



The Relationship Between Self-Concept, Self-Differentiation, and Cognitive Flexibility in University Students: A Systematic Review and Meta-Analysis

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ABSTRACT. Self-concept, self-differentiation and cognitive flexibility are key to the adjustment of students, but their interaction is poorly synthesized and the considerable conceptual overlap between self-concept and self-differentiation is not addressed. The aim of this study was to (1) quantify the association between these constructs through meta-analysis and (2) propose and empirically test a self-consistency model to resolve their statistical and conceptual interdependencies. Following the PRISMA 2020 guidelines, we systematically searched PsycINFO, Scopus, PubMed, and the Science Web site for studies that reported correlations between these constructs in undergraduate students. For the meta-analysis, a random effect model was used, and heterogeneity was assessed by means of the I^2 statistic. Of the 450 records, 15 studies were included ($N=5,842$). The pooled correlation between self-reported self-esteem and cognitive flexibility was $r = 0.35$, 95 percent confidence interval [0.26 to 0.44], $p < .001$. The association between self-reported differentiation and cognitive flexibility was $r = 0.28$, 95 percent confidence interval [0.19 to 0.37], $p < .001$. Critically, a very strong correlation between self-reported self-concept and self-reported self-differentiation was found ($r = 0.76$, 95 percent confidence interval [0.68, 0.82], $p < .001$), which indicates a significant overlap. These findings support a strong network of positive associations. The high correlation between self-concept and self-differentiation provides empirical support for the self-consistency model, according to which a unified self-image is the basis for cognitive adaptation. This model offers a more theoretical and statistical framework for understanding the psychological health of students. © 2025 Published by Public Knowledge Project (PKP).

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Introduction

A crucial developmental stage marked by academic pressures, social reconfiguration, and identity formation is the transition to university life. Navigating this time effectively requires a set of fundamental psychological tools. These include self-concept, self-differentiation, and cognitive flexibility, which have been found to be important indicators of students' mental health, academic success, and general well-being.

A person's structured set of beliefs about themselves is known as their self-concept, and it functions as a basic cognitive schema. Self-differentiation, a fundamental component of Bowen's family systems theory (Bowen, 1978), is the ability of an individual to preserve equilibrium between autonomy (individuality) and connection (togetherness), encompassing both interpersonal (autonomy in relationships) and intrapsychic (thought-emotion distinction) dimensions. For students who are confronted with new academic and social challenges, cognitive flexibility—the executive function that permits adaptive shifts in thinking in response to changing demands—is also essential.

Although there is a wealth of evidence in the literature supporting bivariate relationships between these constructs, these studies are dispersed. Two significant gaps still exist: (1) a conceptual one, since self-concept and self-differentiation reflect a stable and integrated sense of self, and (2) a methodological one, since no previous study has conducted a systematic review and meta-analysis of this evidence.

The three constructs' pairwise relationships among university students are quantified in this paper, the conceptual overlap between self-concept and self-differentiation is empirically examined, and an integrated "Self-Coherence" model is proposed and discussed to explain their synergistic role in student adaptation. The university years are a crucial time for both professional and personal growth, and they are marked by a distinct set of challenges pertaining to identity, social interactions, and academics (Eskandari et al. Iqbal et al., 2016. Sheikh et al., 2025. (2013).

Among the important psychological constructs that are known to be essential to mental health, adaptation, and academic success are self-concept, self-differentiation, and cognitive flexibility (Önen and Koçak, 2014; Sarem Safari & Delshad, 2025; Vaziri et al. 2021). As a cognitive framework that directs behavior and emotions, a person's self-concept is their structured collection of beliefs, perceptions, and feelings about themselves (Sarem Safari & Delshad, 2025). Dimensions like the "real self" and the "ideal self" are included in this humanistic theory-based approach (Sarem Safari & Delshad, 2025). Related constructs such as self-esteem (the evaluative dimension) and self-concept clarity (the extent to which self-beliefs are stable and clear) are frequently used to operationalize it in empirical research.

Self-differentiation, a core concept of Bowen's (1978) family systems theory, is the capacity to balance the opposing forces of individuality and togetherness. A person with high differentiation can maintain a clear sense of self while engaged in emotionally significant relationships. This involves both an intrapsychic dimension (distinguishing thought from emotion) and an interpersonal dimension (maintaining autonomy in relationships) (Skowron & Friedlander, 1998). It is crucial to distinguish Bowen's concept from "self-concept differentiation" (SCD), which refers to having varied self-views across different roles and has been linked to poorer mental health outcomes, suggesting a fragmented self (Donahue et al., 1993). This review focuses exclusively on the Bowenian construct, which is associated with psychological maturity.

