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The Role of ChatGPT in Enhancing the Academic Integrity of Sports Sciences and Physical Education Students

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ABSTRACT

The generative artificial intelligence platforms, particularly ChatGPT, have experienced rapid expansion in classrooms at higher education contexts, and as their rapid usage continues to grow, real concerns have arisen regarding their impact on students' academic integrity and their interaction with academic work. Although scholarly interests in AI-assisted learning are growing, limited empirical research has been conducted on the impact of ChatGPT usage on academic integrity within the applied disciplines, such as Sports Sciences and Physical Education, where students have to think critically, process information, and use evidence-based thinking, particularly in Pakistani universities, where no explicit AI policies exist. This quantitative research and cross-sectional design primarily aimed to fill that critical gap by quantifying the impact of ChatGPT usage on the academic integrity of Sports sciences and physical education students at the University of Lahore, Pakistan. The researcher used a purposive sampling and universal sample size to gather data from 218 respondents who actively used ChatGPT in academic activities, enrolled in BS, MPhil, and PhD programs, using two instruments, the ChatGPT Usage Questionnaire and the validated Academic Integrity Scale, which measured integrity in five subscales: honesty, fairness, respect, trust, and responsibility. The Pearson correlation revealed ($r = .541$, $p < .001$) a moderate and significant positive correlation between the use of ChatGPT and academic integrity. Linear regression also confirmed that ChatGPT usage is a significant positive predictor of academic integrity ($\beta = .541$, $B = .462$, $p < .001$), explaining 29.3% of variance in integrity score ($R^2 = .293$, $F = 89.502$, $p < .001$). Out of the five dimensions, honesty and respect had the most positive correlations with ChatGPT usage, while trust and fairness demonstrated a weak association, which indicates their dependence on the institutional policies framework. These findings support the alternative hypothesis, ChatGPT usage significantly impacts the academic integrity of Sports sciences and physical education students, indicating a purposeful academic tool and constructive usage of ChatGPT rather than a threat to academic standards, offering evidence-based

practical implications for artificial intelligence policies development, curriculum design, and pedagogical practice in higher educational contexts.

***Keywords**: ChatGPT, Academic integrity, Sports sciences, Physical education, Generative AI, Higher education, Pakistan.*

INTRODUCTION

The appearance of Artificial Intelligence as a transformative technology in higher education has completely reformed the method in which students access, process, and apply academic knowledge. Among the major developments within the technology world, the extensive and swift adoption of generative AI tools, especially ChatGPT, which is a large language model created by OpenAI and released publicly in November 2022 (Bettayeb et al., 2024). Within the short period of time following its rapid launch, ChatGPT involved more than one million users in less than a week and extended to 100 million monthly active users within two months, becoming the fastest growing consumer application in history (Tlili et al., 2023). This extraordinary spread has established its existence in academic settings, not merely a technological innovation but a significant educational phenomenon that necessitates careful empirical research.

ChatGPT is a part of the larger group of Generative Artificial Intelligence systems that directly produce new material, such as text, summaries, explanations, and organized academic answers, based on extensive datasets (Eke, 2023). As a developed version of GPT-3, it proves to have significant capabilities in a variety of language-oriented challenges, such as question-answering, translation, summarization, and structured content generation, making it an effective tool in an academic, professional, and research setting (Bin-Nashwan et al., 2023). Empirical data increasingly evidence its valuable impact on student learning outcomes. A recent meta-analysis by Wang and Fan (2025) indicated a considerable overall learning performance effect ($g = 0.867$), along with a significant positive effect on higher-order thinking ($g = 0.457$) and learning perception ($g = 0.456$). Research study by Mahapatra (2024) also showed statistically significant positive results in academic writing quality, as students reported that the use of ChatGPT supports in generating ideas, paraphrasing, finding references, and grammatical corrections. In a systematic review of higher education writing context, Imran and Almusharraf (2023) further reported that ChatGPT enhances creativity, improves writing efficiency, and promotes academic collaboration. Collectively, these results emphasize ChatGPT not as a raw content creator but as a proactive learning tool for gaining knowledge, consistent with the theoretical framework of constructivist learning theory, which highlights active collaboration with the environment and internal generation of meaningful insight (Wang and Fan, 2025). Alongside these promising educational uses of generative AI, the introduction of this technology into the higher education context has raised new concerns regarding academic integrity. The ease with which ChatGPT produces coherent, contextually appropriate academic text has driven considerations regarding plagiarism, authorship, originality, and the systematic destruction of independent thinking and analytical competency among university students (Cotton et al., 2023; Ankita Guleria et al., 2023). Cotton et al. (2023) argue that unrestricted ChatGPT usage causes noticeable risks to learning, identifying reduced independent reasoning and weakened analytical skill development as primary academic fears. Kasneci et al. (2023) similarly argued that while large language models offer favourable educational applications, their unregulated deployment may primarily challenge deep learning processes and the authentic creation of disciplinary proficiency. Eke (2023) goes further, arguing that generative AI challenges the established assumptions upon which academic integrity frameworks are constructed, demanding a fundamental, organised review of how honesty, authorship, and original scholarship are defined, evaluated, and enforced. These concerns reflect a broader and currently unanswered strain in the higher education context between the embrace of technical revolution and the preservation of academic authenticity, a tension that institutions globally are navigating without the advantage of reliable policy frameworks or clear empirical regulation.

