

Sleep Quality, Mental Wellbeing, and Self-Esteem as Predictors of Creative Burnout Among Pakistani University Art Students: A Cross-Sectional Study

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ABSTRACT:

Background: University art students operate in a psychologically challenging environment that is defined by studio deadlines, criticism, producing portfolios, being judged and evaluated publicly, and relevance to identity of creative work. The paper investigated the correlations between mental wellbeing and sleep quality with self-esteem and creative burnout among Pakistani art students of universities.

Procedure: A dataset of quantitative cross-sectional survey data of 357 students of the university were cleaned, coded and analysed. The free-text institutional entries, branches, affiliated colleges and subcampuses were consolidated into six parent institution groups to report data collections and conduct institutional analysis: Bahauddin Zakariya University (BZU), Islamia University Bahawalpur (IUB), National College of Arts (NCA), University of Agriculture Faisalabad, Government College University Faisalabad (GCUF), and University of Okara. Rosedale addressing the responses of missing items relied on defensible level of scale-level generalization across existing responses through prorated/person-mean scoring when there was a sufficient amount of within-scale data.

Findings: Self-esteem and inversely self-esteem were found to have a positive correlation with mental wellbeing and a negative correlation with creative burnout, respectively. The low-quality of sleep was linked to less self-esteem and increased creative burnout. The last adjusted model revealed poorer sleep, less mental wellbeing and less self-esteem were independent predictors of creative burnout. The Bootstrap mediation showed that self esteem partially mediated the relationships of both wellbeing and sleep quality with creative burnout. Gender

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disparities occurred the most with respect to sleep quality whereby the female students rated as having poor sleep.

Conclusions: The results suggest the use of a prevention model where sleep health, wellbeing promotion, and self-esteem support are incorporated in university counselling and studio-based services to the students. The cultural sensitivity, non-stigmatization, and cultural integration of academic systems should be the key factors in preventing burnout among Pakistani art students.

Keywords: mental health; sleep disturbances; self-esteem; art burnout; art students; Pakistan; clinical psychology; university counselling.

Introduction

The psychological distress in university years has become a global clinical and public-health issue since evidence shows that academic persistence, identity formation, social functioning, and subsequent occupational health depend on psychological distress in university years. The period of emerging adulthood is an unstable period of development characterized by exploration, and the transition to professional roles adds demands to the period of emerging adulthood (Arnett, 2000; Auerbach et al., 2018; Bruffaerts et al., 2018; Stallman, 2010). In the field of clinical psychology, the focus has moved towards not just reducing the disorder but also on positive mental health, wellbeing, resilience, sleep health and functional recovery (Keyes, 2002; Ryff, 1989; Tennant et al., 2007; WHO, 2022). These issues are particularly acute in fields of creative activity, since the academic activity in these areas is usually highly subjective, publicly judged, and closely tied to the subjective sense of self in students of these disciplines. This makes art students a theoretically significant but under-researched group to study the interaction between the state of mental wellbeing, sleep, self-esteem, and burnout (Lee et al., 2023; Cortesi et al., 2025; Godley, 2025).

Emotional labour, aesthetic judgement, portfolio deadlines and studio practice, peer comparison and repeated critique are all involved in art education. These characteristics have the potential to induce creativity and mastery, as well as exert an increased vulnerability in case of experiencing

perfectionism, rejection sensitivity, social comparison, low confidence, or sleep disruption. The literature of clinical psychology demonstrates that emotional exhaustion, cynicism, lesser accomplishment, diminished functioning, depressive, and risk of dropout are all related to student burnout (Maslach and Leiter, 2016; Schaufeli et al., 2002; Salmela-Aro and Read, 2017; Chong et al., 2025; Priede et al., 2025). The phenomenology of burnout in art students could be a unique phenomenon due to the fact that the object of academic labour is not only the item of language but also a creative identity. It will not be as simple that a student has grown tired of classes; he or she will feel that his or her imagination, originality, confidence and even artistic voice has been exhausted.

The product of sleep quality is one of the best modifiable behavioural correlates of student mental health. Poor sleep is a predictor of emotional dysregulation, problems at attention, depressed mood, anxiety, poor academic performance, and high risk of burnout (Alvaro et al., 2013; Baglioni et al., 2016; Becker et al., 2018; Lund et al., 2010; Nakie et al., 2024; Zakiei et al., 2025). The Pittsburgh Sleep Quality Index is still extensively utilized to measure subjective sleep quality, latency, duration, disturbance, medication use, daytime dysfunction and global impairment (Buysse et al., 1989). Recent evidence of students in Pakistan has also indicated substantial problems in sleep-quality, as well as, connections with psychological health and academic functioning (Anjum and Mushtaq,

2024; Zahoor et al., 2023). In the case of art students, sleep can also be jeopardized by the inconsistent studio hours, late nights working on projects, the demands of commuting, the routine in the hostels and the use of digital devices to work on projects.

Another key construct to the clinical psychology field of study is self-esteem since it shows the worth, competence and acceptance of the student to the global community. Low self-esteem is linked to depressive symptoms, anxiety, sensitivity to interpersonal, academic stress, and worse coping, but higher self-esteem can buffer stress and support adaptive control of emotions (Baumeister et al., 2003; Orth and Robins, 2014; Rosenberg, 1965; Sowislo and Orth, 2013). Self-esteem is particularly significant in art education since creative products are often judged in a social context and might be interpreted to mean an evaluation of the self. The strong criticism or rejected design, or an unfavorable reaction to the exhibition can thus get psychologically loaded. Recent indications on the stress and academic burnout also confirm that self-esteem is a mediator between stress-related exposures and burnout outcomes (Zhang, 2025).

There are additional cultural and institutional significance over the Pakistani context of higher education. Family pressure, gendered mobility restrictions, economic pressures, limited access to counselling, stigma around seeking mental-health help, and unequal mental-health literacy may be faced by students. The settings of South Asian universities demand locally-based evidence since models based on Western university may not fully reflect the family obligation, collectivist norms, public reputation, modest help-seeking, and the institutional resource constraints (Hofstede, 2001; Mirza et al., 2006; Qadir et al., 2014; Rathod et al., 2017; Saeed et al., 2000). Studies of Pakistani students have been on the rise, but art students are relatively underrepresented in clinical and educational psychology. The current research thus places art students in the context of both international and local evidence base (Anjum

and Mushtaq, 2024; Zahoor et al., 2023; Lee et al., 2023).

Literature Review

They are clinically significant predictors that can either directly or indirectly impact burnout via self-esteem. The current study thus tests an integrated model whereby higher wellbeing is expected to support self-esteem and reduce burnout, poorer sleep is expected to weaken self-esteem and increase burnout and disengagement are expected to be explained by part of the pathway between health related resources and creative exhaustion and disengagement.

