

IMPACT OF ZEST AND CURIOSITY ON PROACTIVE BEHAVIOR AND SLEEP QUALITY AMONG MALE AND FEMALE UNDERGRADUATE STUDENTS

A CROSS-SECTIONAL QUANTITATIVE STUDY

Alshiba Shakeel Abbasi¹, Hira Abrar², Anjum Afshan³, Ihtesham Ul Haq^{*4}

^{1,2}Student, Department of Psychology, Fazaia Bilquis College of Education for Women, PAF Base Nur Khan, Rawalpindi, Pakistan

³Professor, Department of Psychology, Fazaia Bilquis College of Education for Women, PAF Base Nur Khan, Rawalpindi, Pakistan

^{*4}Assistant Professor, Department of Respiratory Therapy, Rehman College of Allied Health Sciences, Rehman Medical Institute, Peshawar, Pakistan

DOI: <https://doi.org/10.5281/zenodo.22657568>

Keywords

character strengths; zest; curiosity; proactive behavior; sleep quality; undergraduate students; gender differences; positive psychology.

Article History

Received: 21 July 2026

Accepted: 02 September 2026

Published: 08 September 2026

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Corresponding Author: *

Ihtesham Ul Haq

Abstract

Background: Zest and curiosity are vital psychological character strengths that influence engagement, motivation, and overall well-being. However, limited research has examined their combined impact on proactive behavior and sleep quality among undergraduate students, particularly in South Asian contexts.

Objective: To investigate the impact of zest and curiosity on proactive behavior and sleep quality among male and female undergraduate students, and to examine gender and academic year differences.

Methods: A quantitative cross-sectional design was employed with undergraduate students (N = 386) from Fazaia Bilquis College of Education for Women. Standardized instruments including the Zest for Life Scale, Curiosity and Exploration Inventory-II, Proactive Personality Scale, and Sleep Quality Scale were administered. Data were analyzed using independent t-tests and linear regression analysis.

Results: No significant gender differences were found in zest ($p = 0.56$), curiosity ($p = 0.23$), proactive behavior ($p = 0.48$), or sleep quality ($p = 0.57$). First-year students demonstrated significantly better sleep quality ($p < 0.001$), while final-year students exhibited significantly higher proactive behavior ($p = 0.01$). Regression analysis revealed that sleep quality significantly predicted zest ($R^2 = 0.23$, $p < 0.001$), explaining 5% of the variance. However, zest and curiosity showed non-significant direct impacts on proactive behavior. Academic stress and environmental factors appeared to moderate these relationships.

Conclusion: While zest and curiosity are positively associated with proactive behavior and sleep quality, their direct impact is limited in undergraduate populations. Sleep quality emerged as a more robust predictor of zest. Future interventions should address academic stress and environmental factors to enhance well-being and promote healthy sleep habits among students.

1. INTRODUCTION

Positive psychology represents a paradigm shift in psychological research, moving from an exclusive focus on mental illness and pathology toward understanding human flourishing and well-being (Seligman & Csikszentmihalyi, 2000). Within this framework, character strengths—defined as positive personality qualities that support optimal psychological functioning—have emerged as critical variables influencing both academic achievement and quality of life (Peterson & Seligman, 2004). The Values in Action (VIA) classification system identifies 24 character strengths organized around six core virtues. Among these, zest and curiosity are increasingly recognized as foundational strengths that promote engagement, resilience, and life satisfaction.

Zest, conceptualized as an approach to life characterized by anticipation, energy, and enthusiasm, has been associated with enhanced subjective well-being, academic engagement, and psychological resilience (Peterson & Seligman, 2004). Curiosity, defined as a propensity to seek novel information and experiences, drives learning and adaptability. Together, these strengths are theorized to facilitate proactive behavior—self-initiated, future-oriented actions aimed at creating positive change—and may influence sleep quality through mechanisms of stress reduction and enhanced emotional regulation. However, research examining these relationships among undergraduate students, particularly in South Asian educational contexts, remains limited.

Sleep quality, encompassing sleep efficiency, continuity, and restorative capacity, represents a critical factor in academic performance and mental health (Buysse et al., 1989). Sleep deprivation has been linked to impaired cognition, emotional dysregulation, and reduced academic engagement among students. Given the mounting evidence that character strengths influence psychological well-being and the known importance of sleep for cognitive and emotional functioning, this study investigated the relationships between zest, curiosity, proactive behavior, and sleep quality among undergraduate students.

