q4	.726			
D1Q5	.799			
D1Q6	.466			
D1Q7	.704			
D1Q8	.591			
D1Q10	.654			
D2Q2		.525		
D2Q3		.318		
D2Q4		.689		
D2Q7		.456		
D2Q8		.457		
D2Q9		.519		
D2Q10		.751		
D2Q11		.365		
D2Q12		.889		
D2Q13		.744		
D2Q14		.613		
D4Q1			.923	
D4Q5			.357	
D4Q6			.709	
PSS_Q1				.873
PSS_Q9				.647
PSS_Q10				.803

All loadings are statistically significant, $p < .01$.

structure and standardized regression weights are presented in Supplementary File 2.

DISCUSSION

This study identified a significant negative correlation between time management practices and perceived stress levels among preclinical chiropractic students. These findings align with the transactional model of stress and coping, which emphasizes the role of adaptive strategies, such as time management, in managing academic and clinical demands.[2] Stress among chiropractic students is not solely a consequence of heavy workloads but also reflects their capacity to organize and prioritize tasks effectively.

The validated TMB Scale and PSS enabled a robust assessment of these constructs. CFA confirmed their factorial structure, while SEM demonstrated that goal setting and prioritization were significantly associated with reduced perceived stress levels. These findings support existing literature highlighting the importance of effective time management in alleviating stress and improving academic performance.[10,17]

Chiropractic education is uniquely demanding, combining theoretical knowledge and intensive clinical practice, often exposing students to elevated stress levels.[5,7] In this context, time management emerges as a crucial skill, offering students greater control over their responsibilities and mitigating stress. The study's results underscore the potential value of integrating structured time management training within chiropractic curricula. Such efforts may enhance students' resilience and academic success while promoting psychological well-being.

Furthermore, this study's findings resonate with observations in other healthcare disciplines, such as medicine and nursing, where time management training has been shown to reduce stress and improve learning outcomes.[14,17] Given the physically demanding nature of chiropractic education, incorporating tailored time management strategies into the program may be especially beneficial in helping students manage both academic and clinical challenges.

Overall, these results provide empirical support for curriculum developers to embed time management skills development into chiropractic education. Doing so may foster a supportive learning environment that enhances students' ability to navigate the rigorous academic journey more effectively.

Limitations

This study has several limitations that warrant consideration. Firstly, the reliance on self-reported data introduces potential biases, including social desirability and subjective interpretation, which may affect the accuracy of responses. Although the instruments used were validated, such biases remain inherent in self-administered surveys.

Secondly, the relatively small sample size, drawn from a single cohort within one institution, limits the generalizability of the findings. The specific educational context and experiences of this group may differ from those of chiropractic students in other institutions or regions. Consequently, caution is advised when

Table 5 - Interfactor Correlation

Factor	Setting Goals and Preferences	Planning and Scheduling	Preference for Disorganization	Dealing with Stress
Setting goals and preferences	1			
Planning and scheduling	.742**	1		
Preference for disorganization	.619**	.833**	1	
Dealing with stress	−.507**	−.469**	−.322**	1

** $p < .01$.

interpreting and applying these results beyond the studied population. While SEM is suitable for smaller sample sizes when models are simple and data quality is high, a larger sample would increase the precision of estimates and statistical power. Therefore, the results should be interpreted cautiously, and future studies with larger samples are recommended to validate these findings.

Additionally, the Planning domain of the TMB Scale demonstrated lower reliability, with a Cronbach's alpha value below the accepted threshold. This suggests that items within this domain may not consistently measure the intended construct, potentially impacting the robustness of findings related to planning behaviors. Future research should consider refining this scale to improve its reliability.

Future Research and Recommendations

Future research should adopt longitudinal designs to examine changes in time management behaviors and stress levels as students progress through their academic and clinical training. Such studies would offer valuable insights into the long-term impact of time management skills and identify critical periods where interventions may be most beneficial.

Expanding research to include multiple chiropractic programs across diverse geographical and cultural contexts would enhance the representativeness and generalizability of findings. This approach could provide a broader understanding of how educational environments influence time management and stress among chiropractic students.

Further exploration of additional psychological theories, such as those from behavioral psychology, could enrich the understanding of specific habits that support effective time management and stress reduction. Incorporating qualitative methodologies, including interviews or focus groups, would complement quantitative findings by providing in-depth perspectives on students' lived experiences, emotional challenges, and coping strategies.

Finally, future studies should explore the development and evaluation of targeted interventions aimed at strengthening time management skills within chiropractic education. By addressing this critical area, institutions may better equip students to manage academic demands, promote mental well-being, and improve overall educational outcomes.

CONCLUSION

This study highlights a significant association between time management practices and perceived stress levels among chiropractic students. The findings contribute to a better understanding of how time management relates to students' well-being and academic performance in a demanding educational environment. Future research is warranted to further explore this relationship and examine potential strategies that may support chiropractic students in managing the challenges of their education and clinical training.

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