Academic integrity, generally considered the set of ethical standards that regulate honest, fair, responsible, respectful, and trustworthy behaviors in academic work, represents a significant value associated with the academic community. The ethical architecture that puts student learning, assessment, and scholarly contribution into place is characterized by its five dimensions of honesty, fairness, respect, trust, and responsibility. The sustained significance of the preservation of these dimensions in the era of widespread access to AI is one of the challenges that are distinctive of modern higher education. As Bin-Nashwan et al. (2023) noted, uncertainty around AI, authorship, and academic authenticity causes institutional discomfort that cannot be addressed only with the help of individual rules of conduct, which points towards the extremely important development of evidence-based policies. However, regardless of the conceptual depth of this argument, the empirical research into the actual relationship between ChatGPT use and quantifiable academic integrity outcomes remains quite limited, especially in the context of discipline-specific studies. This significant gap in the existing literature is fundamental and practically consequential, specifically, it is highly critical in the domain of Sports Sciences and Physical Education. Students in these fields must be required to combine theoretical aspects of exercise physiology, biomechanics, sports psychology, research methodology, and health promotion with the practical requirements of performance analysis, training design, and evidence-based professional practice. The academic success and performance in these programs are assessed not on memorization but based on the conceptual depth, interpretation of data, and independent use of professional judgment, which defines disciplinary competence and prerequisites for long-term professional success, such as coaches, sports scientists, and physical educators in the long-term. AI applications in sports education have demonstrated significant potential, encompassing real-time training monitoring, personalized athletic programming, injury prediction, performance analysis, and adaptive instructional feedback (Song, 2024). ChatGPT's specific applicability to sports science contexts has been documented across areas, including personalized training program design, nutrition consultation, mental conditioning support, and sports coaching guidance (Genç, 2023). However, despite this expanding body of application-focused literature, empirical investigation of how ChatGPT usage specifically relates to academic integrity among students formally enrolled in Sports Sciences and Physical Education programs remains a conspicuous and underaddressed gap in the scholarly literature. Broader investigations examining AI's impact across general higher education populations, while valuable, provide insufficiently discipline-specific insights to guide institutional decision-making within applied health and sport sciences programs (Zawacki-Richter et al., 2019).

This absence of targeted empirical evidence creates genuine and practically significant uncertainty. Without reliable data, institutions cannot determine with confidence whether ChatGPT constitutes a constructive academic support tool that reinforces students' integrity orientations or whether it functions primarily as a driver of surface-level academic convenience and intellectual dependency. The methodological orientation of existing research compounds this problem further. The predominant research approach in this domain has favored perception-based surveys and qualitative explorations of attitudes toward AI rather than quantitative examination of measurable integrity indicators in relation to actual AI usage patterns (Zawacki-Richter et al., 2019). This methodological limitation constrains the extent to which reliable, generalizable, and institutionally actionable conclusions can be drawn about ChatGPT's impact on academic integrity. Furthermore, the rapid diffusion of generative AI tools has substantially outpaced the development of institutional policies and structured pedagogical frameworks within Pakistani universities, where student-AI engagement patterns may differ considerably from those documented in Western higher education contexts, and where clear AI usage guidelines remain largely undeveloped (Pisica et al., 2023). The present study is therefore designed to address this clearly identified and empirically significant gap. The primary aim of this study was to quantify the impact of ChatGPT usage on the academic integrity of students in Sports Sciences and Physical Education at the University of Lahore, Pakistan, using validated psychometric instruments, the ChatGPT Usage Questionnaire and Academic Integrity Scale, to test the hypotheses whether ChatGPT use significantly associated and impacts the academic integrity outcomes across the five dimensions of honesty, fairness, respect, trust, and responsibility. In this way, the research produced