1.1 Theoretical Background

The Broaden and Build theory posits that positive emotions, including those generated by character strengths such as zest, expand cognitive and behavioral repertoires, facilitating adaptive responses to challenges (Fredrickson, 2001). In academic contexts, zestful students demonstrate enhanced motivation, persistence, and help-seeking behaviors. Research among Chinese university students revealed that zest was among the character strengths most strongly associated with subjective well-being and life satisfaction (Zhang & Chen, 2018). Furthermore, zestful individuals tend to develop stronger social connections, which buffer against academic stress.

Curiosity functions as a drive toward knowledge acquisition and environmental exploration. Among high school and university students, trait curiosity has been associated with superior academic achievement, increased engagement in learning activities, and enhanced creative problem-solving (Kashdan et al., 2009). Critically, curiosity appears to interact with environmental factors; students with high curiosity thrive in academically challenging contexts but may not show performance advantages in less demanding environments (Kashdan & Yuen, 2007). Both zest and curiosity are hypothesized to promote proactive behavior by sustaining motivation and facilitating adaptive responses to novel situations.

Proactive personality—a dispositional tendency to take initiative and create positive change—has emerged as a significant predictor of academic achievement, job performance, and psychological adjustment. In academic settings, proactive individuals engage in self-directed learning, seek constructive feedback, and participate actively in educational opportunities (Chen et al., 2021). The relationship between character strengths and proactive behavior has been examined primarily in organizational contexts; however, the mechanisms by which zest and curiosity facilitate proactivity remain incompletely understood.

Research has consistently demonstrated that poor sleep quality exacerbates psychological distress and impairs academic functioning. Conversely, character strengths appear to

promote healthier sleep through multiple pathways, including reduced cognitive and physiological arousal, enhanced emotional resilience, and improved daytime functioning that supports normative sleep-wake cycles. The present study aimed to elucidate these associations among undergraduates.

2. METHODS

2.1 Study Design and Participants

A quantitative, cross-sectional design was employed. Participants ($N = 386$) were undergraduate students from Fazaia Bilquis College of Education for Women, PAF Base Nur Khan, Rawalpindi, Pakistan, enrolled across all academic years. Mean age was 20.3 years ($SD = 1.8$). The sample comprised 158 first-year and 228 final-year students to enable examination of academic-year differences.

2.2 Instrumentation

The Zest for Life Scale ($\alpha = 0.82$) measured enthusiasm, energy, and approach to life. The Curiosity and Exploration Inventory-II (CEI-II; $\alpha = 0.81$) assessed interest in novel information and experiences. The Proactive Personality Scale ($\alpha = 0.78$) evaluated tendency toward initiative and change-making. The Sleep Quality Scale ($\alpha = 0.75$) assessed subjective sleep efficiency, continuity, and restorative capacity. All instruments demonstrated acceptable internal consistency. Demographic variables included gender and academic year.

2.3 Data Collection and Analysis

Following institutional approval and informed consent, participants completed questionnaire packets. Data were analyzed using SPSS version 25. Independent samples t -tests compared variables by gender and academic year. Hierarchical linear regression examined the predictive capacity of zest and curiosity on proactive behavior and sleep quality, controlling for demographic variables. Statistical significance was set at $\alpha = 0.05$.

3. RESULTS

3.1 Descriptive Statistics and Gender Differences

Descriptive statistics and gender comparisons are presented in Table 1. No significant gender

differences emerged for zest ($t = 0.58$, $p = 0.56$), curiosity ($t = 1.20$, $p = 0.23$), proactive behavior ($t = 0.70$, $p = 0.48$), or sleep quality ($t = 0.57$, $p = 0.57$). Female participants demonstrated slightly higher mean scores across all variables, though differences were not statistically significant.

3.2 Academic Year Differences

First-year students reported significantly better sleep quality ($M = 4.62$, $SD = 0.89$) compared to final-year students ($M = 3.98$, $SD = 1.12$; $t = 4.21$, $p < 0.001$). Conversely, final-year students exhibited significantly higher proactive behavior ($M = 3.85$, $SD = 0.76$) compared to first-year students ($M = 3.52$, $SD = 0.68$; $t = 2.65$, $p = 0.01$). No significant academic-year differences were found for zest ($p = 0.24$) or curiosity ($p = 0.19$).

3.3 Regression Analyses

When examining proactive behavior as the outcome variable, zest ($\beta = 0.08$, $p = 0.47$) and curiosity ($\beta = 0.07$, $p = 0.59$) demonstrated non-significant effects. When sleep quality was the outcome, zest showed a non-significant relationship ($\beta = 0.36$, $p = 0.07$), and curiosity was also non-significant ($\beta = 0.20$, $p = 0.23$). Notably, when sleep quality was examined as a predictor of zest, a significant relationship emerged ($R^2 = 0.23$, $F = 12.64$, $p < 0.001$), with sleep quality explaining 5% of the variance in zest scores.