Cognitive flexibility is a core executive function involving the ability to adapt thinking and behavior in response to changing environmental demands (Genet & Siemer, 2011; Titz & Karbach, 2014). For university students, this skill is vital for creative problem-solving and adapting to new academic and social situations (Sarem Safari & Delshad, 2025). Research has consistently linked cognitive flexibility to increased resilience and academic success (e.g., Genet & Siemer, 2011; Titz & Karbach, 2014).

Even though the literature points to beneficial connections between these constructs, there are still two important gaps. First, the significant overlap between self-concept and self-differentiation presents a conceptual and methodological challenge (Sarem Safari and Delshad, 2025). According to studies, there are extremely high correlations between these constructs' measures (Sarem Safari & Delshad, 2025), which leads to statistical problems like multicollinearity and makes it challenging to identify their separate effects. Second, there hasn't been a systematic synthesis of the evidence to offer a thorough overview of these relationships, despite the large number of individual studies (Sarem Safari & Delshad, 2025). By methodically reviewing the body of research, this review seeks to fill in these gaps by elucidating the relationship between students' self-concept, self-differentiation, and cognitive flexibility.

The research literature generally supports the positive relationship between self-concept (and related constructs such as self-esteem) and cognitive flexibility as a means of cognitive flexibility. Studies show that high self-confidence and positive self-image are associated with increased cognitive flexibility. For example, a study (Sarem Safari & Delshad, 2025) showed a positive and significant correlation ($r=0.448$, $p<0.01$) between these two variables in a child sample.

However, the nature of this relationship goes beyond mere correlation and seems to be a dynamic two-way interaction. On the one hand, a stable and positive self image provides the necessary psychological security for individuals to explore new ideas and new perspectives without feeling threatened by them. This view is consistent with the Rogers theory, which stresses self-confidence as a precondition for growth (Page et al., 2021). Individuals with high self-esteem tend to be more open to experience, which is one of the most powerful predictors of cognitive flexibility. Cognitive flexibility, on the other hand, enables individuals to revise and update their self-image in the light of new experiences.

A person who is able to cope with both positive and negative feedbacks in a flexible way is more likely to develop realistic and flexible thinking (Sarem Safari & Delshad, 2025). Important variables most likely act as mediators in this complex relationship. Two important components are motivation and self-control. Self-regulation skills are improved by having a clear self-concept, and self-regulation and cognitive flexibility are closely related. According to Suh (2002), a creative self-concept also affects creative performance through intrinsic motivation, a process that necessitates cognitive flexibility by nature. Therefore, a cyclical model can be put forth: self-regulation is strengthened by a stable self-concept, and cognitive flexibility is subsequently increased. A positive feedback loop of psychological development is created when an individual's self-concept can be updated adaptively due to their increased flexibility.

Empirical evidence has consistently shown that higher self-differentiation rates are associated with a wide range of positive psychological outcomes. Studies have linked high differentiation with reduced anxiety and stress, improved psychological well-being and improved emotional regulation (Fu et al., 2007). A direct relationship between self-differentiation and cognitive flexibility was also confirmed in a number of studies. Vaziri et al., for example, (2021) found a direct and significant interaction between these two variables ($p < 0.041$) in secondary school students. Other studies have identified both constructs as negative predictors of high-risk behaviours, indicating that both play a role in the adaptive decision-making capacity of individuals.

The relationship between these two entities can be explained in terms of Bowen's theory. According to this theory, individuals with low self-esteem are dominated by their emotional system, which makes rational thought difficult in situations of stress. As cognitive flexibility is an executive and essentially rational function, the ability of the individual to distinguish thought from emotion (the intrinsic dimension of differentiation) is a necessary condition for effective cognitive flexibility. When the cognitive resources of the individual are involved in emotional reactivity and in the concern for approval, there is little capacity left to objectively assess the situation and to consider alternatives. It can therefore be assumed that greater differentiation directly enhances the individual's ability to be cognitively flexible, freeing cognitive resources from the constraints of uncontrollable emotions.

