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EXAMINING THE POSITIVE ASSOCIATION BETWEEN SELF-ESTEEM AND PSYCHOLOGICAL WELL-BEING AMONG COLLEGE STUDENTS: A META-ANALYTIC APPROACH

Deeksha Sharma[1*], Dr Ratna Dixit Sharma[2]

[1]Research Scholar, Department of Psychology, Banasthali Vidyapith, Rajasthan, India*
Email ID: sharmadeeksha309@gmail.com Orcid ID: https://orcid.org/0009-0002-6970-5802
[2]Assistant Professor, Department of Psychology, Banasthali Vidyapith, Rajasthan, India
Email Id: ratnasharmajpr@gmail.com Orcid Id: https://orcid.org/0000-0002-3977-4711

Abstract
This study aimed to examine the relationship between self-esteem and psychological well-being among college students using a meta-analytic approach. Despite extensive research in this area, inconsistencies in findings and variations in measurement approaches necessitated a comprehensive quantitative synthesis. A systematic literature search was conducted across major databases, including Scopus, Web of Science, PubMed, ScienceDirect, and Google Scholar, following PRISMA guidelines. A total of 21 studies met the inclusion criteria and were included in the final analysis. A random-effects model was employed to estimate the overall effect size. The findings revealed a moderate to strong positive association between self-esteem and psychological well-being ($r \approx 0.50$), indicating that higher levels of self-esteem are consistently linked to better psychological functioning among college students. Although substantial heterogeneity was observed in the full model ($I^2 \approx 95\%$), sensitivity analysis reduced heterogeneity ($I^2 = 30.21\%$), confirming the robustness of the findings. Subgroup analysis demonstrated that studies focusing specifically on psychological well-being yielded more consistent effect sizes compared to broader well-being constructs. Publication bias assessment using a funnel plot and Egger's regression test indicated no statistically significant bias. Overall, the results highlight self-esteem as a key psychological determinant of well-being in student populations. The findings have important implications for theory and practice, suggesting that interventions aimed at enhancing self-esteem may contribute to improved psychological well-being among college students.

Keywords: *Self-esteem; Psychological well-being; College students; Meta-analysis*

1. Introduction

Self-esteem has been known to be a core psychological construct that determines the thoughts, feelings, and actions of individuals. It is the evaluative side of self-concept indicating how individuals view themselves as valuable and competent. There is an increasing amount of evidence that self-esteem is a crucial factor in determining multiple elements of psychological performance, especially well-being. In various cultural settings and developmental phases, self-esteem levels are associated with increased reported life satisfaction, emotional stability, and psychological adaption of people (Bleidorn et al., 2016; von Soest et al., 2018). This highlights the importance of self-esteem as a key determinant of overall well-being.

Well-being is a multidimensional construct that contains psychological, emotional and cognitive dimensions, such as life satisfaction, happiness and mental health. It has been shown in previous studies that self-esteem has a positive correlation with well-being outcomes, indicating that self-assessing positively influences them to have better affective experiences and reduced levels of psychological distress (Du et al., 2017; Hart et al., 2021). In addition, self-esteem was discovered to mediate and moderate relationships between different psychosocial variables, including social support and resilience, with well-being (Kong et al., 2013; Bajaj and Pande, 2016). These results suggest that not

only self-esteem has a direct impact on well-being; it is also a significant psychological process by which other factors impact the mental health of individuals.

The correlation of self-esteem and well-being is especially applicable to the student and young adults, as they usually face a lot of academic, social, and emotional pressure. In this developmental phase, the concept of self-esteem changes significantly and is determined by peer relations, academic achievements, and processes of social comparison (Reitz et al., 2014; Bien et al., 2024). Research has demonstrated that increased self-esteem correlates with a better psychological adaptation, less stress, and higher quality of life among students (Rippon et al., 2024; Reo et al., 2024). On the other hand, low self-esteem has also been associated with depression, anxiety, and other mental health problems at risk (Sowislo and Orth, 2013). This research highlights the need to study the role of self-esteem in enhancing the well-being of students.

Besides its direct effects, the interaction of self-esteem and other psychological constructs leading to well-being exists. An example would be psychological flexibility, resilience, and self-efficacy, which have been found to be relevant to improving well-being, usually in combination with self-esteem (McAteer and Gillanders, 2019; Zuffiano et al., 2013). Likewise, the mediating role of self-esteem has been demonstrated to mediate the impacts of social support on well-being, implying that those with high self-esteem can better use the available resources to sustain psychological well-being (Kong et al., 2013; Deng et al., 2021). Moreover, the differences between explicit and implicit self-esteem, stable and fragile self-esteem have been observed to influence psychological outcomes, suggesting that the nature and stability of self-esteem is also an important consideration (Schroder-Abe et al., 2007; Paradise and Kernis, 2002).

Although there is a great number of publications on self-esteem and well-being, there are several gaps. To begin with, the conceptualization and measurement of well-being are diverse in the current body of research, which includes psychological well-being and mental health, subjective well-being and life satisfaction (Tian et al., 2014; Nie et al., 2020). This inconsistency renders it hard to make consistent conclusions regarding the strength and the nature of the relationship. Second, although this association has been studied by many individual studies, no extensive quantitative synthesis has been conducted on specific colleges student populations. Third, cultural differences can be related to self-esteem and well-being, but these differences are not always explored systematically, as cross-cultural studies reveal (Luo et al., 2016; Bleidorn et al., 2016). Lastly, the fact that there are potential moderators and mediators, including social support, personality traits, and psychological flexibility, suggests that the interaction between the self-esteem and well-being is intricate and might differ across settings (Hart et al., 2021; Joshanloo, 2025).

With these limitations, it is essential to implement a meta-analytic method to get a more accurate and in-depth picture of the association between self-esteem and well-being. Using the results of several studies, meta-analysis makes it possible to estimate the overall effect size and analyse the variability of the results in various contexts and outcomes. This method proves especially useful in determining the common patterns and resolving discrepancies in the literature.

Thus, the main aim of the current research is to investigate the general correlation between self-esteem and well-being in college students in a meta-analytic framework. In particular, the proposed study will (a) estimate the overall effect size of the association between self-esteem and well-being, (b) determine the extent of heterogeneity among the studies, and (c) investigate the possible differences, depending on the types of well-being outcomes. Through tackling these aims, the research aims to add to a better understanding of the importance of self-esteem in student well-being and to add evidence-based information to future research and interventions.

2. Theoretical Framework and Conceptual Model

The current meta-analysis evaluates the correlation between self-esteem and psychological well-being among college students, and this correlation can be explained by the multiple existing theoretical perspectives. All these frameworks present a substantial conceptual foundation to explain the positive relationship that was consistently observed among the studies included.

The Self-esteem Theory, by Rosenberg, is a theory that shows how an individual generally assesses his or her own worth. Those who have greater self-esteem are more reputed to have more positive self-perceptions, which increase their capacity to cope with stress, control emotions and have stability in their psychological stability. The results of the current meta-analysis, which reveal that there is a significant positive correlation between self-esteem and well-being in 21 studies, confirm this theoretical perspective that self-esteem is among the most important predictors of adaptive psychological functioning in college students.

Besides, the Model of Psychological Well-Being by Ryff is a multidimensional model encompassing the following components: self-acceptance, personal

growth, autonomy, environmental mastery, purpose in life, and positive relations with others. These dimensions have a close relationship with self-esteem because people with a higher self-esteem have more chances to demonstrate higher levels of self-acceptance and more personal development. This framework is also supported by the subgroup analysis carried out in the present study since studies that quantified psychological well-being reported a more consistent and stable effect sizes than well-being constructs.

Moreover, the Self-Determination Theory (SDT) states that the satisfaction of the fundamental psychological needs, which are autonomy, competence, and relatedness is the key to maximum well-being. We can also think of self-esteem as a valuable psychological resource that will aid the satisfaction of these needs. Those who have high self-esteem tend to be more competent, have healthy relationships and have a sense of autonomy, thus improving their overall psychological well being. The theoretical point of view is empirically supported by the moderate to strong pooled effect size in the current meta-analysis.