Pakistani context of higher education education further contributes to analytic significance of the model. The students might be faced with family expectations, gender-based restrictions on mobility, financial pressures, stigma against formal counselling, institutionalized unequal mental-health provision, and unequal access to safe studio spaces. South Asian experience warns not to transfer Western models of mental-health of students without regard to the obligation of family and to the reputation of a nation in the eyes of people (Mirza et al., 2006; Qadir et al., 2014; Rathod et al., 2017; Saeed et al., 2000). Safety issues, commuting, family, and social surveillance also can influence sleep and wellbeing among female students. These contextual pressures explain why the model should be tested in the Pakistani art institutions, instead of automatically generalizing the findings of the test, which can be done in this contextual pressure.

Investigations of burnout reinforce further this pathway. Academic burnout is often defined as exhaustion, cynicism or disengagement, reduced efficacy (Maslach and Leiter, 2016; Schaufeli et al., 2002; Salmela-Aro and Read, 2017). In the case of art students, these dimensions can have a creative expression: the loss of imaginative power, the inability to stay emotionally attached to the studio practice and the loss of faith in the achievement of the artistic work. More recent reviews highlight that student burnout is a multifactorial problem, with workload,

institutional climate, health behaviours, psychological resources, and social support being among the multifactorial problems (Chong et al., 2025; Priede et al., 2025). Therefore, creative burnout can be viewed as both functional and clinical consequence that are the result of both academic and reduced personal resources.

The psychological mediation between these health related resources and burnout outcomes is the self-esteem. Elsewhere in the clinical literature self-esteem is linked with emotional adjustment, interpersonal functioning, coping, and vulnerability to depressive and anxious symptoms (Baumeister et al., 2003; Orth and Robins, 2014; Sowislo and Orth, 2013). In creative education, the self-esteem is particularly uncovered since the product in question could be realized as the continuation of the self. An unkind criticism, rebuff of work, failure in an exhibition can thus be seen as a measure not only of critical comment on work but also of personal inadequacy. This renders self-esteem as a hypothesized plausible mediator amid wellbeing, sleep disturbance, and creative burnout.

Sleep quality is a second mechanism whereby student functioning could be impaired. Sleep controls affect, attention, consolidation of memories, executive control and recovery of stress: dysregulation of these systems can enhance rumination, emotional reactivity, and cognitive inflexibility (Harvey et al., 2011; Medic et al., 2017; Walker, 2017). Review and meta-analytic data always indicates a correlation between poor sleep and anxiety; depressive symptoms, academic impairment, and burnout (Alvaro et al., 2013; Baglioni et al., 2016; Becker et al., 2018; Nakie et al., 2024; Zakiei et al., 2025). Sleep loss, turned into a normal part of life in art education, may be normalised through other modifiable health behaviours, transforming a potentially alterable health behaviour into an academic risk factor.

Empirical studies of the population of universities indicate that wellbeing is a clinically important construct since it is a predictor and

accompaniment of academic functioning, help-seeking, distress, and persistence (Auerbach et al., 2018; Bruffaerts et al., 2018; Paiva et al., 2025). Warwick-Edinburgh Mental Well-being Scale The scale has found wide use in operationalizing positive mental health in research with students and the population at large (Tennant et al., 2007; Stewart-Brown et al., 2009). Nevertheless, simply descriptive explanation of wellbeing is not enough to the art students. In theory, wellbeing can be considered a protective element, which makes students able to tolerate ambiguity, rewrite work following criticism, be motivated through repeated failures and separate temporary artistic dissatisfaction to global self-devaluation.

The analytic model of student mental health burnout that is supported by the literature on student mental health burnout is that creative burnout is not a motivational issue but is explained by the interaction of personal resources, behavioural regulation and academic demands. Mental wellbeing is one such resource as it reflects positive affect, purpose, connectedness, autonomy, competence, and resilience, all of which can prevent students against the demoralization of being repeatedly pressured to achieve academic success (Diener et al., 1999; Keyes, 2002; Ryff, 1989; Ryan and Deci, 2001). This resource is particularly well applicable among the students of arts since creative work is both subjectively expressed (personally) and objectively evaluated (publicly). The deterioration of wellbeing can thus undermine mood and functioning, as well as the confidence of the student in being able to maintain a creative identity.

Aims and Hypotheses

The researchers investigated the relationship between mental wellbeing and the quality of sleep with self-esteem and creative burnout in Pakistani university art students. The hypotheses were based on integrated literature regarding positive mental health, sleep regulation, self-evaluation and academic/creative burnout.

H1: Mental wellbeing (higher) would be related to self-esteem (higher) and creative burnout (lower).

H2: The poorer the quality of sleep, the poorer would be the self-esteem and the creative burnout.

This hypothesis was supported by the evidence that when one lacks a good sleep, it is associated with emotional dysregulation, impaired functioning, low levels of self-evaluative confidence, and high levels of academic burnout among the university populations (Becker et al.,

2018; Gardani et al., 2022; Nakie et al., 2024; Scott et al., 2021; Zakiei et al., 2025).

H3: Mental Wellbeing would mediate the relationships between sleep quality and mental wellbeing on creative burnout.

H4: The differences in the subgroups would manifest in terms of gender, year of study and six-institutions context.

The conceptual model of the relationship between mental wellbeing, sleep quality, self-esteem and creative burnout is illustrated in Figure 1.

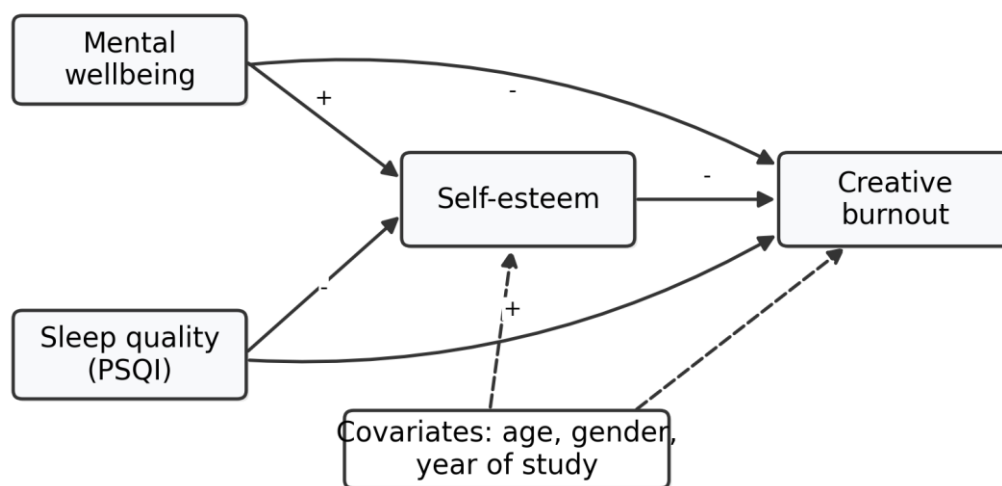


Figure 1

Conceptual Model Linking Mental Wellbeing, Sleep Quality, Self-Esteem, and Creative Burnout

Methods

Design and Participants

The type of survey design employed was a quantitative cross-sectional survey design. The data that was cleansed included 357 responses given by students who enrolled in the art related courses in the Pakistani universities and art institutions. In the institutional reporting, free-text entries were harmonized into six parent institution groups, i.e.: Bahauddin Zakariya University (BZU), Islamia University Bahawalpur (IUB), National College of Arts (NCA), University of Agriculture Faisalabad, Government College University Faisalabad (GCUF), and University of Okara. De-

institutionalized cases where there was ambiguity or non-assignability of institutional text were retained in the full-sample analysis where institution was not mandatory but not in institution-specific subgroup analysis. The design is observational and as such, the results are to be understood as predictive correlations as opposed to causal influences.