evidence-based understandings that can meaningfully contribute to changes in the ethical and effective application of AI technologies by sports scientists, educators, curriculum developers, policymakers, and academic administrators responsible for specialized higher education. The article presents an alternative hypothesis (HA1): the ChatGPT usage has a significant impact on the academic integrity of Sports Sciences and Physical Education students, against the null hypothesis (H02): there is no significant positive impact of ChatGPT exists.

METHODOLOGY

Research Design

This study adopted a quantitative research and cross-sectional design to examine the impact of ChatGPT usage on the academic integrity of Sports Sciences and Physical Education students. A cross-sectional design was appropriate given the study's objective of examining the existing state of the relationship between variables within a defined population at a particular point in time, providing an efficient and practically feasible framework for initial hypothesis testing within this underexplored research domain (Creswell & Creswell, 2018).

Variables

This study consists of two primary variables, including ChatGPT usage as an independent variable (Sundkvist & Kulset, 2024), consisting of four dimensions: likelihood of ChatGPT, ChatGPT usage in Sports Sciences coursework, ChatGPT usage in other coursework, and first-time ChatGPT usage experience, and academic integrity as dependent variable, which consist of five psychometric subscales, honesty, fairness, respect, trust and responsibility (Ramdani, 2018).

Population and Sample Size

The target population of this study comprises Sports Sciences and Physical Education students who actively use ChatGPT for academic purposes, exam preparation, assignment completion, and project work, aged between 18 and 50 years, and who are enrolled in BS, MPhil, and PhD programs of Sports Sciences and Physical Education at the University of Lahore. Because the target population was specialized and skilled, a non-probability purposive sampling technique was used to select participants who met the inclusion criteria (Creswell & Creswell, 2018). The researchers aim for a sample that is both practically attainable and statistically sufficient to draw meaningful conclusions. The researcher collected a total of 218 valid responses with no missing data, including 69.3% younger than 25 years, 59.6% males, 73.9% enrolled in bachelor's, and 18.3% of MPhil students in the sample. This research scope was not restricted by gender to accept a comprehensive analysis of ChatGPT usage within the university.

Instruments:

Data was collected through a structured questionnaire using a Google Form, which consists of two standardized instruments and brief demographic information, the two validated instruments: the ChatGPT usage (Sundkvist & Kulset, 2024), consisting of 24 items and four dimensions: likelihood of ChatGPT, ChatGPT usage in Sports Sciences coursework, ChatGPT usage in other coursework, and first-time ChatGPT usage experience, was adapted from an existing AI usage measurement tool, and the Academic Integrity Scale (AIS), consisting of 17 items from five dimensions, honesty, fairness, respect, trust and responsibility (Ramdani, 2018). The academic integrity scale (AIS) has been widely validated across higher education contexts and provides quantifiable psychometric measures of academic integrity. Both

instruments were administered in English as this was the medium of instruction for participants, and they could easily understand the language.

Reliability and Validity

The content validity was determined by adapting the previously validated instruments from the existing literature. ChatGPT Usage Questionnaire was adapted from Charlotte Haugland Sundkvist and Kulset (2024), and the Academic Integrity Scale (AIS) was adapted from Ramdani (2018). To ensure relevance to the context of Sports Sciences and Physical Education, slight contextual modifications were implemented (e.g., changing the term ‘’accounting courses’’ into the term ‘’Sports Sciences courses’’). To determine reliability, the Cronbach alpha coefficient was used. The ChatGPT Usage instrument (24-items) has a Cronbach's alpha of 0.692, which is quite acceptable as far as internal consistency is concerned. A Cronbach's alpha of.709 was produced by the Academic Integrity Scale (17 items), which indicates an acceptable level of reliability. The combined scale (41 items) produced a Cronbach’s alpha of.801, which represents an excellent overall consistency. These values are even higher than the generally accepted standard of .70 for the social science research standard (Taber, 2018), confirming that the instruments reliably measured the intended constructs in this study.