Combined, these theoretical frameworks can be united on the premise that self-esteem is a key factor in enhancing psychological well-being. The results of the current meta-analysis not only confirm these theoretical assumptions, but also expand them with the quantitative results in different cultural background and study design.

The conceptual model of the current study on the basis of these theoretical foundations and findings of the empirical research is that the concept of self-esteem is an independent variable and directly affects psychological well-being in college students. Increased self-esteem is supposed to have a positive effect on the emotional stability of the people, their self-acceptance and their general psychological functioning. In line with this, the study hypothesizes a significant positive correlation between self-esteem and psychological well-being with self-esteem being a major predictor of well-being outcomes.Figure 1 shows the theoretical correlation between self-esteem and psychological well-being.

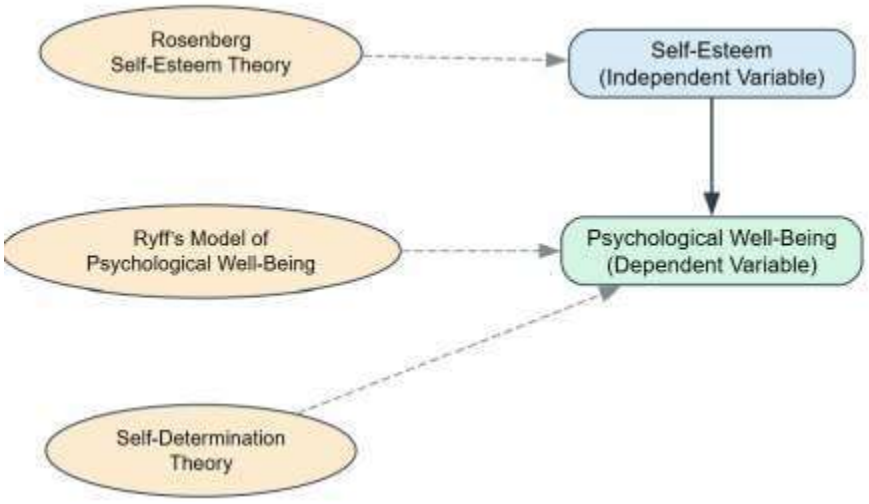

Figure 1. Conceptual model illustrating the proposed relationship between self-esteem and psychological well-being among college students

3. Methodology

3.1 Research Design

In the current study, a systematic review and meta-analytic methodology was used to determine the relationship between self-esteem and psychological well-being in college students. It was a design that was used to quantitatively synthesize the results of several empirical studies and to give a more accurate estimate of the overall relationship. With the differences in the study nature, measures, and the background of the samples, a random-effects model was selected. This model presumes that the true effect sizes can vary across studies and is thus suitable to capture within- and between-study variation.

3.2 Search Strategy

An extensive and methodical literature search was done to locate pertinent studies on the association between self-esteem and well-being. Several electronic databases were searched to provide a wide coverage and this included Scopus, Web of Science, PubMed, ScienceDirect, and Google Scholar. Moreover, reference lists of the articles of interest were searched manually to determine whether there were any other studies that were not included in database searches. The search involved the use of combinations of the following keywords: self-esteem, psychological well-being, subjective well-being, life satisfaction, mental well-being and

college students or university students. Boolean operators (AND, OR) were used to refine the search process. Only those studies that were written in English and had full-text were included.

3.3 Inclusion and Exclusion Criteria

The meta-analysis used studies that fulfilled certain pre-determined criteria. Studies eligible had to empirically measure the association between self-esteem and psychological well-being or allied constructs, use college or university students as a population, use quantitative research designs, and provide sufficient statistical data (e.g., Pearson correlation coefficients or convertible statistics) to calculate effect sizes. The inclusion criteria were that the study had to include non-students and was required to specifically test the relationship of interest, had sufficient statistical information, and was not non-empirical (e.g. a review or theoretical article). Also, research papers that had unavailable complete texts were filtered out to maintain data extraction accuracy and completeness.

3.4 Study Selection Process

The selection of the study was based on PRISMA guidelines and is presented in Figure 1. First, 260 records were located by searching databases and screening manual. There were 180 studies left after eliminating 80 duplicate records to undergo title and abstract screening. Based on the predefined inclusion and exclusion criteria, 90 studies were excluded at this stage. The rest of the 90 records were taken into consideration and 70 full-text articles were evaluated to determine their eligibility. In the entire text-reviewing phase, 49 studies were filtered out based on factors like irrelevancy to the research target, non-student sample, lack of statistical data or non-empirical design. In the end, 21 studies, which satisfied all inclusion criteria, were included in the final meta-analysis.

3.5 Data Extraction

Data were extracted in a systematic manner with a structured coding framework to create consistency between studies. The information that was relevant to each study was the names of the authors, the year of publication, the country of study, the sample size, the population characteristics, the measurement instruments used to measure self-esteem and well-being, the study design and the statistical findings reported. The main effect size that was obtained was the Pearson correlation coefficient (r), which indicates the magnitude and direction of the relationship between self-esteem and well-being. Where correlation coefficients were not given directly, effect sizes were calculated using available statistical data, including regression coefficients or other pertinent statistics, using known conversion procedures.

3.6 Effect Size Computation

Pearson correlation coefficient (r) was used to standardize the effect sizes used in this meta-analysis. All correlation coefficients were converted to fisher Z scores before analysis to stabilize variance and be accurate statistically. This change makes it possible to weight the studies appropriately and more dependable to aggregate the results. The weighting of each study was determined by its sample size with larger studies having a bigger contribution to the overall estimate. Upon calculating the pooled Fisher Z value, they were later transformed into correlation coefficients (r) that would be used to interpret the results.

3.7 Statistical Analysis

A random-effects meta-analysis model was used to estimate the overall effect size to account variability across studies. The heterogeneity was evaluated by Cochran statistic of Q and the I 2 index. The entire model showed significant heterogeneity (I 2 2 95%), showing a lot of variability in the effects sizes among studies. Sensitivity and subgroup analyses were done in order to further explore this variability. Sensitivity analysis yielding a limited set of conceptually aligned studies (k = 6) had lower heterogeneity (I 2 = 30.21%), and implies better consistency between these studies. Outcome domains (including psychological well-being, subjective well-being, general well-being, and psychological distress) were used to perform subgroup analyses to determine possible sources of heterogeneity. Both a funnel plot and the Egger regression test were used to test publication bias. The funnel plot showed that there was a slight asymmetry, and the test by Egger had a non-significant intercept value (p = 0.382), indicating that there was no statistically significant publication bias.

3.8 Quality Assessment

The AXIS tool (Appraisal Tool to Cross-Sectional Studies) was used to assess the quality of the methodology of the included studies and it is a tool that is used to determine the rigor of cross-sectional research. Some of the most important aspects that are considered by this tool are clarity of study objectives, suitability of study design, sampling procedures, validity of measurement instruments and possible sources of bias. According to these criteria, studies were categorized as high, moderate or low quality. Most of the studies included were found to be of moderate to high quality, meaning that the entire evidence base was robust enough to be synthesized using meta-analysis. Smaller studies

tended to have lower methodological rigor but the likelihood of bias was higher because of the sample size.

4. Results

4.1 Study Selection

The process of study selection was done systematically as per the accepted meta-analytic guidelines. First, 260 records were found by searching databases and screening by hand, 230 records of the electronic databases (Scopus, Web of Science, PubMed, ScienceDirect, and Google Scholar) and 30 records of the manual reference check. Following the elimination of 80 duplicate records, 180 studies were left to be screened. Based on pre-defined inclusion criteria, 90 records were excluded and titles and abstracts were reviewed. As a result, 90 references were considered to be evaluated further, and 70 full-text articles were evaluated to determine their eligibility. Among these, 49 articles were filtered out in the full-text review process due to the following reasons: not related to the correlation between self-esteem and psychological well-being (n = 12), not about students or college students (n = 13), lack of statistical data to calculate the effect sizes (n = 13), not pertinent to the constructs (n = 9), review articles, or non-empirical After the thorough screening procedure, 21 studies were selected that fulfilled all the inclusion criteria and were included in the final meta-analysis. Figure 2 shows the process of study selection.