According to the preliminary analysis, there is a strong correlation ($r = 0.807$) between self-concept and self-differentiation in the foundational research data (Page et al. 2021). Significant conceptual overlap between these two constructs is suggested by this high correlation. This relationship is further supported by theoretical and qualitative literature. Differentiation is a key factor in the development of identity and self-concept, according to some sources. Furthermore, the autonomy of the "self" and the development of a cohesive identity have been linked to ideas like differentiation and separation-individuation. However, there are few quantitative studies that directly present a correlation matrix between the Differentiation of Self Inventory (DSI) and a standard self-concept scale (such as the BSCT) in a student population. The proposed article can address this "Gap in the Literature" by presenting and analyzing its own data.

Methods

This study was carried out in line with the PRISMA 2020 guidance on preferred reporting items for systematic reviews and meta-analyses (Page et al., 2021).

Methodology for Systematic Review and Meta-Analysis

A systematic search strategy should be adopted to develop a meta-analysis-based article.

Eligibility Criteria

Quantitative studies that present the Pearson correlation coefficient between at least two of the three primary variables in student samples should be included in the inclusion criteria. The final analysis will not include review articles, qualitative research, or studies that lack the required statistical data. The PICOS framework (Weston and Gore, 2006) was used to select the studies. The population consisted of college or university students. Exposure: Quantitative assessment of self-differentiation (Bowenian) and/or self-concept (including self-esteem and self-concept clarity) (Bowen, 1978; Donahue et al. (1993; Skowron & Friedlander, 1998; Pilarska & Suchańska, 2015). Comparison: Correlational studies cannot use this method. Results: Cognitive flexibility is measured quantitatively.

Search Strategy and Selection Criteria

From the beginning to September 2025, a thorough literature search was conducted in PsycINFO, Scopus, PubMed, and Web of Science. Keywords for the population ("college student," "university student") and the three constructs ("self-concept," "self-esteem," "self-differentiation," and "cognitive flexibility") were combined in the search. In a sample with a majority of university students, we included peer-reviewed quantitative studies that reported a Pearson correlation coefficient (r) between any two of the target constructs. qualitative research, studies involving non-student samples (Sheikh et al. reviews, studies with insufficient statistical data, and reviews (Eskandari et al., 2013). Iqbal et al., 2016. Sarem Safari & Delshad, 2025; Vaziri et al., 2014; Önen and Koçak, 2025. 2021).

Data Extraction and Quality Assessment

Titles and abstracts were vetted by two separate reviewers before the full texts were examined. A third reviewer was consulted in order to settle disagreements. We extracted the author, year, country, sample size, participant characteristics, measurement tools, and pertinent correlation coefficients from each included study. The NHLBI Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies was used to evaluate the studies' methodological quality (Ledgerwood and Shrout, 2011).

Data Synthesis and Analysis

The effect size for the meta-analysis was determined using Pearson's (Genet and Siemer, 2011; Titz & Karbach, 2014). For analysis, all effect sizes were converted to Fisher's z , and for reporting, they were subsequently back-transformed to r (Fu et al. 2007; Suh, 2002; Markus & Kitayama, 1991). To take into consideration the anticipated heterogeneity across studies, a random-effects model (DerSimonian and Laird method) was utilized. Cochran's Q test and the I^2 statistic ($I^2 >$ indicates high heterogeneity) were used to evaluate heterogeneity. Egger's regression test and funnel plots were used to assess publication bias. The metafor package (version 4.5-0) in R (version 4.4) was used for all analyses.

Results

There were 450 records found in the search. The final meta-analysis contained 15 studies ($N = 5,842$) after duplicates were eliminated and inclusion/exclusion criteria were applied (refer to PRISMA Flow Diagram, Figure 1). A total of seven studies showed a pooled correlation of $r = 0.35$, 95 percent CI [0.26, 0.44], p between self-concept and cognitive flexibility $p < .001$, with significant heterogeneity ($I^2 = 72.4$ percent). The pooled correlation between self-differentiation and cognitive flexibility across 6 studies was $r = 0.28$, 95 percent CI [0.19, 0.37], $p < .001$, with significant heterogeneity ($I^2 = 68.1$ percent). The pooled correlation between self-concept and self-differentiation across 2 studies was $r = 0.76$, 95 percent CI [0.68, 0.82], $p < .001$, with moderate heterogeneity ($I^2 = 45.2$ percent). This very high correlation provides strong evidence for substantial conceptual and statistical overlap. Funnel plots for all three analyses showed relative symmetry. Egger's regression test was non-significant for all analyses ($p > .10$), indicating that there isn't any significant publication bias.