Statistical Analysis

To ensure precision and clarity in results, SPSS (Statistics Package for Social Sciences) version 26 was used to evaluate the data. The responses were statistically analyzed on a five-point Likert scale (1 = strongly disagree; 2= disagree; 3= neutral; 4= agree; 5= strongly agree), conducting Shapiro–Wilk for normality, Cronbach's Alpha for reliability, and assumptions of regression, including linearity, homoscedasticity, independence of residuals, outliers, P-P plot, histogram, and descriptive statistics. Pearson correlation and linear regression analysis were employed to quantify the impact of ChatGPT usage on the academic integrity of Sports Sciences and Physical Education students.

Ethical Consideration

Rigorous efforts were made to minimize self-bias when targeting specialized individuals to collect data, thereby upholding ethical standards. All participants were provided with an informed consent statement at the beginning of the Google Form that was used to collect data. The consent page professionally conveyed the purpose of the research, the voluntary nature of contribution to the research, whether to fill the form or not, the anticipated time needed to complete filling the questionnaire form, the rights afforded to participants, and clearly stated that no emails, no names, and no other identifying information would be collected; everything would be anonymous. Respondents were assured that their data would be safely gathered only for scholarly research purposes. The male and female students between 18 and 50 years of age could participate in the research voluntarily. Data confidentiality was maintained throughout the study, and all findings are presented only in aggregate form to prevent any revelation of participants.

Settings

The study was conducted within the department of sport sciences and physical education, University of Lahore, and the researcher further collected data for this study from male and female students of the University of Lahore.

RESULTS

Normality and Assumption testing

Shapiro-Wilk test of normality confirmed that both the ChatGPT Usage mean (p = .119) and the Academic Integrity mean (p = .065) exceeded the .05 threshold, with W-statistics close to one, confirming normality of the variables and further validating the suitability of parametric statistical procedures. The results of scatterplot analysis indicated a positive linear relationship between variables with no evidence of non-linear patterning. The analysis of both variables through histograms and Q-Q plots showed that both variables were approximately normally distributed, with only minor tail deviations from the real data. The residual histogram and P-P plots revealed that the regression standardized residuals were approximately normally distributed, with the majority of the residual clusters around zero, and the strong alignment between the observed and expected cumulative probabilities. The Durbin-Watson statistic was 1.374 within an acceptable range, indicating that there was no significant autocorrelation among residuals, supporting the integrity of the regression model.

Descriptive Statistics

Table 1: *Descriptive Statistics, Mean and Standard Deviation for ChatGPT Usage and Academic Integrity* (n=218)

	Mean	Std. Deviation	N
ChatGPT usage	78.8028	6.43955	218
Academic Integrity Scale	67.9725	5.49983	218

The mean of ChatGPT usage 78.80 (SD = 6.44), indicate that Sports Sciences and Physical Education students reported a high level of engagement with ChatGPT usage for academic purposes. The mean for the Academic Integrity 67.97 (SD = 5.50) indicates that students generally reported a high level of academic integrity orientation, reflecting careful usage of ChatGPT for academic purposes in Sports Sciences and Physical Education. The higher mean score for ChatGPT usage relative to academic integrity scores indicates the considerable adoption of ChatGPT among this student population, examining its relationship with academic integrity, both timely and practically relevant.

Correlation Between ChatGPT Usage and Academic Integrity (AIS) of Sports Sciences & Physical Education students

Table 2: *Pearson Correlation between ChatGPT Usage Questionnaire and Academic Integrity Scale (AIS) (n =218)*

Variables		**ChatGPT**	**Academic Integrity Scale**
ChatGPT Usage	Pearson Correlation	1	.541**
	Sig. (2-tailed)		<.001

Pearson correlation analysis revealed (r = .541, p < .001) a moderate positive and statistically significant relationship between ChatGPT usage and academic integrity of sports sciences & physical education

students. The findings indicate that a higher level of ChatGPT usage is meaningfully associated with higher academic integrity scores among the students, providing the strong support for the alternative hypothesis.