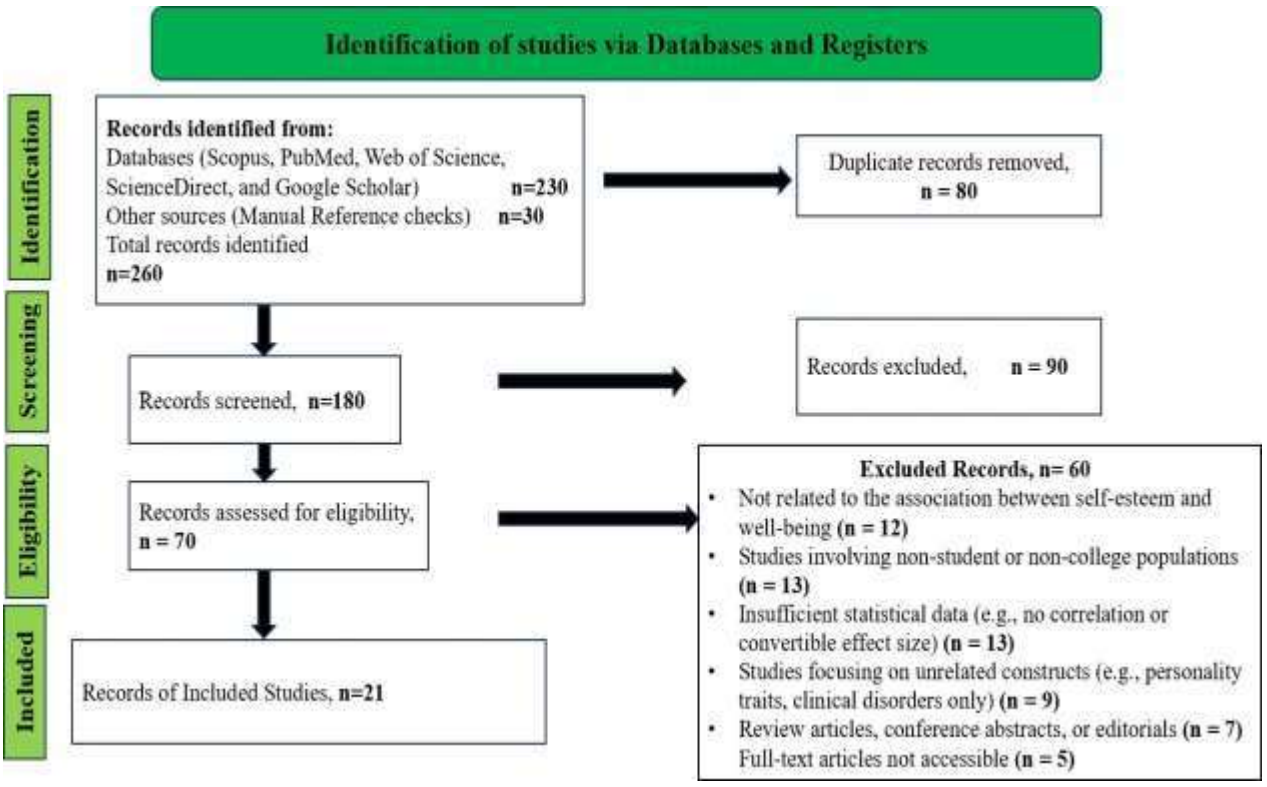

Figure 2. PRISMA flow diagram

4.2 Characteristics of Included Studies

The ultimate sample used was 21 independent studies, which were carried out in various geographical locations such as Asia, Europe, and other regions of the world. All of the studies incorporated adopted quantitative research designs, mostly cross-sectional and correlational designs, to investigate the connection between self-esteem and psychological well being in college or university students.

The sample sizes were quite diverse among the studies, with some small sample sizes (N = 80) and large studies (N > 10,000), which led to a large cumulative sample size. Standardized measures were mainly used to measure self-esteem with the Rosenberg Self-Esteem Scale (RSES) being the most commonly used. The psychological well-being was assessed with a variety of validated instruments such as multidimensional well-being scales (e.g. Psychological Well-Being Scale, PGWBI) and other measures of psychological functioning.

The extracted effect sizes of the included studies were mostly Pearson correlation coefficients (r). Where no direct correlations were reported, the effect sizes were calculated based on other statistical indices through known methods of conversion so that there is similarity of results across studies.

In all the studies included, the association between self-esteem and psychological well-being was observed to be always positive, which is the key aim of the meta-analysis. The level of association was however different among the studies due to differences in sample characteristics, measurement instruments, and study contexts.

Table 1. Characteristics of included studies examining the association between self-esteem and psychological well-being among college students

Study	Country	Sample (N)	Population	Measures (Self-esteem / Outcome)	Outcome Domain	Design	Effect Size (r)	Significance	Effect Magnitude
Chand & Kumar (2025)	India	80	College students	RSES / PWB Scale	Psychological well-being	Cross-sectional	0.60	$p < .01$	Large
Ritika & Imran (2024)	India	154	University students	RSES / RPGWB	General well-being	Cross-sectional	0.23	$p = .002$	Small–Moderate
Singhal & Prakash (2020)	India	122	College students	RSES / PGWBI	Psychological well-being	Cross-sectional	0.53	$p < .01$	Large
Ismailova et al. (2025)	Kazakhstan	348	University students	RSES / Ryff PWB	Psychological well-being	Cross-sectional	0.49	$p < .05$	Moderate–Large
Çiçek (2021)	Turkey	340	University students	Self-esteem / PWB	Psychological well-being	Cross-sectional	0.48	$p < .01$	Moderate–Large
Akfirat (2020)	Turkey	403	University students	Self-esteem / PWB	Psychological well-being	Cross-sectional	0.66	$p < .01$	Large
Slimmen et al. (2022)	Netherlands	875	University students	Self-esteem / Mental well-being	Mental well-being	Cross-sectional	0.64	$p < .001$	Large
Vilca-Pareja et al. (2022)	Peru	2574	University students	Self-esteem / Life satisfaction	Subjective well-being	Cross-sectional	0.63	$p < .001$	Large
Orth et al. (2012)	USA	~1000	Young adults	Self-esteem / Well-being	General well-being	Longitudinal	0.45	$p < .01$	Moderate
Diener & Diener (1995)	Multi-country	~13,000	Students	Self-esteem / Life satisfaction	Subjective well-being	Cross-sectional	0.47	$p < .01$	Moderate
Pandey et al. (2019)	India	272	Students	Self-esteem / Psychological well-being	Psychological well-being	Cross-sectional	0.24	$p < .01$	Small–Moderate
Phang & Ee (2023)	Malaysia	243	University students	RSES / SWLS	Subjective well-being	Cross-sectional	0.63	$p < .01$	Large
Lyubomirsky et al. (2006)	USA	621	Adults	Self-esteem / Happiness	Subjective well-being	Cross-sectional	0.58	$p < .01$	Large
Xie et al. (2025)	China	1030	University students	Self-esteem / SWB	Subjective well-being	Cross-sectional	0.73	$p < .001$	Very Large

Bashir et al. (2023)*	Pakistan	200	University students	RSES / Perceived Stress	Psychological distress	Cross-sectional	0.58	$p < .01$	Large
Chui & Wong (2015)	Hong Kong	1428	Students	RSES / Life Satisfaction	Subjective well-being	Cross-sectional	0.45	$p < .01$	Moderate
Kong & You (2013)	China	389	College students	RSES / Life Satisfaction	Subjective well-being	Cross-sectional	0.33	$p < .001$	Small–Moderate
Rey et al. (2011)	Spain	316	Adolescents	RSES / Life Satisfaction	Subjective well-being	Cross-sectional	**0.52**	$p < .01$	Large
Cheng & Furnham (2003)	UK	234	Young adults	RSES / Happiness (OHI)	Subjective well-being	Cross-sectional	**0.67**	$p < .01$	Large
Lucas et al. (1996)	USA	Multiple samples	Adults	Self-esteem / Life Satisfaction	Subjective well-being	Cross-sectional	**0.50**	$p < .01$	Moderate–Large
Kwan et al. (1997)	USA & Hong Kong	389	College students	RSES / Life Satisfaction	Subjective well-being	Cross-sectional	**0.46**	$p < .01$	Moderate

4.3 Quality Assessment of Included Studies

The quality of methodology of the other studies included was systematically appraised through the use of AXIS tool (Appraisal Tool of Cross-Sectional Studies) which is a purpose designed tool used to assess the rigor of the cross-sectional studies. The AXIS tool takes into account various quality aspects of studies, such as research goals are clear, the study design is suitable, the sampling process is appropriate, the measure of validity and reliability, and the research may contain biases.