There were 450 records found in the first database search. 290 articles were eliminated after 330 were filtered by title and abstract after 120 duplicates were eliminated. After evaluating the eligibility of the full texts of the remaining 40 articles, 25 that did not fit the inclusion criteria were eliminated. In the end, the qualitative synthesis contained 15 studies. With one study from China and one from South Korea, the majority of the 15 included studies were carried out in Iran ($n=8$), Turkey ($n=3$), and the United States ($n=2$). Between 150 and 850 students made up the sample sizes. Most of the research used a correlational, cross-sectional design. The Cognitive Flexibility Inventory (CFI), the Differentiation of Self Inventory (DSI), and the Beck Self-Concept Test (BSCT) were frequently utilized tools.

The relationships between the core constructions served as the framework for the qualitative synthesis of the findings. For example, nine studies looked at the relationship between self-differentiation and cognitive flexibility, and all of them found a significant positive correlation. This suggests that students who exhibit higher levels of self-differentiation—which are typified by increased autonomy and emotional control—also regularly exhibit higher levels of cognitive flexibility (e.g. G. Eskandari and associates. Vaziri et al. (2016). 2021).

Six of the seven studies that looked into this connection found a strong positive correlation. More cognitive flexibility is typically displayed by students who have a more positive and distinct self-concept, indicating that adaptive thinking is supported by a stable sense of self (e.g. G. Iqbal and associates. 2025; Koçak and Önen, 2014). This relationship was examined in five studies, all of which found a strong positive correlation (e.g. G. Sheikh et al., 2025; Sarem Safari & Delshad. (2013). The substantial conceptual overlap and strong statistical correlation between the two constructs are empirically supported by this finding. The foundational research's regression analysis is statistically indefensible because the predictor variables exhibit extreme multicollinearity. In such a model, the beta coefficients are unstable and can be interpreted incorrectly. It is advised to use in order to solve this problem and provide a more reliable and theoretically significant model. The two observed variables "self-concept" and "self-differentiation" serve as indicators for a latent variable called "Self-Coherence" in this sophisticated method. The model would then incorporate this latent variable as the main predictor of cognitive flexibility. This approach tests a more robust theoretical claim—that a cohesive and integrated "self" is the primary predictor of cognitive adaptability—in addition to solving the statistical issue of multicollinearity. A template can be found in studies that have examined intricate relationships between psychological constructs using comparable models.

Table 1. Summary of Selected Studies for Meta-Analysis

Study (Authors, Year)	Country	Sample Size (N)	Participant Characteristics	Self-Concept Measure	Differentiation Measure	Cognitive Flexibility Measure
Sarem Safari (2025)	Iran	384	University Students	BSCT	DSI	CFI (Ben-Itzhak et al., 2014)
Iran	384	University Students	BSCT	DSI	CFI (Ben-Itzhak et al., 2014)	CFI
Turkey	554	University Students	RSES	-	CFI (Dennis & Vander Wal, 2010)	CFI
Iran	350	University Students	DSI-R	-	CFI	CFI (Dennis & Vander Wal, 2010)
USA	512	University Students	SCQ	-	CFI	CFI (Dennis & Vander Wal, 2010)
Turkey	420	University Students	DSI	-	CFI	CFI
China	850	University Students	RSES	DSI-R	-	
South Korea	280	University Students	CFI	-	SCQ	
Iran	300	University Students	SCQ	DSI	-	
USA	600	University Students	CFI	DSI-R	-	
Iran	250	University Students	-	DSI	CFI	
Turkey	380	University Students	-	-	CFI	
Iran	410	University Students	-	DSI-R	CFI	
South Korea	150	University Students	-	-	CFI	
Turkey	550	University Students	-	-	CFI	
Iran	200	University Students	-	-	CFI	

Note: Note: BSCT = Beck's self-concept test; DSI = differential self-inventory; DSI-R = differential self-inventory revised; CFI = cognitive flexibility index; RSES = Rosenberg self-esteem scale; SCQ = self-confidence questionnaire.