Measures

The mental wellbeing was measured through the 14-item Warwick-Edinburgh Mental Well-being Scale with the higher the score, the more positive mental health. The quality of sleep was determined through the global score of the Pittsburgh Sleep Quality Index which scores

higher on poorer sleep. Self-esteem was measured with the help of Rosenberg-style items, with reverse coding where necessary. The response rate to burnout items and domain indicators of exhaustion, cynicism/disengagement, and diminished creative accomplishments were scored to provide creative burnout. The constructs reflected in the measures are widely used in clinical, counselling and educational psychology (Buyse et al., 1989; Maslach and Jackson, 1981; Rosenberg, 1965; Schaufeli et al., 2002; Tennant et al., 2007).

Cleaning and Coding Data.

The university variable had to be reconstructed since the uploaded sheet utilized a free-text institute field implementing labels of parent universities, affiliated colleges, branch and subcampus. The entries were consolidated into six parent institutions of analysis, as requested to provide data collection and analysis: BZU, IUB, NCA, University of Agriculture Faisalabad, GCUF and University of Okara. Entries that could not be coded as either clear or unclear were coded as unclear/other auditably, and were not pushed into a parent group. Generalizing the existing data was considered defensible and the missing data were prorated using person-mean substitution when there were sufficient valid items within the same scale, but the variables with an excessive or structural amount

of missing values were flagged instead of being blindly imputed. The regression estimates based on complete-cases were complemented with multiple-imputation sensitivity analysis to ensure that the conclusions are not changed by adopting the more formal multiple-imputation sensitivity analysis (Little, 1988; Rubin, 1987; Schafer and Graham, 2002; Sterne et al., 2009; Van Buuren, 2018).

Missingness and Quality of Data.

The filtered data were left with 357 responses. Most of the core variables were manageable in terms of missingness but it was concentrated in limited set of PSQI and burnout related areas. To prevent listwise deletion where possible, the item level missing values were generalized based on item responses available to the respondents within the same scale wherever enough information was available to be scored prorated. Variables that had very high levels of missingness were included in the audit but not considered as fully observed. The various models of complete-case analysis were therefore supplemented by multiple-imputation sensitivity analysis, and conclusions were drawn based on patterns of convergence but not a specific estimation strategy. Table 1 indicates the chosen missingness audit of core variables and points out the variables that contained the highest rates of missing data..

Table 1
Selected Missingness Audit for Core Variables

Variable	Missing n	Missing %
psqi_q5_10	356	99.72
psqi_sleep_efficiency_raw	57	15.97
sleep_efficiency_pct_capped	57	15.97
sleep_efficiency_pct	57	15.97
sleep_latency_min	39	10.92
psqi_sleep_latency_raw	39	10.92
raw_institute	28	7.84

Variable	Missing n	Missing %
raw_burnout_2	20	5.60
creative_cynicism	20	5.60
raw_burnout_1	20	5.60
reduced_creative_accomplishment	20	5.60
Creative burnout	20	5.60

Sample Characteristics

A sample that was used consisted of students of various Pakistani institutions. Since the original institute variable was free-text, the entries of the branches and subcampuses were merged into six parent institution groups to be analyzed in terms

of institutions: BZU, IUB, NCA, University of Agriculture Faisalabad, GCUF, and University of Okara. Table 2 is a summary of the demographic and institutional profile of the sample, which includes gender, province, educational qualification, field of art and group of assignable institutions.

Table 2
Demographic and Institutional Profile of the Sample

Category	n	%
Gender		
Female	232	64.99
Male	122	34.17
Other/Prefer not	3	0.84
Province		
Punjab	331	92.72
Sindh	7	1.96
Khyber Pakhtunkhwa	7	1.96
Unclear/Invalid	5	1.40
Other/Unclear	4	1.12
Balochistan	2	0.56
Islamabad Capital Territory	1	0.28
Educational qualification		
Bachelor of Fine Arts (BFA) / Equivalent	259	72.55

Category	n	%
Gender		
Master of Fine Arts (MFA) / Equivalent	52	14.57
Other Postgraduate Degree (e.g., MPhil, PhD in Arts/Design)	46	12.89
Field of art		
Design (Graphic, Textile, Product, Architecture-related)	136	38.10
Other (specify)	69	19.33
Institution group (assignable cases)		
BZU	91	37.92
University of Okara	68	28.33
IUB	57	23.75
University of Agriculture Faisalabad	11	4.58
NCA	7	2.92
GCUF	6	2.50

Statistical Analysis

To begin with, 95% confidence intervals, skewness, kurtosis and reliability coefficients were computed. Second, Pearson correlations and partial ones were estimated between domains of mental wellbeing, sleep quality, self-esteem and creative-burnout. Third, HC3 multiple regression models were made robust to control sensitivity to heteroskedasticity. Fourth, a multiple-imputation pooled sensitivity model was estimated to the creative burnout. Fifth, multicollinearity was checked by looking at variance inflation factors. Sixth, bootstrap mediation was used to test the hypothesis of self-esteem transmitting the relationships of mental wellbeing and sleep quality with creative burnout. The moderation by the quality of sleep and the comparison of subgroups by gender, year of study, and university group were investigated. Eighth, the burnout item set, PCA/scree inspection was introduced. (Hayes,

2022; Tabachnick & Fidell, 2019; Van Buuren, 2018).

Results

Reliability and Descriptive Statistics.

There was a good internal consistency ($\alpha = 0.838$) in mental wellbeing. The total reliability of creative burnout was good enough to do an exploratory study, but the exhaustion area exhibited a higher degree of reliability. The self-esteem scale had low α which means that before the journal is submitted, item wording, response anchors or reverse scoring needs to be checked. This does not nullify the analysis but necessitates careful interpretation and reporting of the same. The reliability coefficients, descriptive statistics, confidence intervals, skewness and kurtosis of the main study scales are presented in Table 3.