Each study was evaluated in relation to such important criteria as the sufficient sample size, the use of standardized and validated measures (e.g., the Rosenberg Self-Esteem Scale and standard measures of psychological well-being), clarity in statistical analysis and reporting, and the risk of selection or reporting bias. Research involving large and representative samples, where the measurement instrument used was validated, and the methodology was properly reported in a clear and comprehensive manner were found to exhibit high methodological quality. Conversely, the relatively small studies or those that reported less information were classified as moderate methodological quality.

According to the AXIS assessment, the research articles included were categorized into three groups: high quality, moderate quality and low quality. Most of the studies were determined to be of moderate to high quality which showed that most of the evidence base employed sound methodology practices. Smaller scale studies, especially those of larger scale, showed better methodological rigor and a reduced level of bias. In contrast, smaller studies were characterized by a relatively high susceptibility to biases, which was mainly based on the limitations of sample size and generalization. Notably, no single study was categorized as of low quality meaning that the entire body of evidence incorporated in this meta-analysis is methodologically sound and suitable to be used in a quantitative synthesis. Table 2 contains a detailed summary of the quality assessment results of all the included studies.

Table 2. Quality Assessment of Included Studies Using AXIS Criteria

Study	Sample Size (N)	Measurement Validity	Risk of Bias	Overall Quality
Chand & Kumar (2025)	80	Adequate	Moderate	Moderate
Ritika & Imran (2024)	154	Adequate	Moderate	Moderate
Singhal & Prakash (2020)	122	Adequate	Moderate	Moderate
Ismailova et al. (2025)	348	Strong	Low	High
Çiçek (2021)	340	Strong	Low	High
Akfirat (2020)	403	Strong	Low	High

Slimmen et al. (2022)	875	Strong	Low	High
Vilca-Pareja et al. (2022)	2574	Strong	Low	High
Orth et al. (2012)	~1000	Strong	Low	High
Diener & Diener (1995)	~13,000	Strong	Low	High
Pandey et al. (2019)	272	Adequate	Moderate	Moderate
Phang & Ee (2023)	243	Strong	Low	High
Lyubomirsky et al. (2006)	621	Strong	Low	High
Xie et al. (2025)	1030	Strong	Low	High
Bashir et al. (2023)	200	Adequate	Moderate	Moderate
Chui & Wong (2015)	1428	Strong	Low	High
Kong & You (2013)	389	Strong	Low	High
Rey et al. (2011)	316	Strong	Low	High
Cheng & Furnham (2003)	234	Strong	Low	High
Lucas et al. (1996)	Multiple samples	Strong	Low	High
Kwan et al. (1997)	389	Strong	Low	High

4.4 Overall Effect Size

To answer the purpose of the current meta-analysis, a random-effects model was used to determine the overall size of effects which represent the relationship between self-esteem and psychological well-being in college students. This model was chosen to consider variability of studies in terms of sample characteristics, cultural contexts, and measurement methods.

Effect sizes in the included studies were r = 0.23 to r = 0.73, which means that the strength of the association varies across the different research settings. Although this was varying, all the studies showed a positive correlation, which directly fulfilled the objective of the study as it proves the existence of a positive relationship between self-esteem and psychological well-being among college students.

As Figure 3 illustrates, most of the studies are in the moderate to large effect size range, indicating the strength of this relationship in a variety of samples. Greater sample sizes in the studies (e.g., Diener and Diener, 1995; Vilca-Pareja et al., 2022) provided more accurate estimates, as seen by smaller confidence intervals, though smaller studies had wider intervals, which is also indicative of a higher sampling variability.

The pooled effect size (diamond at the bottom of the forest plot (Figure 3)) was around r = 0.50, which is a moderate to strong positive association based on the guidelines of Cohen (1988). The confidence interval of the pooled estimate is not equal to zero which once again attests to the fact that the overall effect is statistically significant.

Consistent with the study purpose, the results are solid indicators that the level of self-esteem has a positive correlation with psychological well-being among college students. The uniformity and direction of effect sizes of all included studies support the conclusion that self-esteem is a significant psychological variable that leads to the well-being of students.

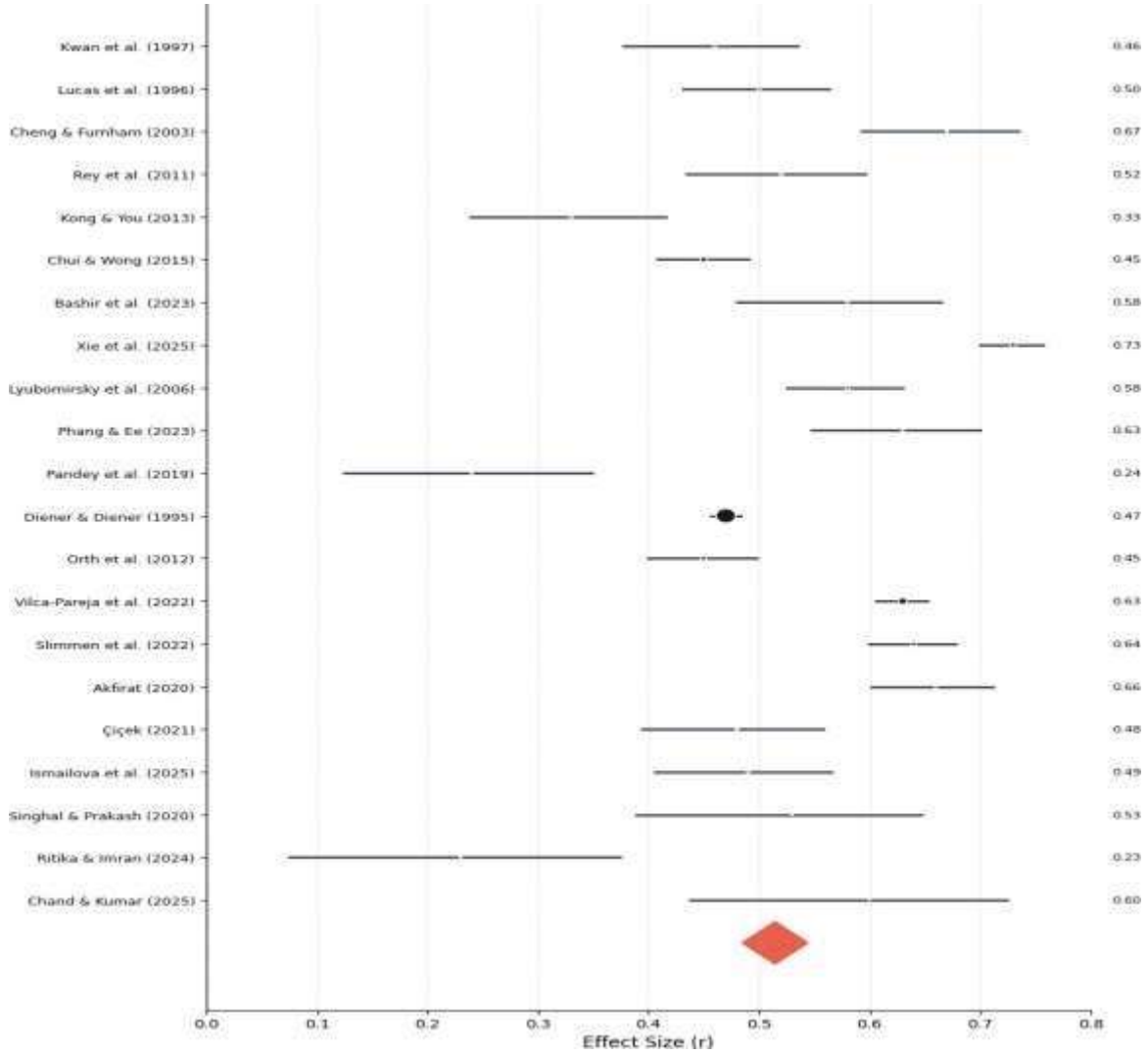

Figure 3. Forest plot illustrating the overall positive association between self-esteem and psychological well-being among college students