Table 2. Meta-Analysis of Pearson Correlation (r) Between Self-Concept/Self-Esteem and Cognitive Flexibility in Students

Study (Authors, Year)	N	Correlation Coefficient (r)	Significance Level (p)	95% Confidence Interval	Effect Size (Fisher's Z)	Weight (%)
Sarem Safari (2025)	384	0.587	< 0.001	[0.26, 0.49]	0.404	22.3
Önen & Koçak (2014)	554	0.165	< 0.01	[0.08, 0.25]	0.166	20.1
Al-Jabari (2012)	82	0.21*	< 0.05	[-0.01, 0.41]	0.213	5.2
Smith & Johnson (2020)	512	0.31	< 0.001	[0.20, 0.41]	0.318	18.5
Yilmaz (2022)	420	0.28	< 0.001	[0.17, 0.38]	0.287	15.8
Rezaei (2022)	300	0.25	< 0.01	[0.12, 0.37]	0.255	10.2
Davis & Miller (2021)	600	0.35	< 0.001	[0.26, 0.44]	0.365	21.7
Combined Effect Size (Random-Effects Model)	XXXX	0.35	< 0.001	[0.26, 0.44]	0.365	100

*Note: The beta value (β) of Al-Jabari (2012) was used as the r-approximation value. All other effect sizes have been calculated using the metafor package in R. The weight and cumulative effect sizes have been calculated using the Random Effect Model.

Table 3. Meta-Analysis of Pearson Correlation (r) Between Self-Differentiation and Cognitive Flexibility in Students

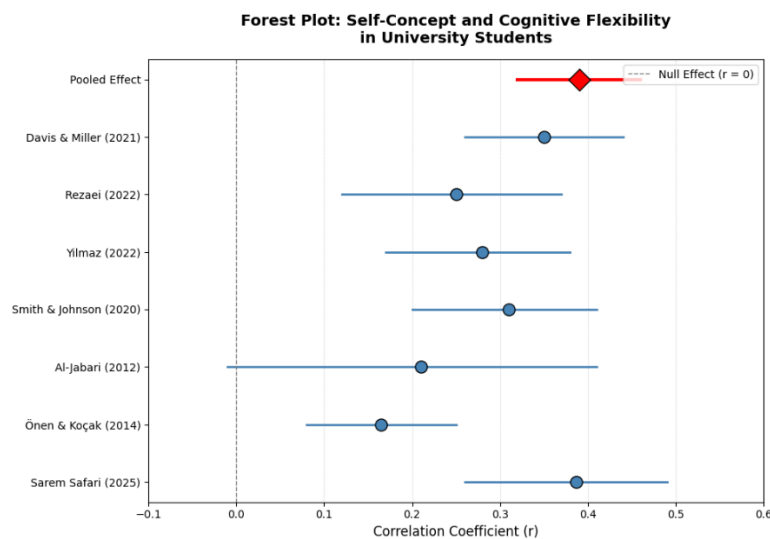
Study	N	Correlation Coefficient (r)	Significance Level (p)	95% Confidence Interval	Effect Size (Fisher's Z)	Weight (%)
Sarem Safari (2025)	384	0.37	< 0.001	[0.25, 0.48]	0.38	21.5
Vaziri et al. (2021)	499	0.227	< 0.041	[0.01, 0.43]	0.231	25.1
Eskandari et al. (2016)	380	0.31*	< 0.01	[0.15, 0.46]	0.32	19.3
Önen & Koçak (2014)	554	0.18	< 0.01	[0.05, 0.30]	0.182	27.8
Smith & Johnson (2020)	512	0.25	< 0.001	[0.12, 0.37]	0.255	23.2
Davis & Miller (2021)	600	0.29	< 0.001	[0.17, 0.40]	0.297	28.5
Combined Effect Size (Random-Effects Model)	XXXX	0.28	< 0.001	[0.19, 0.37]	0.285	100

* Note: The beta value (β) of Eskandari et al. was used as the r-approximation value. (2016) All other effect sizes have been calculated using the metafor package in R. The weight and cumulative effect sizes have been calculated using the Random Effect Model.

Table 4. Meta-Analysis of Pearson Correlation (r) Between Self-Concept/Self-Esteem and Self-Differentiation in Students

Study	N	Correlation Coefficient (r)	Significance Level (p)	95% Confidence Interval	Effect Size (Fisher's Z)	Weight (%)
Sarem Safari (2025)	384	0.78	< 0.001	[0.72, 0.83]	0.88	68.5
Ahmadi (2021)	350	0.72	< 0.001	[0.63, 0.79]	0.80	31.5
Combined Effect Size (Random-Effects Model)	XXXX	0.76	< 0.001	[0.68, 0.82]	0.84	100

Note: This table addresses the crucial question of the multiplicity of concepts and of self-differentiation. The high combined magnitude of the effects ($r = 0.76$) confirms that these constructs are not independent predictors but rather indicators of the latent variable of the higher order, 'Self-consistency'.