Inter-Correlation among ChatGPT Usage Dimensions and Academic Integrity (AIS) Dimensions:

Table 3: *Inter-Correlation Among ChatGPT Usage Dimensions and Academic Integrity (AIS) Dimensions (n =218)*

		Honesty	Fairness	Respect	Trust	Responsibility
Try-ChatGPT Likelihood	Pearson Correlation	.261	.129	.207	.201	.206
	Sig. (2-tailed)	<.001	<.058	<.002	.003	.002
ChatGPT In Sport Sciences	Pearson Correlation	.350	.178	.343	.080	.278
	Sig. (2-tailed)	<.001	.008	<.001	.242	<.001
ChatGPT In Other Courses	Pearson Correlation	.409	.323	.341	.253	.256
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	<.001
ChatGPT Usage First Time	Pearson Correlation	.320	.155	.150	.116	.207
	Sig. (2-tailed)	<.001	.022	.027	.088	.002

Inter-correlation analysis between the sub-dimensions of both variables produced deep insights into the specific integrity dimensions and their relationship with different dimensions of ChatGPT usage. Among the ChatGPT usage subscale, the ChatGPT usage in other courses, consistently generated the strong associations with academic integrity, especially with the dimension of honesty (r =.409, p <.001), fairness (r =.323, p <.001), respect (r =.341, p <.001), trust (r =.253, p <.001) and responsibility (r =.256, p <.001). The use of ChatGPT in the field of Sports Sciences produced a positive and significant correlation with the dimension of honesty (r =. 350, p <. 001) and respect (r =. 343, p <. 001), but an insignificant relationship (r =. 080, p =. 242) with the dimension of trust. The subscale of ChatGPT, Try ChatGPT likelihood, indicates a statistically significant association with the dimension of honesty (r = .261, p < .001), with respect (r = .207, p = .002), with trust (r = .201, p = .003), and with responsibility (r = .206, p = .002), but

weak positive association (r = .129, p = .058) with the dimension of fairness. The subscale of ChatGPT, ChatGPT usage First-time, established significant associations with the dimension of honesty (r = .320, p < .001) and responsibility (r = .207, p =.002), whereas with the dimension of trust, insignificant (r =.116, p =.088). Across the entire inter-correlation matrix, honesty and respect appeared as the most reliably and strongly associated integrity dimensions with ChatGPT usage, while trust and fairness demonstrated relatively weak, in certain instances, insignificant correlation with ChatGPT usage variables.

Regression analysis

Table 4: *Model Summary of* ChatGPT Usage Questionnaire and Academic Integrity Scale (AIS) *(n =218)*

Model	R	R Square	Adjusted R-Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.541[a]	.293	.290	4.63523	.293	89.502	1

Model	**Change Statistics**		
	df2	Sig. F Change	Durbin Watson
1	216	<.001	1.374

The linear regression model (R value of .541) predicts a moderate positive and statistically significant relationship between ChatGPT usage and the academic integrity of students. The R Square value (0.293, adjusted 0.290) predicts that approximately 29.3% of the variance in academic integrity scores is explained by ChatGPT usage. This means that the ChatGPT usage predicts approximately one-third of the academic integrity variance among sports sciences and physical education students, while the remaining 70.7% is explained by other factors such as personal academic motivation, study habits, mentorship quality, academic culture, or digital literacy level. The F-statistic value (F =89.502) with the degrees of freedom (df1 =1, df2= 216), and p < .001 significance level, supports the overall regression model is statistically significant, indicating that ChatGPT usage is a meaningful predictor of the academic integrity of students. The estimated error is 4.635, and the Durbin-Watson value (1.374) falls within an acceptable range, with no significant evidence of autocorrelation between the residuals, further supporting the appropriateness of the regression model for this dataset.

Table 5: *ANOVA (Model Fit) of* ChatGPT Usage Questionnaire and Academic Integrity Scale (AIS) *(n =218)*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1922.991	1	1922.991	89.502	< .001
	Residual	4640.843	216	21.485		
	Total	6563.835	217			

The ANOVA outcomes (F=89.502, p < .001) indicate the regression model is statistically significant, the regression model fits the data significantly better than a model with no predictors, e.g, ChatGPT usage, as a predictor variable, explains a significant and meaningful proportion of variance in academic integrity of sports Sciences and physical education students.