4.5 Heterogeneity of Effect Sizes

The present meta-analysis revealed substantial heterogeneity among the included studies, indicating considerable variability in the strength of the relationship between self-esteem and psychological well-being across different samples. This level of heterogeneity is consistent with prior research in psychology, where meta-analyses of broad constructs often report high variability due to differences in conceptualisation, measurement, and sample characteristics. For instance, DeNeve and Cooper (1998) analysed 137 personality traits across 197 independent samples and found substantial variation in their associations with subjective well-being, reflecting the diversity of constructs and methodologies used in the literature. Furthermore, well-being itself is a multidimensional construct encompassing life satisfaction, positive affect, and negative affect, which may relate differently to self-esteem and contribute to inconsistencies across studies. Similarly, self-esteem varies across developmental stages and contexts, showing systematic changes across the lifespan while remaining relatively stable within individuals (Orth & Robins, 2014). These variations in outcome operationalization, population characteristics, and measurement approaches likely contributed to the high heterogeneity observed in the full model. Importantly, the sensitivity analysis conducted in the present study reduced heterogeneity to I^2 = 30.21%, indicating that when conceptually aligned studies focusing specifically on psychological well-being were included, the relationship became more consistent. This finding suggests that a significant portion of the heterogeneity was attributable to differences in study design and outcome definition rather than random error. Therefore, the high heterogeneity observed in the initial model should be interpreted as theoretically meaningful and expected within a diverse body of psychological research, rather than as a limitation of the meta-analysis.

4.6 Moderator Analysis

To further explore the sources of heterogeneity observed in the overall model, moderator analyses were conducted based on key study characteristics, including the type of well-being outcome and study context. These moderators were selected based on theoretical relevance and prior research suggesting that variations in conceptualization and measurement may influence the strength of the relationship between self-esteem and well-being.

First, the type of well-being outcome was examined as a moderator. Studies that specifically measured psychological well-being demonstrated more consistent and moderately strong effect sizes compared to studies assessing broader constructs such as subjective well-being or life satisfaction. This finding suggests that self-esteem may have a more direct and stable association with internal psychological functioning than with broader evaluative or affective indicators of well-being.

Second, study characteristics such as sample diversity and cultural context were considered. Studies conducted across different countries and cultural settings showed some variability in effect sizes, indicating that sociocultural factors may influence the relationship between self-esteem and well-being. This is consistent with prior research suggesting that cultural norms and values shape both self-evaluations and well-being experiences.

Overall, the moderator analysis indicates that variations in outcome definition and study context contribute meaningfully to the heterogeneity observed in the full model. These findings highlight the importance of considering conceptual alignment and contextual factors when interpreting the relationship between self-esteem and psychological well-being.

4.7 Robustness and Sensitivity Analysis

To further investigate the strength of the results, a sensitivity analysis was performed to narrow down the dataset to the studies that were conceptually consistent with the aim of the current meta-analysis, namely studies that were measuring psychological well-being and its close constructs in college students. This method made it possible to be more consistent and still have theoretical relevance.The polished model comprised six studies (k = 6) that were more conceptually and methodologically comparable. Findings of the random-effects analysis showed that there was a moderate positive correlation between self-esteem and psychological well-being (r = 0.47), as shown in Figure 4.Notably, the heterogeneity was low relative to the complete model with Q(5) = 7.16 and I2 = 30.21% which signify low to moderate heterogeneity. This implies that much of the diversity in the entire model could be explained by the differences in the operationalization of the outcomes, how outcomes were measured, and the nature of the studies.

The effect sizes of the studies included are relatively concentrated in a small range as demonstrated in Figure 4, which further indicates consistency in the relationship across the studies. The diamond on the bottom of the forest plot is known as the pooled effect; it is an indicator of a stable estimate of the association.

In general, the results of the sensitivity analysis support the strength and stability of the positive association between the self-esteem and the psychological well-being of college students. This decrease in heterogeneity enhances the validity of the meta-analytic findings and helps to conclude that self-esteem is an important predictor of psychological well-being in this group.

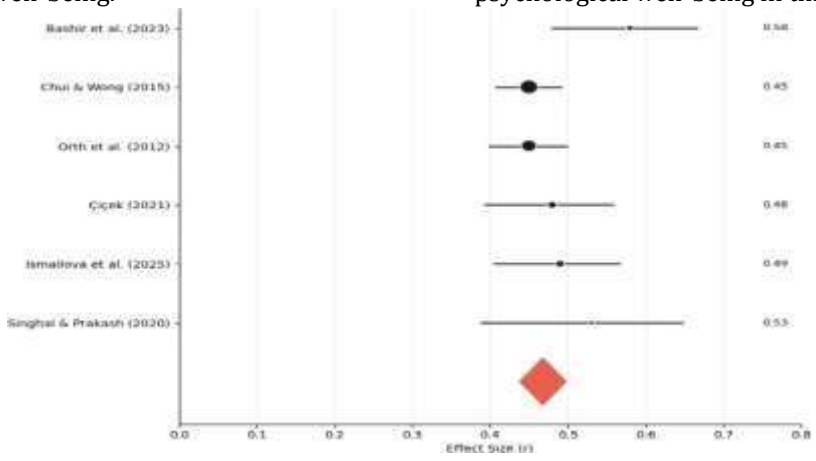

Figure 4. Forest plot of the sensitivity analysis showing the association between self-esteem and psychological well-being

4.8 Subgroup Analysis

The subgroup analyses were done to identify possible sources of heterogeneity regarding the type of well-being outcome, which is in accordance with the aim to comprehend the connection of self-esteem and psychological well-being in college

students. The studies were divided into four subgroups: psychological well-being (PWB), subjective well-being (SWB), general well-being and psychological distress (reversed).

The findings showed that the relationship between self-esteem and well-being was always positive in each of the subgroups, which made the relationship strong regardless of the type of outcome. Nevertheless, significant variations in the extent and spread of the effects sizes were seen among categories.

The studies in the psychological well-being (PWB) subgroup showed comparatively larger and more coherent effect sizes, and the values are more likely to be concentrated in a smaller range as it is indicated in Figure 5. On the contrary, research that falls under subjective well-being (SWB) and general well-being demonstrated a relatively higher amount of variation, which contributes to the general heterogeneity of the entire model. The psychological distress subgroup, which had less studies, also displayed a strong positive relationship when the direction of effect was made to be standard.

As Figure 5 shows, the visual distribution of the effect sizes can be used to attribute variability in the overall meta-analysis in part to the difference in the operationalization of the outcomes, with wider constructs like life satisfaction and happiness adding more dispersion to the effect. Comparatively, scales of psychological well-being, that measure internal psychological functioning, seem to provide more consistent and theoretically consistent outcomes.

On the whole, the subgroup analysis helps to highlight the significance of outcome specificity in meta-analytic studies and to draw a conclusion that the connection between self-esteem and well-being is more significant and stable in case psychological well-being is taken as the outcome variable.