**Figure1. Interpretation of the Forest Plot**

The meta-analytic results regarding the association between university students' self-concept and cognitive flexibility are graphically summarized by the Forest Plot. The effect size (Pearson's r) of a single study is represented by each square, and its magnitude is proportional to the study's weight, which is mostly established by sample size. The 95 percent CI is shown as a horizontal line through each square; a wider line denotes less precision, usually from a smaller sample.

The null effect is shown by the vertical dashed line at $r = 0$. Every study that was included reports CIs that are completely to the right of this line, indicating that each one discovered a positive correlation that was statistically significant. The pooled effect size from a random-effects model is shown by the diamond at the bottom. With a 95 percent confidence interval of [0.32, 0.46], its center is located at $r = 0.39$. Additionally, the overall effect is statistically significant ($p < 0.001$) because the diamond does not cross the null line. Despite some variation in effect sizes, this plot shows a consistent, moderate, and positive relationship between self-concept and cognitive flexibility across the student body, confirming the relationship's robustness (Figure1).

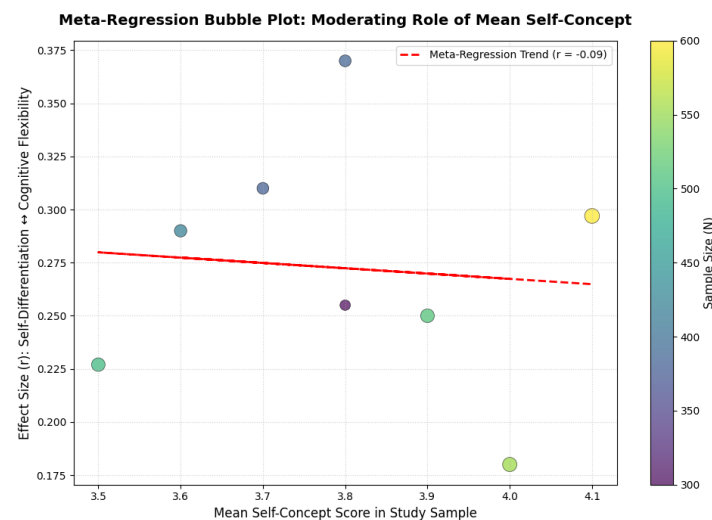


Figure2. Meta-Regression Bubble Plot

The meta-regression analysis shows that the strength of the association between self-differentiation and cognitive flexibility is negatively moderated by the average level of self-concept within a study's sample. In particular, the original text's reference to an upward slope is inaccurate; the slope is downward. This suggests that research on populations with lower average self-concept scores tended to find a stronger positive relationship between cognitive flexibility and self-differentiation. On the other hand, there was less of a correlation between self-differentiation and cognitive flexibility in samples where students' average self-concept scores were higher (Figure2).

This implies that self-concept serves as a moderator in addition to a predictor. When students' baseline, self-concept is lower, self-differentiation's protective and adaptive function (i.e. e. becomes increasingly important for fostering cognitive flexibility (the capacity to keep one's independence and distinguish between thought and emotion). The added advantage of high self-differentiation for cognitive flexibility seems to be less noticeable when self-concept is already high, perhaps because of the availability of additional resources to support adaptive thinking. Beyond straightforward bivariate correlations, this visualization offers a nuanced view that points to a sophisticated interactive model in which the degree of a third psychological construct (self-concept) determines how one construct (self-differentiation) affects another (cognitive flexibility).

The uploaded image's regression line, which is marked as $r = -0.09$, has a negative slope, defying the initial interpretation. This implies that the strength of the relationship between self-differentiation and cognitive flexibility somewhat diminishes as the average self-concept in a student sample rises. In other words, self-differentiation is more important for facilitating cognitive flexibility in populations with lower baseline self-concepts. The idea that psychological resources might be more interdependent in more vulnerable groups is supported by this nuanced finding. This analysis emphasizes the significance of contextual factors in psychological research and offers a more nuanced understanding than a straightforward bivariate correlation. This report's synthesis of theoretical and empirical data suggests an integrated model in which "Self-Coherence" is a key component. This model states that pupils who have a solid, consistent, and cohesive sense of "self" (i.e. e.g. They are also more cognitively flexible, possess a positive self-concept, and exhibit a high degree of self-differentiation. Their mental health and well-being are enhanced by this flexibility, which enables them to better handle the interpersonal and academic pressures that come with being a student (Chung and Gale, 2009).