Table 3
Reliability and Descriptive Statistics for Main Scales

Scale	Items	n	Mean	SD	95% CI LL	95% CI UL	Cronbach alpha	Omega total (approx.)	Skewness	Kurtosis
Self-esteem (RSE-10)	10	357	27.216	3.951	26.804	27.627	0.718	0.161	0.234	0.997
Mental wellbeing (WEMWBS-14)	14	357	44.538	9.195	43.581	45.495	0.838	0.869	-0.241	0.607
Creative burnout total (22 items)	22	337	2.653	0.703	2.578	2.728	0.799	0.091	-0.591	1.515
Creative exhaustion	5	337	2.492	1.386	2.344	2.640	0.815	0.871	0.457	-0.393
Creative cynicism/disengagement	7	337	2.460	1.201	2.332	2.589	0.758	0.562	0.103	-0.096
Reduced creative accomplishment	10	337	2.868	1.248	2.735	3.002	0.708	0.735	-0.118	-0.245

Correlations and Partial Associations

The pattern of correlation was in favor of the proposed clinical model. Self-esteem and creative burnout had a negative correlation with mental wellbeing. The poor quality of sleep was linked to lower self-esteem and increased burnout of creativity. Creative burnout and disengagement were also negatively linked with self-esteem, implying that students with less perceived self-worth might be more susceptible to creative burnout and disengagement. These

relationships align with international findings linking wellbeing, sleep, self-evaluation, and burnout (Anjum & Mushtaq, 2024; Chong et al., 2025; Cortesi et al., 2025; Godley, 2025; Lee et al., 2023; Nakie et al., 2024; Paiva et al., 2025; Priede et al., 2025; Zahoor et al., 2023; Zakiei et al., 2025; Zhang, 2025). Table 4 presents the Pearson correlation matrix of mental wellbeing, sleep quality, self-esteem, creative burnout and the burnout domains..

Table 4
Pearson Correlation Matrix for Main Variables

Variable	Mental wellbeing	Sleep quality (PSQI)	Self-esteem	Creative burnout	Exhaustion	Cynicism	Reduced accomplishment
Mental wellbeing	1.000	-0.089	0.402	-0.270	-0.003	-0.021	-0.318
Sleep quality (PSQI)	-0.089	1.000	-0.195	0.328	0.442	0.293	-0.036

Variable	Mental wellbeing	Sleep quality (PSQI)	Self-esteem	Creative burnout	Exhaustion	Cynicism	Reduced accomplishment
Self-esteem	0.402	-0.195	1.000	-0.327	-0.195	-0.211	-0.155
Creative burnout	-0.270	0.328	-0.327	1.000	0.512	0.592	0.556
Exhaustion	-0.003	0.442	-0.195	0.512	1.000	0.529	-0.277
Cynicism	-0.021	0.293	-0.211	0.592	0.529	1.000	-0.234
Reduced accomplishment	-0.318	-0.036	-0.155	0.556	-0.277	-0.234	1.000

Regression, Sensitivity, and Mediation Models

Strong HC3 regression indicated that the independent predictors of self-esteem post demographic factors were mental wellbeing and sleep quality. In the last model of creative-burnout, the low level of sleep quality, low level of mental wellbeing, and poor level of self-esteem were independent predictors. The last complete-case model explained 22.0% of the creative-burnout variance (adjusted $R^2 = 0.206$). The substantive conclusion of multiple-imputation sensitivity analysis was the same,

with pooled effects being significant in mental wellbeing, sleep quality, and self-esteem. Substantive predictors had low variance inflation factors, which means that there were no severe multicollinearity. Table 5 presents the strong HC3 regression models of self-esteem and creative burnout and Figure 2 depicts the standardized predictors of creative burnout and Figure 3 shows the plot of the coefficient of the self-esteem model. Table 6 displays the pooled sensitivity model which uses multiple-imputation, and Figure 4 illustrates the resulting coefficients of the burnout-model.

Table 5
Robust HC3 Regression Models Predicting Self-Esteem and Creative Burnout

Model	Outcome	n	R ²	Adj. R ²	Predictor	B	SE	β	p	LL	UL
Self-esteem model	Self-esteem	347	0.207	0.195	Age	0.071	0.073	0.051	0.329	-0.072	0.214
Self-esteem model	Self-esteem	347	0.207	0.195	Female gender	-0.643	0.427	-0.077	0.133	-1.483	0.197
Self-esteem model	Self-esteem	347	0.207	0.195	Year of study	0.153	0.180	0.044	0.395	-0.200	0.506
Self-esteem model	Self-esteem	347	0.207	0.195	Mental wellbeing	0.169	0.022	0.394	0.000	0.125	0.213
Self-esteem	Self-esteem	347	0.207	0.195	PSQI	-0.183	0.066	-0.144	0.00	-0.313	-0.053

Model	Outcome	n	R ²	Adj. R ²	Predictor	B	SE	β	p	LL	UL
model									6		
Burnout model	Creative burnout	328	0.220	0.206	Age	0.024	0.016	0.095	0.127	-0.007	0.055
Burnout model	Creative burnout	328	0.220	0.206	Female gender	-0.058	0.079	-0.039	0.461	-0.214	0.097
Burnout model	Creative burnout	328	0.220	0.206	Year of study	-0.017	0.034	-0.028	0.614	-0.083	0.049
Burnout model	Creative burnout	328	0.220	0.206	Mental wellbeing	-0.013	0.004	-0.173	0.001	-0.021	-0.005
Burnout model	Creative burnout	328	0.220	0.206	PSQI	0.065	0.013	0.289	0.000	0.039	0.090
Burnout model	Creative burnout	328	0.220	0.206	Self-esteem	-0.040	0.010	-0.226	0.000	-0.060	-0.021