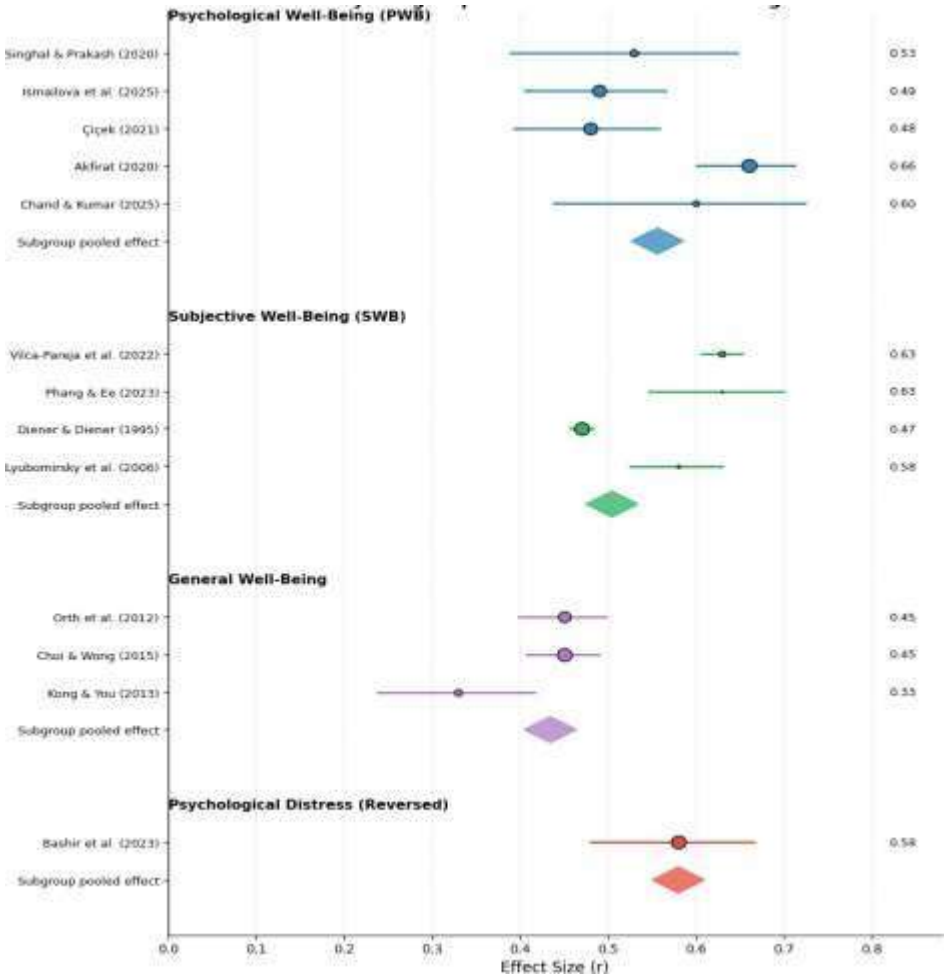

Figure 5. Forest plot showing subgroup differences in the association between self-esteem and well-being

4.9 Publication Bias

A funnel plot (Figure 6) was used to assess publication bias. Visual inspection of the plot revealed a slight asymmetry in the distribution of studies about the pooled effect size where there was a bit more concentration towards the right-hand side.

Figure 5 indicates that a few smaller studies (with increased standard errors) seem to give a relatively large effect size, which could be indicative of small-study effects. Nonetheless, most of the studies are contained within the funnel bounds and are well dispersed around the pooled estimate.

Although the asymmetry is noted, the general trend is not characterized by significant distortion and the distribution is moderately balanced. Thus, there is weak, rather than strong, evidence of publication bias.

On balance, these results indicate that although there is some minor asymmetry, the findings of the meta - analysis are fairly strong and do not depend heavily on the publication bias.

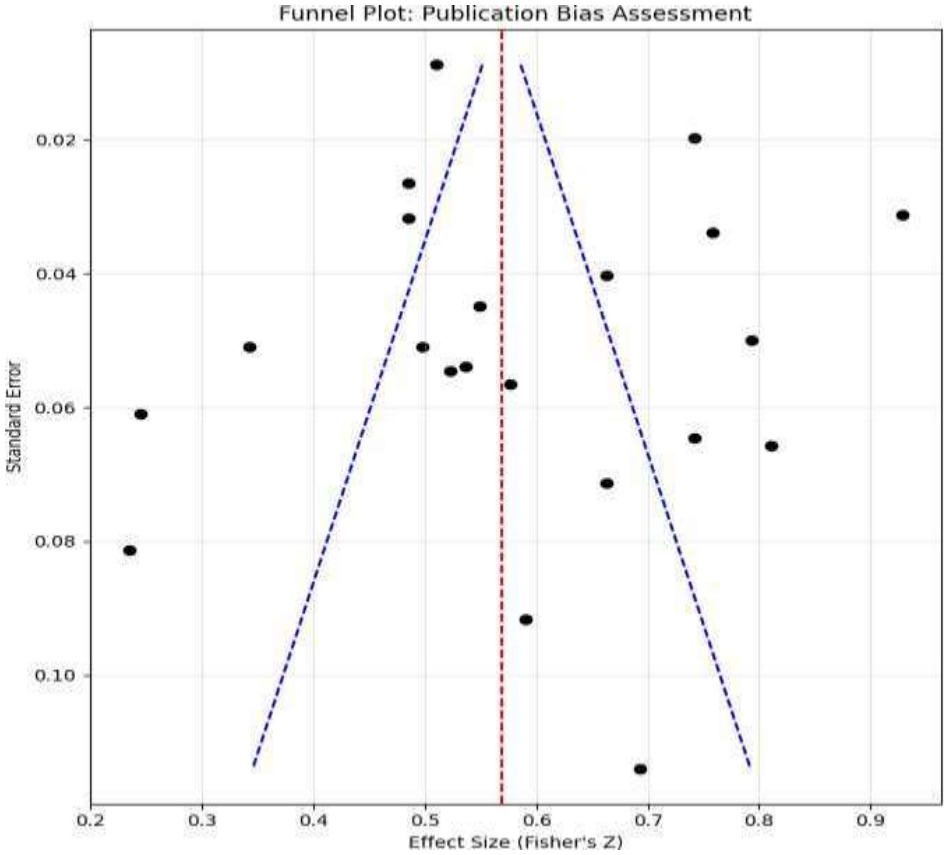

Figure 6. Funnel plot assessing potential publication bias among the included studies

5. Discussion

The current meta-analysis sought to investigate the connection between self-esteem and psychological well-being of college students. The results have been strong and consistent in that there is a moderate to strong positive relationship ($r \approx 0.50$) between the level of self-esteem and psychological well-being. This finding helps to support the main aim of the research and emphasize self-esteem as an important psychological determinant of well-being within student groups.

The general results indicate that the association between self-esteem and well being is strong and universal. As an example, the positive correlations were high in a number of studies, including those by Chand and Kumar (2025) and Akfirat (2020), who reported high effect sizes, indicating that self-esteem is a significant factor in psychological functioning. Likewise, moderate-to-large effects were also found by Singhal and Prakash (2020), Ismailova et al. (2025), and Çiçek (2021), which supports the significance of self-esteem to promote psychological well-being.

Nevertheless, other studies have found rather lower effect sizes, including those of Ritika and Imran (2024) and Pandey et al. (2019), which suggests that the strength of this relationship could differ in different contexts, including measurement methods and sample variables. Nonetheless, the direction of the relationship was always positive in all studies despite these variations.

The meta-analysis results align with previous studies that have shown that self-esteem has a strong correlation with numerous well-being indicators. Indicatively, Diener and Diener (1995) discovered that self-esteem is a strong predictor of life satisfaction in all the cultures and this finding supports the universality of such a relationship. Likewise, Lucas et al. (1996) have pointed out the significance of self-esteem in the identification of various dimensions of well-being.

Studies on subjective well-being also corroborate these results. Other studies like Vilca-Pareja et al.

(2022), Phang and Ee (2023), and Lyubomirsky et al. (2006) indicated that self-esteem was strongly positively correlated with the life satisfaction or happiness, indicating that the higher the self-esteem, the more an individual is likely to perceive their life in a positive manner. Similarly, Xie et al. (2025) showed an extremely close correlation, which indicates the impact of self-esteem on enhancing subjective well-being by means of psychological resources.