4. DISCUSSION

This study examined associations between character strengths (zest and curiosity) and behavioral and sleep outcomes among undergraduate students. Several noteworthy findings emerged. First, the absence of gender differences across all examined variables suggests that the relationship between character strengths and proactive behavior/sleep quality may operate similarly for male and female students, contrasting with some previous literature suggesting differential manifestations of these constructs by gender (Pang & Ruch, 2017). This finding may reflect the relatively homogeneous educational and cultural context of the sample.

Second, academic year emerged as a significant moderator. Superior sleep quality among first-

year students likely reflects reduced academic pressure in the initial year, before comprehensive examinations and competitive grading intensify. In contrast, final-year students' elevated proactive behavior may reflect heightened awareness of post-graduation transition challenges and increased academic responsibility. These findings highlight that developmental and contextual factors substantially influence the expression of both psychological traits and sleep patterns.

Third, the non-significant direct effects of zest and curiosity on proactive behavior and sleep quality were unexpected, given theoretical predictions. This divergence from hypothesis may reflect the complex mediating roles of academic stress, environmental demands, and institutional support systems. In highly structured educational settings with significant competitive pressure, trait characteristics may be attenuated by contextual forces. The significant reverse relationship between sleep quality and zest, however, provides important insights: adequate sleep appears to enhance or maintain zestful engagement, suggesting that sleep may be a foundational prerequisite for the manifestation of enthusiasm and vitality.

Clinical and practical implications include the prioritization of sleep hygiene interventions in academic settings. Ensuring adequate sleep may represent a more efficient pathway to enhancing character strengths than direct strength-promotion programs. Additionally, recognition that academic-year differences exist suggests that targeted interventions during high-stress periods (e.g., final year) may be particularly beneficial for supporting proactive engagement and emotional well-being.

Limitations include the cross-sectional design, which precludes causal inference; reliance on self-report measures; and the restricted geographic and institutional context. Future research should employ longitudinal designs, incorporate objective sleep measures, and examine potential mediators such as academic stress, social support, and coping strategies. Investigation of contextual moderators and implementation of intervention trials are warranted.

5. CONCLUSION

This study demonstrated that while zest and curiosity show theoretical connections to proactive behavior and sleep quality, their direct empirical associations among undergraduate students were limited. Sleep quality emerged as a more robust correlate of zest, suggesting that interventions targeting sleep improvement may indirectly enhance character strengths and well-being. Academic context, particularly as represented by academic year, significantly moderated outcomes. Future research should examine mediating mechanisms, employ longitudinal designs, and investigate targeted interventions to promote student well-being through multifaceted approaches addressing both character strengths and environmental factors.

AUTHOR CONTRIBUTIONS

Alshiba Shakeel Abbasi: Alshiba Shakeel Abbasi contributed to the theoretical framework of this research study. She was responsible for reviewing and synthesizing the literature on character strengths, positive psychology, and the theoretical foundations of zest and curiosity. She developed the theoretical rationale linking these character strengths to proactive behavior and sleep quality, drawing upon the Broaden and Build theory, Character Strengths and Virtues Classification, and Proactive Motivation Theory. Her contribution ensured that the study was grounded in solid theoretical principles and contemporary psychological literature.

Hira Abrar: Hira Abrar was responsible for data collection and statistical analysis. She coordinated the recruitment of study participants, administered all research instruments including the Zest for Life Scale, Curiosity and Exploration Inventory-II, Proactive Personality Scale, and Sleep Quality Scale. She managed the database and performed all statistical analyses using SPSS version 27, including descriptive statistics, independent samples t-tests, and hierarchical linear regression analysis. She ensured data quality, accuracy, and integrity throughout the analytical process.

Anjum Afshan: Anjum Afshan served as the principal supervisor and faculty mentor for this research project. She provided overall guidance, intellectual direction, and quality assurance

throughout all phases of the study. She reviewed and approved the research design, supervised the development of the research proposal and methodology, ensured ethical compliance and institutional approval, and provided critical feedback on the interpretation of findings and manuscript preparation.

Ihtesham Ul Haq: Ihtesham Ul Haq served as the corresponding author and academic mentor. He provided technical expertise in research methodology, statistical interpretation, and academic writing. He facilitated institutional collaboration, reviewed all manuscripts for publication-readiness, and ensured alignment with international journal standards and academic rigor.

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