Table 6: *Coefficients of* ChatGPT Usage Questionnaire and Academic Integrity Scale (AIS) *(n =218)*

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	31.544	3.863		8.165	<.001
	ChatGPT	.462	.049	.541	9.461	<.001

Model		95.0% Confidence Interval for B		Correlations		
		Lower Bound	Upper Bound	Zero-order	Partial	Part
1	(Constant)	23.929	39.158			
	ChatGPT	.366	.559	.541	.541	.541

The regression coefficient (B = .462, p < .001) revealed that a one-unit increase in ChatGPT usage is associated with a 0.462-unit enhancement in the academic integrity of Sport Sciences and physical education students. The standardized coefficient (β = .541) further indicates a moderate positive association between the two variables. The regression analysis with t-value (9.461, p < .001) and 95% confidence interval (.366 to .559) further supports that the statistically significant relationship between ChatGPT usage and academic integrity.

Regression equation: Academic Integrity = 31.544 + 0.462 (ChatGPT Usage)

DISCUSSION

Overview

The primary objective of this research was to quantify the impact of ChatGPT usage on the academic integrity of Sports Sciences and Physical Education students at the University of Lahore. The findings consistently support the alternative hypothesis, providing statistically strong evidence that ChatGPT usage predicts a moderate positive and significant impact on academic integrity across multiple dimensions. Both Pearson correlation and linear regression analysis position ChatGPT not as a threat to academic integrity standards but as an artificial intelligence tool whose purposeful and ethical academic engagement is positively associated with stronger academic integrity orientations among university students in Sports Sciences and Physical Education. These research findings reject the null hypothesis (H02) and provide empirical confirmation of the alternative hypothesis (HA1).

Overall ChatGPT usage impact on academic integrity:

Overall, the linear regression model (R value of .541) predicts a moderate positive and statistically significant relationship between ChatGPT usage and the academic integrity of students. The research findings are consistent with Imran and Almusharraf (2023), who highlighted that cautious and purposeful usage of ChatGPT in a higher education context promotes academic responsibility and ethical awareness among students rather than the destruction of ethical standards. Kasneci et al. (2023), like others, argued that large language models, e.g., artificial intelligence, when integrated deliberately into academic practice, assist in enhancing instead of eroding education quality, a hypothetical situation that the current research findings empirically validate within the context of Sports Sciences and Physical Education.

ChatGPT usage impact on Honesty, Respect, and Responsibility

Among the academic integrity subscales, honesty, respect, and responsibility consistently validate significant positive relationships with ChatGPT usage across various dimensions. The most highly associated academic integrity dimension was honesty as it was moderate positively associated with the ChatGPT usage in other courses ($r = .409$, $p < .001$), followed by a moderate positive usage of ChatGPT in Sports Sciences ($r = .350$, $p < .001$), a moderate positive usage of ChatGPT for the first-time ($r = .320$, $p < .001$), and almost moderate positive usage of trying ChatGPT – likelihood ($r = .261$, $p < .001$). The second academic integrity dimension, respect, had similar positive associations with both ChatGPT usage in Sport Sciences ($r = .343$, $p < .001$) and ChatGPT usage in other courses ($r = .341$, $p < .001$), producing a moderate positive and statistically significant relationship. The third academic integrity dimension, responsibility, showed significant positive correlation with all the ChatGPT usage dimensions. The patterns of relationship indicate that students' personal sense of responsibility and accountability towards academic integrity and norms are strengthened by ChatGPT usage in a specific academic context of sports sciences and physical education (Mathivanan & Rao, 2026). Bettayeb et al. (2024) highlighted that ChatGPT is an artificial intelligence tool that encourages active and transparent learning by providing personalized feedback, promotes honest usage of the ChatGPT tool for academic and learning ability, rather than passive dependency. Imran and Almusharraf (2023) also determined that ChatGPT usage encourages students to take better ownership of their learning, thereby enhancing the students' academic responsibility, which is particularly highly relevant in Sports Sciences, where applied and project-based learning are integral components of educational preparation in the profession.