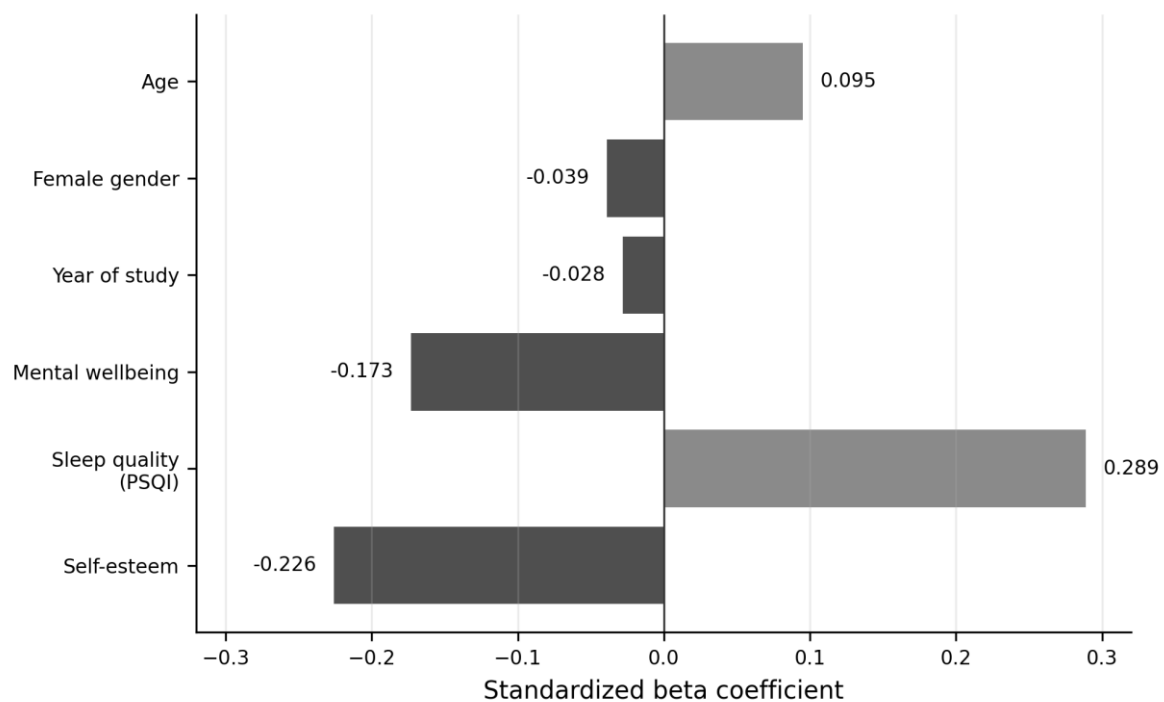
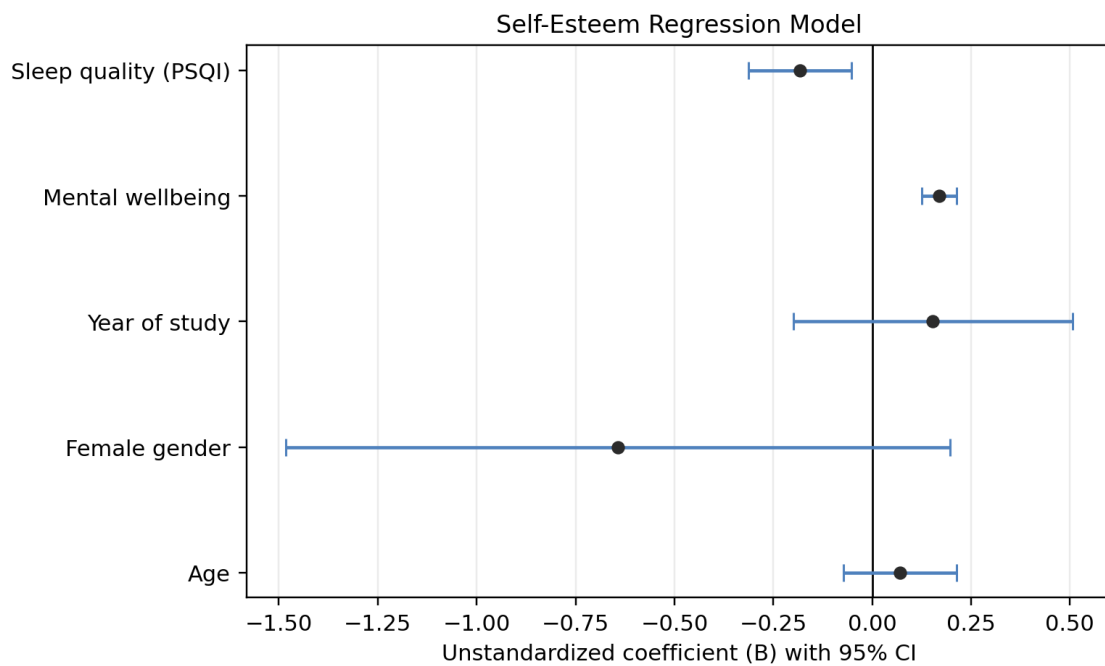