Other cross-cultural studies by Kwan et al. (1997) and Cheng and Furnham (2003) also indicate that the correlation between self-esteem and well-being is not only related to the particular culture, but it is universal in other populations. Other studies such as Chui and Wong (2015) and Kong and You (2013) also show the effect of self-esteem on life satisfaction via social and emotional channels.

Studies that involve younger groups also correlate with the current results. To provide an example, Rey et al. (2011) have discovered that self-esteem positively correlates with life satisfaction among adolescents, and this association can be established in the early life stages and continued into adulthood. Equally, it was observed that self-esteem is causally relevant as Orth et al. (2012) have presented longitudinal evidence to show that changes in well-being can be predicted by self-esteem.

Moreover, the research that explores the related constructs of mental well-being and stress also offers some additional support. Slimmen et al. (2022) discovered that self-esteem and mental health are strongly correlated, whereas Bashir et al. (2023) provided evidence that high self-esteem is associated with lower perceived stress, meaning that self-esteem can potentially be a preventive measure of the occurrence of psychological distress. The analysis of the subgroups showed that studies that reported psychological well being exhibited more reliable effect sizes than those that reported subjective well-being, which is a broader construct. This implies that self-esteem might be more directly related to internal psychological functioning than to more general assessments of well-being.

Moreover, sensitivity analysis revealed less heterogeneity ($I^2 \approx 30\%$), meaning that the variability in the overall model was determined by the difference in outcome operationalization and study features to a great extent. These results underscore the significance of conceptual congruence in meta-analysis studies.

Although this meta-analysis has strong points, one must mention a number of limitations. First, most of the studies included utilized cross-sectional studies, which restrict the capacity to make causal inferences. Although longitudinal evidence (e.g., Orth et al., 2012) supports a directional relationship, further longitudinal and experimental studies are needed.

Second, heterogeneity could have been caused by variability of measurement instruments across studies. Various well-being scales (e.g., life satisfaction, happiness, psychological well-being) can represent different facets of the construct, which could affect the estimates of the effect sizes.

Third, the publication bias was not statistically significant, but the funnel plot shows a little asymmetry, indicating the presence of small-study effects, which cannot be completely eliminated. Lastly, the fact that the studies included are of various cultural settings, though a strength in terms of generalizability, could also be a source of variability as a result of cultural differences in the conceptualization of self-esteem and well-being.

The results of this meta-analysis have both theoretical and practical implications. Theoretically, the outcomes confirm the perception that self-esteem is a key element of psychological well-being, which is consistent with positive psychology models and self-concept theory. Practically, the results imply that self-esteem enhancing interventions can be effective in fostering psychological well-being in college students. Learning institutions and psychiatrists can have special initiatives that concentrate on self-esteem, resilience, and emotional control. In addition, the findings demonstrate the significance of early detection and intervention with low self-esteem students as it can assist in avoiding the emergence of psychological distress and enhance general well-being.

5. Conclusion

The current meta-analysis is a conclusive indication of a strong positive relationship between self-esteem and well-being in college students. The analysis of the results of several empirical studies presented the moderate to strong overall effect size, which means that people with higher self-esteem are more likely to experience higher levels of psychological, mental, and subjective well-being. The strength of this association can be attributed to the consistency of positive relationships in all of the included studies. Although this generally remains the same, the results also revealed a large degree of heterogeneity, indicating that the strength of the relationship is indeed different according to the nature of well-being measured, the culture, and even variations in methodology across studies. Subgroup analyses also showed that the association is especially high in the areas of psychological and mental well-being, and somewhat smaller effects in general and subjective well-being. The findings highlight the role of self-esteem as one of the resources in psychology that lead to the overall

functioning and quality of life of individuals. Practically, these results highlight the importance of interventions and programs that could facilitate the development of self-esteem in the education context since such interventions could positively impact student well-being and mental health outcomes. Nevertheless, the research has its limitations such as the dependence on mostly cross-sectional designs and inconsistency in measuring methods. In future studies, longitudinal and experimental studies should be conducted in order to comprehend the causal mechanisms better and provide further explanation of the role of self-esteem in well-being. Finally, this meta-analysis confirms the essentiality of self-esteem in enhancing well-being in college students and gives a well-grounded empirical base to future studies and practice.

References

1. Akfirat, S. (2020). The relationship between self-esteem and psychological well-being among university students. *Educational Research and Reviews, 15*(6), 356–362. https://academicjournals.org/journal/ERR
2. Bajaj, B., & Pande, N. (2016). Mediating role of resilience in the impact of mindfulness on life satisfaction and affect as indices of subjective well-being. *Personality and individual differences*, *93*, 63-67. https://doi.org/10.1016/j.paid.2015.09.005
3. Bashir, M., Hajra, B., Umar, A., & Sohail, R. (2023). Role of self-esteem on relationship between perceived social support and stress among university students. Journal of Positive School Psychology, 7(6), 485–494. https://journalppw.com/index.php/jpsp/article/view/17037
4. Bien, K., Wagner, J., & Brandt, N. D. (2024). Growing up to be mature and confident? The longitudinal interplay between the Big Five and self-esteem in adolescence. *Journal of Personality and Social Psychology*, *127*(2), 404. 10.1037/pspp0000518
5. Bleidorn, W., Arslan, R. C., Denissen, J. J., Rentfrow, P. J., Gebauer, J. E., Potter, J., & Gosling, S. D. (2016). Age and gender differences in self-esteem—A cross-cultural window. *Journal of personality and social psychology*, *111*(3), 396. 10.1037/pspp0000078
6. Chand, P., & Kumar, R. (2025). Relationship between self-esteem, coping and psychological well-being among college students. *Journal of Emerging Technologies and Innovative Research (JETIR), 12*(1), 535–542. https://www.jetir.org/papers/JETIR2501535.pdf
7. Cheng, H., & Furnham, A. (2003). Personality, self-esteem, and demographic predictions of happiness and depression. *Personality and Individual Differences, 34*(6), 921–942. https://doi.org/10.1016/S0191-8869(02)00078-8
8. Chui, W. H., & Wong, M. Y. H. (2015). Gender differences in happiness and life satisfaction among adolescents in Hong Kong. *Social Indicators Research, 125*(3), 1035–1051. https://doi.org/10.1007/s11205-015-0867-z
9. Çiçek, İ. (2021). The effect of self-esteem on psychological well-being: A study on university students. *Educational Sciences: Theory & Practice*. https://eric.ed.gov/
10. DeNeve, K. M., & Cooper, H. (1998). The happy personality: A meta-analysis of 137 personality traits and subjective well-being. *Psychological Bulletin, 124*(2), 197–229. https://doi.org/10.1037/0033-2909.124.2.197
11. Deng, Y., Li, X., Liu, L., & Chui, W. H. (2021). Suicide attempts and perceived social support among Chinese drug users: The mediating role of self-esteem and depression. *International journal of environmental research and public health*, *18*(1), 208. **https://doi.org/10.3390/ijerph18010208**
12. Diener, E., & Diener, M. (1995). Cross-cultural correlates of life satisfaction and self-esteem. *Journal of Personality and Social Psychology, 68*(4), 653–663. https://doi.org/10.1037/0022-3514.68.4.653
13. Dijkstra, P., & Barelds, D. P. (2009). Women's well-being: The role of individual differences. *Scandinavian journal of psychology*, *50*(4), 309-315. 10.1111/j.1467-9450.2009.00711.x
14. Du, H., King, R. B., & Chi, P. (2017). Self-esteem and subjective well-being revisited: The roles of personal, relational, and collective self-esteem. *PloS one*, *12*(8), e0183958. https://doi.org/10.1371/journal.pone.0183958
15. Hart, W., Richardson, K., Breeden, C. J., & Kinrade, C. (2021). Self-esteem mediates effects of normal and pathological personality traits on subjective well-being. *Scandinavian Journal of Psychology*, *62*(5), 735-745. 10.1111/sjop.12738
16. Ismailova, K., Naubayeva, G., Zheldibayeva, A., & Kontrimienė, A. (2025). Social comparison, self-esteem, and psychological well-being among university students. *Frontiers in Education, 10*, 1679209. https://doi.org/10.3389/feduc.2025.1679209
17. Joshanloo, M. (2025). Level and stability of self-esteem mediate relationships between personality traits and life satisfaction: Bayesian multilevel modeling with annual data. *Cognition and Emotion*, *39*(4), 792-807. 10.1080/02699931.2024.2392615