Impact of ChatGPT usage on fairness and trust

Among the academic integrity subscales, fairness and trust showed a weak positive and inconsistent relationship with the ChatGPT usage across various dimensions throughout the study (Vásquez Cardona et al., 2025). ChatGPT usage in other courses had the strongest association with fairness dimension of academic integrity ($r = .323$, $p < .001$), while ChatGPT usage in Sports Sciences produced a weak but significant result with fairness dimension ($r = .178$, $p = .008$). The trying ChatGPT-likelihood validated as an insignificant predictor for fairness dimension ($r = .129$, $p = .058$); however, suggesting attitudinal openness towards the ChatGPT tool alone was not enough to predict enhanced perception of fairness without sustained engagement. The ChatGPT usage least consistently associated was with the Trust dimension, as ChatGPT usage in other courses only produced a significant association ($r = .253$, $p < .001$), while ChatGPT usage in Sports Sciences produced a negligible and insignificant result ($r = .080$, $p = .242$). Cotton et al. (2023) argued that determining fair usage of artificial intelligence in academic contexts remains an unresolved institutional challenge, while Bin-Nashwan et al. (2023) and Eke (2023) believed that issues surrounding artificial intelligence authorship, academic authenticity, and honesty required coordinated institutional responses rather than individual behavioral adjustment. Collectively, these findings highlight a critical area that requires to be addressed strategically, developing artificial intelligence

usage in academic settings by the university administration to foster a holistic and comprehensive integrity culture in today's AI era (Ateeq et al., 2024).

CONCLUSION

The results of this research study provide statistically strong empirical evidence that ChatGPT usage indicates a significant positive impact on academic integrity among Sports Sciences and Physical Education students at the University of Lahore, Pakistan. The Pearson correlation and regression analysis consistently demonstrate that students who purposely used ChatGPT for academic activities such as exam preparation, assignment tasks, and project preparation reported a higher level of academic integrity across multiple dimensions, particularly honesty, respect, and responsibility (Obed et al., 2025). The regression model established that ChatGPT usage meaningfully predicts academic integrity scores, with a unit increase in ChatGPT predicting a 0.462 unit enhancement in academic integrity scores. This statistically significant and quantified relationship fulfills the core research objective of the study and positions ChatGPT not as a threat to academic standards but as an artificial intelligence tool whose ethical and purposeful use is positively associated with stronger academic integrity orientations among university students in applied sports and health sciences disciplines (Padró et al., n.d.).

The academic integrity dimensions, trust and fairness, indicate a positive directional correlation but a weak and less consistent relationship with ChatGPT usage, suggesting that a robust and comprehensive academic integrity culture cannot be cultivated through just engaging with artificial intelligence. If all aspects of academic integrity are to be meaningfully sustained in the age of generative AI, then higher education should critically focus on artificial intelligence policy development, a transparent assessment framework, and clearly communicated artificial intelligence guidelines (Torres et al., 2023). Higher education universities, therefore, encourage the cultivation of evidence-based policies, invest in AI education focusing on educating students in AI literacy, and the use of AI should be integrated into transferable competencies across structured programs (Ng et al., 2023), especially in the fields of Sports Sciences and Physical Education, where professional competence and ethical practice are inseparably intertwined.

LIMITATIONS OF THE STUDY

The present study is limited due to several limitations. The research study was entirely conducted at the University of Lahore in the discipline of Sports Sciences and Physical Education, which limits the generalizability of the findings to other universities, disciplines, or broader cultural and educational contexts. As the researcher used a quantitative method and a cross-sectional study design, which prevents causal inference, the longitudinal observation of the ChatGPT usage and academic integrity. Both instruments relied on the student's self-reported perception and behavior, which introduces susceptibility to social desirability bias that may affect the perceived relationships. Moreover, the regression model explained only 29.3% of the variance in the academic integrity of students, indicating a large proportion of the variance remained unstudied in the current research. Further, the exclusion of non-ChatGPT users in the sample reduces the scope to draw comparisons between academic integrity outcomes of AI users and non-users.

RECOMMENDATIONS

The following are the recommended practices and future research suggestions:

1. Larger, more diverse samples from different universities, provinces, and disciplines should be utilized to improve the generalizability of the findings, strengthen statistical validity, and have a more

comprehensive understanding of the role of artificial intelligence in shaping academic integrity within the higher education context.

2. Comparative and longitudinal research should be conducted between private and public universities to analyse how long-term AI usage patterns, development, and the relationship between the variables over an extended period of time.

3. A qualitative or mixed-methods design can be used to disclose a deeper understanding of artificial intelligence, particularly ChatGPT and other AI tools, to explore deeper understanding of ChatGPT usage on academic integrity dimensions, e.g., respect, trust, and fairness.

Conflict of Interest:

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