Figure 2
Standardized Predictors of Creative Burnout

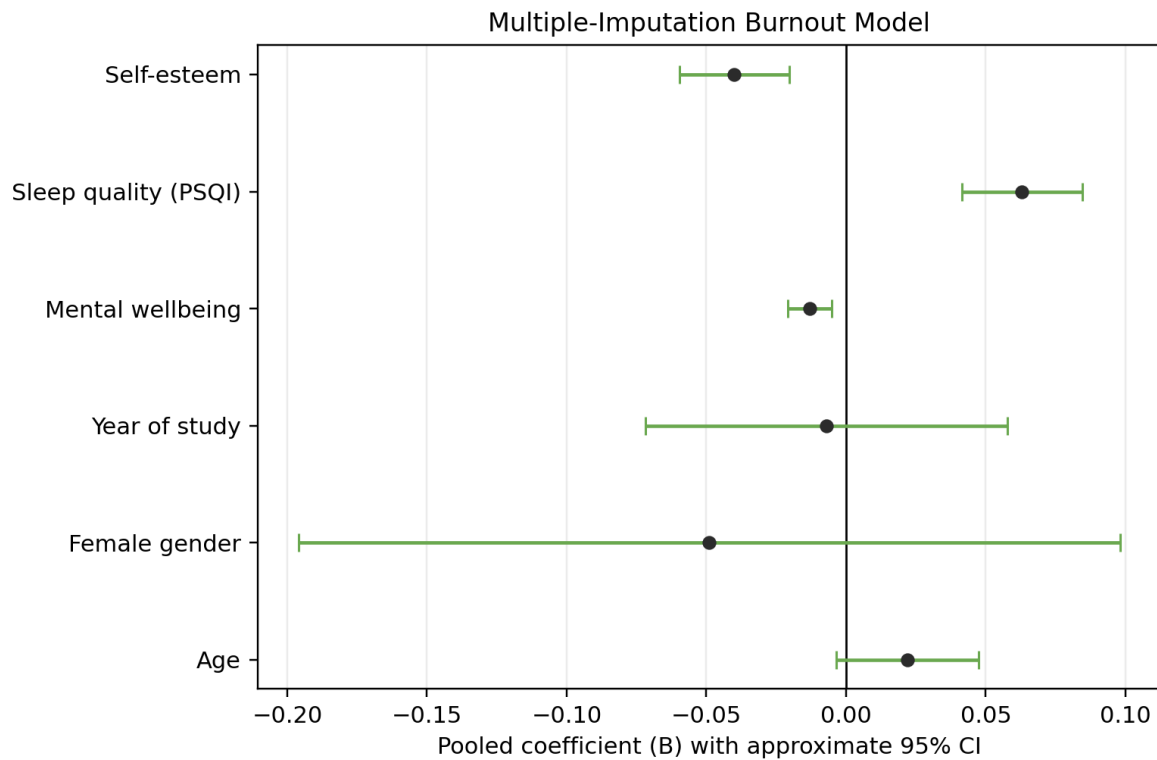
**Figure 3**

Coefficient Plot for the Self-Esteem Regression Model

Table 6

Multiple-Imputation Pooled Sensitivity Model Predicting Creative Burnout

Predictor	B	SE	t	df	p	Mean R ²
Constant	3.452	0.375	9.200	1455.687	0.000	0.215
Age	0.022	0.013	1.635	387.160	0.103	0.215
Female gender	-0.049	0.075	-0.651	1537.559	0.515	0.215
Year of study	-0.007	0.033	-0.219	350.682	0.827	0.215
Mental wellbeing	-0.013	0.004	-3.184	576.477	0.002	0.215
PSQI	0.063	0.011	5.539	2487.620	0.000	0.215
Self-esteem	-0.040	0.010	-4.101	3660.762	0.000	0.215

**Figure 4**

Coefficient Plot for the Multiple-Imputation Burnout Model

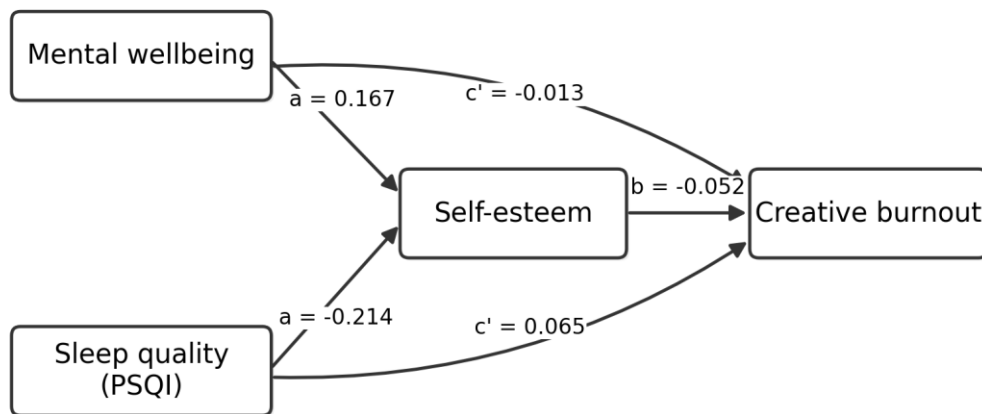
Bootstrap mediation showed that the relationships of both mental wellbeing and sleep quality with creative burnout were partially transmitted by self-esteem. An increased wellbeing was predicted to result in a stronger self-esteem, which was in turn predicted to result in lower burnout. Weakness in self-esteem as a result of poorer sleep quality in turn predicted increased burnout. These mediated

mechanisms are clinically significant since self-esteem is something that can be treated using cognitive-behavioural, self-compassion, strengths-based, and counselling approaches. Table 7 indicates the bootstrap mediation pathways via self-esteem, the mediation model is presented in Figure 5, and the indirect effects are reported in Figure 6.

Table 7

Bootstrap Mediation Pathways Through Self-Esteem

Pathway	a path	b path	c prime	Indirect effect	95% CI LL	95% CI UL	Bootstrap p p	n
Mental wellbeing → self-esteem → creative burnout	0.1672	-0.0486	-0.0133	-0.0081	-0.0123	-0.0045	0.0000	328
Sleep quality (PSQI) → self-esteem → creative burnout	-0.2144	-0.0520	0.0649	0.0111	0.0038	0.0203	0.0025	328



Indirect effects: wellbeing = -0.0081, 95% CI [-0.0123, -0.0045]; sleep = 0.0111, 95% CI [0.0038, 0.0203]

Figure 5
Bootstrap Mediation Through Self-Esteem

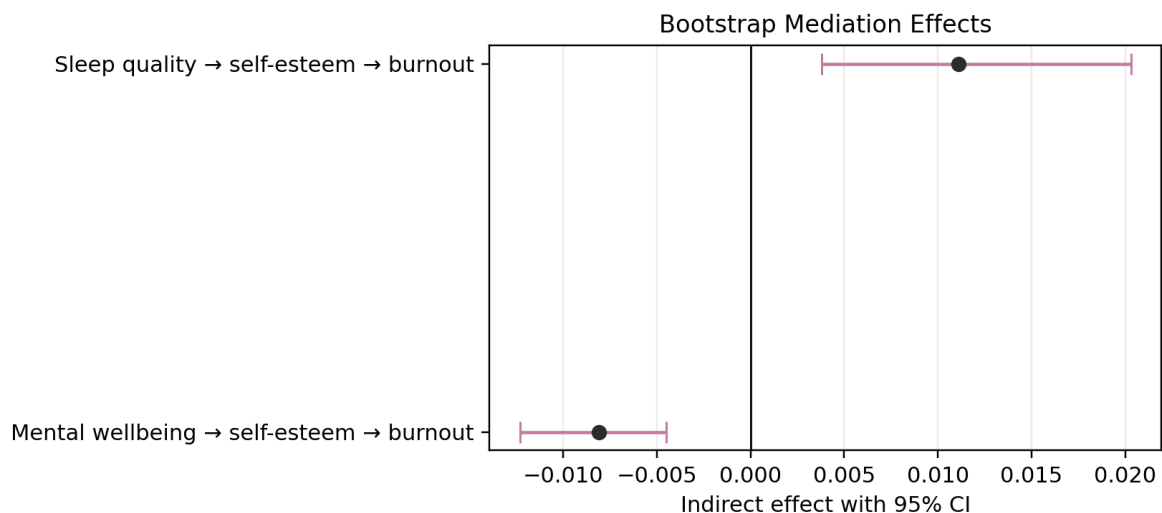


Figure 6
Indirect Effects With 95% Confidence Intervals for the Mediation Pathways

Subgroup and Structure Checks

Subgroup differences indicated that gender differences were the most significant in terms of sleep quality, with students of the female gender reporting worse sleep quality. Differences in year-of-study were minor, and six-institution comparisons ought to be viewed with caution since the sizes of the groups were not even after the merging of branches and subcampuses under parent institutions. Standardized gender differences are reported in Figure 7 to prevent a

misleading comparison between differently scaled results. The burnout item set scree/PCA inspection was included as a structure check as opposed to confirmatory factor analysis. Further studies are necessary to establish a creative-burnout measure that is specifically applicable to Pakistani art students. Table 8 gives subgroup comparisons by gender, year of study and institution group and Figure 8 presents the scree plot used as a structure check of the creative-burnout item set..