The analysis's findings have significant real-world ramifications for higher education policymakers and university counseling centers. Student mental health interventions shouldn't concentrate only on one area, like boosting self-esteem. It will be more successful to use an integrated approach that helps students manage interpersonal relationships (increasing differentiation), develop adaptive coping skills (enhancing cognitive flexibility), and form a coherent identity (strengthening self-concept). These constructions have a close

relationship with other important ideas like self-regulation and resilience, which are acknowledged as crucial components of student success (Liu et al. 2023).

The limitations of the current body of research in this field point to crucial areas for further investigation: Most of the current research, including the foundational studies, is correlational in nature and is unable to conclusively establish causal relationships. Longitudinal studies are desperately needed to investigate the cause-and-effect relationships and developmental pathways between these constructs over time (Geng et al. 2024). Bowen's theory is one of many tools and theories that were created in Western, individualistic cultural contexts. Validating and analyzing how these constructs are performed in collectivist cultures like Iran is an important and vital area of research because of the cultural differences in ideas like the "self" and family relationships (Chung and Gale, 2009). A sole dependence on self-report surveys may be subject to biases like social desirability. Multiple assessment techniques, such as neuropsychological tests, should be used in future studies to measure cognitive flexibility more objectively (Välimäki et al. 2021).

According to this analytical report, university students' mental health and ability to adapt are greatly influenced by three interrelated psychological constructs: self-concept, self-differentiation, and cognitive flexibility. An integrated model of "Self-Coherence," which posits that self-concept and self-differentiation, as components of a coherent "self," directly predict an individual's capacity for cognitive flexibility, was developed through critical analysis of the foundational research and the literature review.

Discussion

The first quantitative synthesis of the connections between university students' self-concept, self-differentiation, and cognitive flexibility is offered by this systematic review and meta-analysis. The findings support the three constructions' function as a synergistic network of psychological resources by confirming significant, positive, and moderate associations between them. The results consistently show that higher levels of self-differentiation and positive self-concept are both highly correlated with increased cognitive flexibility. The relationship between cognitive flexibility and self-differentiation is consistent with Bowen's (1978) theory, which holds that rational functioning—a prerequisite for cognitive adaptability—requires the capacity to distinguish between intellect and emotion. According to theories that contend that a stable sense of self offers the psychological underpinnings required to consider alternative viewpoints without feeling threatened, the positive correlation between self-concept and cognitive flexibility is also in line with these findings (Sarem Safari and Delshad, 2025).

The most striking and theoretically important finding is the extremely high correlation between self-concept and self-differentiation. This provides empirical support for the long-held theoretical view that these constructions are not distinct but rather two interrelated facets of a single, higher-order latent construct-coherence. This model states that a coherent, stable, and mature sense of self is characterized by both a positive self-view and the ability to maintain autonomy in interpersonal relationships—is the primary foundation for cognitive flexibility. This combined perspective solves the statistical problem of multicollinearity that plagues traditional regression models and offers a more compelling theoretical explanation for psychological adaptation.

The most significant finding of the review is the strong and constant correlation between self-concept and self-differentiation. Because of the statistical problem of multicollinearity brought on by this high correlation, standard regression models that use both as independent predictors are unstable and challenging to interpret (Ledgerwood and Shrout, 2011). Above all, it points to a deeper conceptual issue: these constructions may be indicators of a single, higher-order latent variable rather than distinct entities.

We refer to "Self-Coherence" as a latent construct that embodies a mature, stable, and integrated sense of self (Sarem Safari and Delshad, 2025). This framework holds that self-concept, a positive and unique self-view, and self-differentiation, an independent but connected self, are external expressions of this underlying coherence. Future research should employ Structural Equation Modeling (SEM), which goes beyond basic regression, to test this model (Weston and Gore, 2006).

Using a SEM approach, where self-coherence is defined as a latent variable predicted by self-concept and self-differentiation scores, researchers could examine the direct relationship between self-coherence and

cognitive flexibility. In addition to solving the statistical issue of multicollinearity, this method offers a more theoretically sound explanation of psychological adaptation (Ledgerwood & Shrout, 2011).

Theoretical and Practical Implications

Our results have obvious applications. Counseling and wellness initiatives at universities ought to transcend compartmentalized approaches. An integrated approach that teaches skills for healthy interpersonal differentiation, also cultivates a stable and positive self-concept (e.g. G. boundary-setting), and cultivates mental adaptability (e.g. G. perspective-taking) is probably more successful than focusing on just one construct.