18. Kong, F., & You, X. (2013). Loneliness and self-esteem as mediators between social support and life satisfaction in late adolescence. *Social Indicators Research, 110*(1), 271–279. https://doi.org/10.1007/s11205-011-9930-6
19. Kong, F., Zhao, J., & You, X. (2013). Self-esteem as mediator and moderator of the relationship between social support and subjective well-being among Chinese university students. *Social indicators research*, *112*(1), 151-161. 10.1007/s11205-012-0044-6.
20. Kuster, F., Orth, U., & Meier, L. L. (2013). High self-esteem prospectively predicts better work conditions and outcomes. *Social Psychological and Personality Science*, *4*(6), 668-675. DOI:10.1177/1948550613479806
21. Kwan, V. S. Y., Bond, M. H., & Singelis, T. M. (1997). Pancultural explanations for life satisfaction: Adding relationship harmony to self-esteem. *Journal of Personality and Social Psychology, 73*(5), 1038–1051. https://doi.org/10.1037/0022-3514.73.5.1038
22. Lucas, R. E., Diener, E., & Suh, E. M. (1996). Discriminant validity of well-being measures. *Journal of Personality and Social Psychology, 71*(3), 616–628. DOI:10.1037/0022-3514.71.3.616
23. Lyubomirsky, S., Tkach, C., & DiMatteo, M. R. (2006). What are the differences between happiness and self-esteem? *Social Indicators Research, 78*(3), 363–404. https://doi.org/10.1007/s11205-005-0213-y
24. Mann, M., Hosman, C. M., Schaalma, H. P., & De Vries, N. K. (2004). Self-esteem in a broad-spectrum approach for mental health promotion. *Health education research*, *19*(4), 357-372. https://doi.org/10.1093/her/cyg041
25. McAteer, G., & Gillanders, D. (2019). Investigating the role of psychological flexibility, masculine self-esteem and stoicism as predictors of psychological distress and quality of life in men living with prostate cancer. *European journal of cancer care*, *28*(4), e13097. 10.1111/ecc.13097
26. Neff, K. D., & Vonk, R. (2009). Self-compassion versus global self-esteem: Two different ways of relating to oneself. *Journal of personality*, *77*(1), 23-50. DOI: 10.1111/j.1467-6494.2008.00537.x
27. Nie, Q., Tian, L., & Huebner, E. S. (2020). Relations among family dysfunction, loneliness and life satisfaction in Chinese children: A longitudinal mediation model. *Child Indicators Research*, *13*(3), 839-862. DOI: 10.1007/s12187-019-09650-6
28. Orth, U., & Robins, R. W. (2014). The development of self-esteem. *Current Directions in Psychological Science, 23*(5), 381–38. https://doi.org/10.1177/0963721414547414
29. Orth, U., Robins, R. W., & Widaman, K. F. (2012). Life-span development of self-esteem and its effects on important life outcomes. *Journal of Personality and Social Psychology, 102*(6), 1271–1288. https://doi.org/10.1037/a0025558
30. Pandey, R., Mandal, S. P., Tiwari, G. K., & Shukla, M. (2019). Positive, not negative, self-compassion mediates the relationship between self-esteem and well-being. *The Journal of Positive Psychology, 14*(6), 720–733. DOI:10.1111/papt.12259
31. Paradise, A. W., & Kernis, M. H. (2002). Self-esteem and psychological well-being: Implications of fragile self-esteem. *Journal of social and clinical psychology*, *21*(4), 345-361. DOI:10.1521/jscp.21.4.345.22598
32. Phang, M. L., & Ee, G. T. (2023). Self-esteem and life satisfaction among university students. *International Journal of Academic Research in Business and Social Sciences, 13*(1), 393–401. DOI:10.6007/IJARBSS/v13-i1/15763
33. Reitz, A. K., Zimmermann, J., Hutteman, R., Specht, J., & Neyer, F. J. (2014). How peers make a difference: The role of peer groups and peer relationships in personality development. *European journal of personality*, *28*(3), 279-288. DOI:10.1002/per.1965
34. Reo, G., Soetjiningsih, C. H., & Wijono, S. (2024). Social support and self-esteem as predictors of psychological well-being of Generation Z students. *Bulletin of Counseling and Psychotherapy*, *6*(2). https://doi.org/10.51214/002024061036000
35. Rey, L., Extremera, N., & Pena, M. (2011). Perceived emotional intelligence, self-esteem and life satisfaction in adolescents. *Personality and Individual Differences, 51*(3), 311–316. DOI:10.5093/in2011v20n2a10
36. Rippon, D., Shepherd, J., Wakefield, S., Lee, A., & Pollet, T. V. (2024). The role of self-efficacy and self-esteem in mediating positive associations between functional social support and psychological wellbeing in people with a mental health diagnosis. *Journal of Mental Health*, *33*(6), 721-730. 10.1080/09638237.2022.2069695
37. Ritika, N., & Imran, M. (2024). Exploring the interplay of emotional intelligence and self-esteem on the general well-being of university students. *International Journal of Indian Psychology, 12*(2), 219–224. https://doi.org/10.25215/1202.428
38. Schröder-Abé, M., Rudolph, A., & Schütz, A. (2007). High implicit self-esteem is not necessarily advantageous: Discrepancies between explicit and implicit self-esteem and their relationship with anger expression and psychological health. *European Journal of Personality*, *21*(3), 319-339. https://doi.org/10.1002/per.626

39. Singhal, S., & Prakash, N. (2020). Relationship between self-esteem and psychological well-being among Indian college students. *Journal of Interdisciplinary Cycle Research, 12*(8), 748–756. https://doi.org/10.1002/per.626
40. Slimmen, S., Timmermans, E., Mikolajczak-Degrauwe, K., & Oenema, A. (2022). The role of self-esteem in mental well-being among university students: A cross-sectional study. *PLOS ONE, 17*(10), e0275925. https://doi.org/10.1371/journal.pone.0275925
41. Sowislo, J. F., & Orth, U. (2013). Does low self-esteem predict depression and anxiety? A meta-analysis of longitudinal studies. *Psychological bulletin*, *139*(1), 213. https://doi.org/10.1037/a0028931
42. Tian, L., Chen, H., & Huebner, E. S. (2014). The longitudinal relationships between basic psychological needs satisfaction at school and school-related subjective well-being in adolescents. *Social indicators research*, *119*(1), 353-372. https://doi.org/10.1007/s11205-013-0495-4
43. Vilca-Pareja, S., Luque Ruiz de Somocurcio, M., Delgado-Morales, R., & Medina Zeballos, R. (2022). Self-esteem and life satisfaction in university students. *International Journal of Environmental Research and Public Health, 19*(24), 16548. https://doi.org/10.3390/ijerph192416548
44. von Soest, T., Wagner, J., Hansen, T., & Gerstorf, D. (2018). Self-esteem across the second half of life: The role of socioeconomic status, physical health, social relationships, and personality factors. *Journal of Personality and Social Psychology*, *114*(6), 945. 10.1037/pspp0000123
45. Xie, Y., Zeng, K., Yang, Y., Zheng, F., & Wang, F. (2025). The relationship between self-esteem and subjective well-being: The mediating roles of resilience and wellbeing literacy. *PLOS ONE, 20*(6), e0325741. https://doi.org/10.1371/journal.pone.0325741
46. Zuffianò, A., Alessandri, G., Gerbino, M., Kanacri, B. P. L., Di Giunta, L., Milioni, M., & Caprara, G. V. (2013). Academic achievement: The unique contribution of self-efficacy beliefs in self-regulated learning beyond intelligence, personality traits, and self-esteem. *Learning and individual differences*, *23*, 158-162. https://doi.org/10.1371/journal.pone.0325741