Table 8
Subgroup Comparisons by Gender, Year of Study, and Six-Institution Group

Comparison	Outcome	Female/Year M	Male/Group M	Statistic	p	Effect size	n
Gender	Self-esteem	26.987	27.623	-1.385	0.167	-0.161	354
Gender	Wellbeing	44.961	44.008	0.871	0.385	0.105	354
Gender	PSQI	7.379	6.434	2.722	0.007	0.305	354
Gender	Burnout	2.644	2.677	-0.394	0.694	-0.046	334
Year	Self-esteem			1.072	0.375	0.015	357
Year	Wellbeing			1.240	0.290	0.017	357
Year	PSQI			0.974	0.433	0.014	357
Year	Burnout			0.687	0.633	0.010	337
Inst. KW	Self-esteem			12.542	0.028		240
Inst. KW	Wellbeing			1.302	0.935		240
Inst. KW	PSQI			16.274	0.006		240
Inst. KW	Burnout			12.304	0.031		240

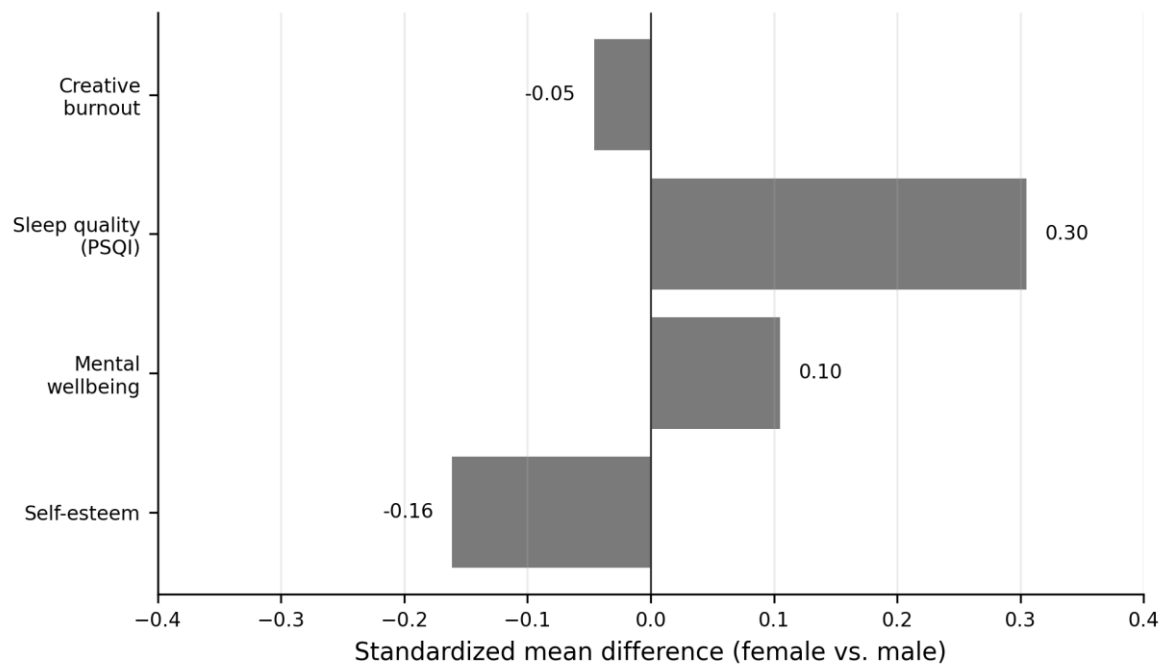


Figure 7
Gender Differences in Main Outcomes

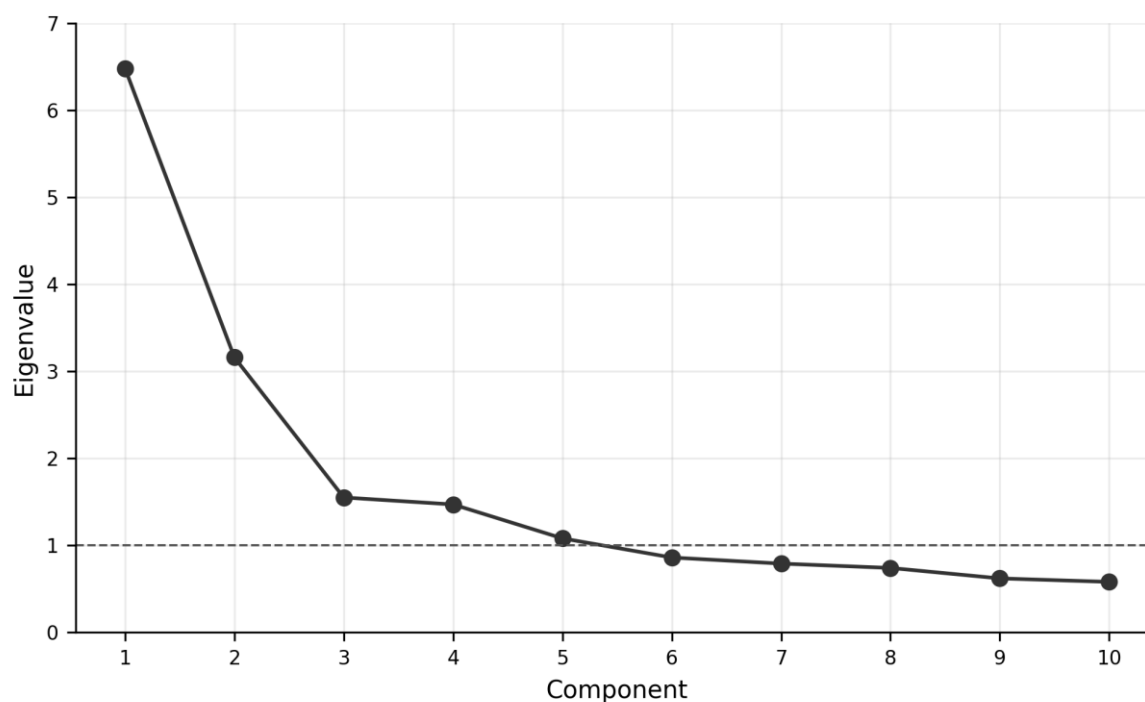


Figure 8
Scree Plot for Creative Burnout Items

Hypothesis Testing

Using the analytic results, there were clear tests of the hypotheses that were proposed. The hypothesis H1 was confirmed: mental wellbeing has a positive correlation with self-esteem ($r = +.402$) and with a negative correlation with creative burnout ($r = -.270$) and in the adjusted models it was found to remain a significant predictor of higher self-esteem ($B = +0.169$, $p = .001$) and lower burnout ($B = -0.013$, $p = .001$). H2 was also supported: the lower the quality of sleep was, the lower was self-esteem ($r = -.195$) and the higher was creative burnout ($r = 0.328$). Adjusted models also confirmed that sleep quality significantly predicted lower self-esteem ($B = -0.183$, $p = .006$) and higher burnout ($B = 0.065$, $p < .001$). The support of H3 was due to the fact that self-esteem partially mediated the effects of both mental wellbeing and sleep quality on creative burnout with significant bootstrap indirect effects in both pathways. H4 was partially supported: differences in gender showed up in the measures of sleep quality, but the differences in terms of year-of-study were not significant, and six-institution comparisons showed significant differences in self-esteem,

sleep quality, and creative burnout and non-significant differences in mental wellbeing. In general, Tables 710-732 and Figures 710-732 present the statistical data which was used to test these hypotheses.