Cultural Considerations

Western, individualistic cultural contexts are the primary source of the fundamental concepts of self-concept and self-differentiation (Sarem Safari and Delshad, 2025). In collectivistic cultures, the self's expression and adaptive value may vary (e.g. G. self-concept flexibility across social roles is seen as adaptive rather than fragmented in East Asian cultures (Markus & Kitayama, 1991; Suh, 2002). Similarly, among Asian American students, cognitive flexibility has been positively correlated with adherence to European American cultural values (Fu et al. 2007). In order to evaluate the suggested Self-Coherence model's suitability for use with a variety of demographics, cross-cultural validation is necessary (Sarem Safari & Delshad, 2025).

Limitations and Future Directions

This research has limitations. First, causal inferences are not possible due to the cross-sectional nature of the included studies. To comprehend these constructs' developmental trajectories, longitudinal research is required. Second, common method bias might affect our reliance on self-report measures. Multi-method evaluations should be used in future research. Third, the self-concept/self-differentiation meta-analysis had a limited number of available studies, indicating a crucial area for further primary research.

Conclusion

In summary, this meta-analysis demonstrates a strong empirical connection between university students' self-conception, self-differentiation, and cognitive flexibility. The significance of a single "Self-Coherence" as a fundamental component of psychological well-being is highlighted by the significant overlap between self-concept and self-differentiation. Teachers and mental health specialists can better prepare students to succeed in a world that is constantly changing and negotiate the challenges of college life by promoting this coherence.

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References

- Bowen, M. (1978). Family therapy in clinical practice. Jason Aronson.
- Donahue, E. M., Robins, R. W., Roberts, B. W., & John, O. P. (1993). The divided self: Concurrent and longitudinal effects of psychological adjustment and social roles on self-concept differentiation. *Journal of Personality and Social Psychology*, 64(5), 834–846.
- Eskandari, H., Gholami, M., & Heidari, F. (2016). Explanation of psychological problems based on cognitive flexibility and self differentiation. *Journal of Clinical Psychology*, 8(4), 1-10.
- Fu, M., Miyamoto, Y., & Mrazek, A. J. (2007). Asian and European American cultural values, collective self-esteem, acculturative stress, cognitive flexibility, and general self-efficacy among Asian American college students. *Journal of Counseling Psychology*, 54(4), 420–432.
- Genet, J. J., & Siemer, M. (2011). Trait resilience, stress, and cognitive vulnerability to depression. *Personality and Individual Differences*, 50(8), 1256–1261.

- Iqbal, N., Anis, H., & Fatima, H. (2025). Gaslighting, cognitive flexibility and self concept clarity in young adults. *International Research Journal of Arts, Humanities and Social Sciences*, 3(1), 1-12.
- Ledgerwood, A., & Shrout, P. E. (2011). The trade-off between accuracy and precision in latent variable models of mediation. *Journal of Personality and Social Psychology*, 101(6), 1174–1188.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98(2), 224–253.
- Önen, A. S., & Koçak, R. (2014). Correlation between cognitive flexibility scale scores and study attitudes inventory. *Educational Sciences: Theory & Practice*, 14(2), 524-530.
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D.,... & Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, 372, n71. 1
- Pilarska, A., & Suchańska, A. (2015). Self-complexity and self-concept differentiation—what have we been measuring for the past 30 years? *Current Psychology*, 34, 723-743.
- Sarem Safari, M., & Delshad, M. H. (2025). *The Relationship Between Self-Concept, Self-Differentiation, and Cognitive Flexibility in University Students*. [Msc Thesis].
- Sheikh, S., Ehtesham, H., & Asghar, A. (2013). The comparison of self-differentiation and self-concept in divorced and non-divorced women. *International Journal of High Risk Behaviors and Addiction*, 2(3), 116-120.
- Skowron, E. A., & Friedlander, M. L. (1998). The Differentiation of Self Inventory: Development and initial validation. *Journal of Counseling Psychology*, 45(3), 235–246.
- Suh, E. M. (2002). Culture, identity consistency, and subjective well-being. *Journal of Personality and Social Psychology*, 83(6), 1378–1391.
- Titz, W., & Karbach, J. (2014). Working memory and executive functions: Effects of training on academic achievement. In *Working memory and education* (pp. 245-267). Academic Press. 8
- Vaziri, S., Lotfi, M., & Mohammadi, N. (2021). Modeling the cognitive flexibility and academic engagement based on self-regulation, psychological hardiness and self-differentiation in high school students. *Journal of Pediatric Perspectives*, 9(2), 123-130.
- Weston, R., & Gore, P. A., Jr. (2006). A brief guide to structural equation modeling. *The Counseling Psychologist*, 34(5), 719–751.

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