Discussion

The results support a model of mental wellbeing and sleep quality being related to self-esteem and creative burnout in university art students, and self-esteem seems to be functioning as a psychological bridge between health related resources and burnout. The most practical implication is not to be taken lightly as burnout of creativity in the workplace or simply not having a stronger driving force. It is associated with the modifiable clinical and behavioural factors, in particular, the quality of sleep, wellbeing and self-esteem, which can be assessed and supported by university counselling, psychoeducation, and curriculum-sensitive prevention.

The quality of sleep proved to be a rather applicable indicator. The final model had higher levels of PSQI that predicted higher levels of creative burnout even after the inclusion of

mental wellbeing and self-esteem. This implies that sleep is a general correlate of distress as well as a behavioural risk factor in depletion in creative study. In the case of art students, the sleep intervention should be pragmatic as opposed to being moralizing. Creative sustainability, especially the normalization of rest, may be rewarded by studio culture as rewarding late-night labour and last-minute production (Becker et al., 2018; Buysse et al., 1989; Lund et al., 2010; Nakie et al., 2024; Zakiei et al., 2025).

Self-esteem was closely associated with mental wellbeing, and creativity burnout was negatively associated with mental wellbeing. This trend is conducive to positive clinical psychology interventions that include the building of strengths, meaning, social connection and emotional regulation as opposed to waiting until the students present with severe symptoms. Such interventions as wellbeing workshops, peer support, creative resilience groups, mindfulness-informed stress management, problem-solving counselling and self-compassion training can be useful. Notably, the interventions must not decrease the creativity to productivity. This is meant to assist students to maintain their creative identity without compromising sleep, self-worth or psychological health (Fredrickson, 2001; Keyes, 2002; Neff, 2003; Ryff, 1989; Tennant et al., 2007).

The outcomes of the mediation process can be clinically useful since self-esteem can be changed. Should self-esteem be a partial determinant of whether wellbeing and sleep are associated with burnout, then an intervention should focus on teaching students to have a different response to criticism, to decouple artistic output and creative activity in the global marketplace with self-worth, to tolerate imperfection, and to develop adaptive internal standards. There may be cognitive-behavioural techniques that can be aimed at, harsh self-evaluation, and catastrophizing following criticism. Shame and self-attack can be decreased with the help of compassion-focused strategies. The strength-based counselling can assist students to see some progress and identity beyond a particular project or grade. This is in

line with other evidence found that self-esteem is associated with psychological adjustment and vulnerability to stress (Baumeister et al., 2003; Orth and Robins, 2014; Rosenberg, 1965; Sowislo and Orth, 2013; Zhang, 2025).

The gender result of sleep quality has an application value. The female students stated that they had worse sleep, which could be due to the psychosocial, biological, safety, commuting, household or cultural pressures. Gendered expectations and mobility restrictions may impact the study routines, the availability of studio space, and rest in Pakistani settings. The university support services must thus provide gender sensitive screening, availability of counselling at any time, safe campus and psychoeducation which acknowledges cultural realities as opposed to assuming that all students have equal opportunity to sleep. The recommendation is in line with cross-cultural mental-health literature whereby special care and delicate modification of interventions should be highlighted (Hofstede, 2001; Mirza et al., 2006; Qadir et al., 2014; Rathod et al., 2017).

There are also methodological implications of the study. The alpha of self-esteem was less than what would be considered as a normal Rosenberg scale. This can be due to translation problems, reversed item confusions, a failure to maintain respondent anchors, carelessness of responding, and differences in culture on how to endorse. Prior to submission to journals, the initial Google Form wording, and response coding must be checked. The new analysis does not conceal this limitation, but it is clear in the new analysis. The future research should apply validated Urdu/English version of scale, pilot test reverse-coded items and to consider confirmatory factor analysis or item-response methods of scale refinement.

Clinical Implications

- Select and screen students of sleep problems, low wellbeing, low self-esteem and creative exhaustion as part of the high-pressure studio periods.

- Educate faculty and studio teachers in psychologically safe practices of critique that challenges work, but does not attack identity.
- Provide interventions of self-esteem and self-compassion to help students decouple creative performance and performance around the world.

Make referral channels between the academic departments and the counselling services whenever burnout, insomnia, depressive symptoms or functional impairment are noticed.

- Incorporate peer groups, mentoring of first-generation, female, hostel-based and economically stressed art students.

Limitations

- The cross-sectional design does not allow one to make a causal conclusion, longitudinal data is required as it will enable one to make a causal conclusion.

This is because all measures were self-reported and this increases the chances of shared-method variance and bias in responses.

This means that the creative-burnout measure needs to be further validated in Pakistani art-students groups.

With unequal subgroup sizes, it is difficult to draw strong conclusions on the differences in institutions.

Future Research Recommendations

The longitudinal designs should be used in the future to determine whether sleep problems are predictive of subsequent burnout, whether wellbeing interventions prevent creative exhaustion and whether self-esteem mediates over time. Qualitative interviews would also demystify the understanding of creative burnout, creative criticism, family, gender, and help-seeking by Pakistani art students. Future research ought to encompass clinical screening measures, objective or diary based measures of sleep, validated Urdu/English measures, and confirmatory factor analysis. The intervention trials might be used to test the brief sleep and self-esteem programs, which are embedded in

the art departments. Comparative studies between the South Asian and European schools of creative education would help establish the culturally-specific and universal risk factors in creative education.

Conclusion

This research offers empirically enhanced explanations of mental health, sleep quality, self-esteem and creative burnout among Pakistan university art students. The new title, combined literature review, clear hypotheses, grouping of six institutions, clear missing value treatment, and publication level figures enhance the appropriateness of the manuscript to undergo the peer review process. Findings have shown that low mental wellbeing, and worse sleep quality are linked with low self-esteem and high levels of creative burnout. The associations between the health-related predictors and burnout, as well as gender differences were most pronounced in relation to sleep quality. The findings are argued to support clinically, university counselling models that comprise of sleep-health promotion, wellbeing support, psychologically safe critique, and self-esteem strengthening. Creative students do not just require to do more work, they need an environment where the creativity can be maintained psychologically..

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Ethical Approval and Informed Consent

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and written/electronic informed consent for participation was obtained from all participants before data collection.

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