

Research Article

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Predictive Ability of Thinking Styles in The Level of Self among Al Al-Bayt University Students

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Abstract

Background/purpose. This study aimed to investigate the predictive ability of thinking styles (synthetic, idealists, pragmatists, analysts, and realists) in the level of self among undergraduate students at Al al-Bayt University in Jordan and to identify the prevailing thinking styles.

Materials/Methods. The study included a sample of 357 undergraduate students from Al al-Bayt University. The self-scale and the thinking-styles scale were administered after proper validity and reliability procedures were ensured.

Results. The findings revealed that the level of self among students was high. The prevailing thinking styles, in order, were realists, analysts, pragmatists, synthetic, and idealists. Thinking styles collectively contributed to explaining 19.1% of the variance in the self-scale, with the realistic style accounting for 17.9% and the synthetic style explaining an additional 1.2%.

Conclusion. The study highlights the significant role of thinking styles, particularly the realistic style, in predicting self-level among students. These findings provide valuable insights into the relationship between thinking styles and self, offering implications for educational practices and student development.

1. Introduction

The "Self" entails examining the cognitive, emotional, and social representation of what the person perceives in their skills, traits, and personality during interactions with their environment. The development of a person's motivations, cognitive processes, and social and emotional conduct depend heavily on how we perceive ourselves and others. Therefore, most psychologists view the self as the culmination of an individual's behavior that reflects their unique cognitive, physical, social, or emotional traits, despite disparities in how they define it. Operationally, the score students obtain on the self-scale built for this study consists of the following sub-dimensions: self-concept, self-esteem, self-efficacy, self-worth, self-regulation, self-actualization, and self-management dimension (Atoum et al., 2023).

The concept of the self plays a crucial role in shaping an individual's thinking processes, influencing their lifestyle, and guiding their educational, professional, and personal aspirations. The relationship between the self and thinking patterns is symbiotic, each exerting a direct impact on the other. The self essentially molds one's thinking methods, serving as the personal framework through which ideas, beliefs, perceptions, and attitudes are filtered. Individuals' beliefs profoundly influence their thinking style and how they interpret various life events and circumstances. Negative beliefs, for instance, can lead to a negative thinking style; conversely, positive beliefs can foster a positive one. In summary, the self and thinking methods are integral components of an individual's personality, and their relationship significantly influences behavior, inclinations, and life choices. Therefore, the researchers found it necessary to conduct this study to identify the predictive ability of thinking styles (synthesis, idealists, pragmatists, analysts, and realists) in the level of self among undergraduate students at Al- al-Bayt University and to determine the prevailing thinking style and level of general self (Abdel-Khalek & El-Gohari, 2014).

The present study aims to address the following questions: (Q1) "What is the level of self-level among Al al-Bayt University students?"; (Q2) "What are the prevailing thinking styles among Al al-Bayt University students?"; and (Q3) "What is the predictive ability of thinking styles on general self-scores among Al al-Bayt University students?".

The theoretical significance of this research emanates from its unique focus on the relationship between self-level and thinking styles, distinguishing it from preceding investigations that primarily examined the relationship between one domain of the self on thinking styles. To the best of the researcher's knowledge, no prior study exists or has been conducted that combines the relation between the two variables of this study. Regarding the practical significance of this study, studying the favoured thinking styles among university students holds considerable utility in guidance and counselling, as it facilitates the power of self in tailored counselling interventions to aid students in attaining personal, societal, and functional harmony with the self.

2. Literature Review

2.1. The Self

Few prior studies have attempted to measure the concept of the self. Atoum et al. (2023) identified eight primary dimensions constituting the self: self-concept, self-esteem, self-efficacy, self-worth, self-regulation, self-actualization and acceptance, self-management, self-control, and self-monitoring. Abdel-Khalek and El-Gohari (2014) conducted a study to identify the relationships among eight positively oriented self-measures to consolidate them into a single concept. Furthermore, Abdel-Khalek (2017) aimed to develop a measurement tool for assessing positive self-perception.

The concept of Self is described as the totality of the individual, consisting of all characteristic attributes, conscious and unconscious, mental and physical aspects of the personality. Scientists

value the concept of the self as one of the most important aspects of the human experience and the overwhelming sense of the unique personality (Abdel-Khalek & El-Gohari, 2014).

The self represents the human being that makes him distinct and unique from other human beings. The self also reflects the individual's success in his life by truly knowing himself, with his strengths and weaknesses, and his awareness of his qualities, characteristics, and abilities (Mostafawi & Iassoued, 2021). The self refers to the complex characteristics that represent the person, from the psychological, mental, and physical aspects. The self is the nature of the individual, or his various aspects, which are revealed by his behavior. The self represents a person's knowledge of himself (Abdel Khaleq, 2014).

Several aspects of the self have been studied widely in psychological research. Some of these aspects are positive, such as self-concept and self-esteem, while others are negative, such as self-handicappedness and Self-alienation. The present paper will focus on the most common positive aspects of the general self.

Self-concept is a key factor that is believed to impact the individual's personality and behavior. According to Abu Jadwa (2002), it is a focal factor that seriously affects and is affected by the social environment. Self-esteem refers to the individual's sense of self-worth and respect and how the individual values and perceives himself/herself. (Pattan et al., 2006). While self-worth alone refers to the processes of evaluating ourselves and others according to social standing, relationships with influential people we know, and the nature of the profession that we perform (Ferraro et al., 2011), and Self-efficacy is an individual's belief in his capacity to perform a task to achieve specific goals (Al Mazroa, 2007). On the other hand, self-actualization, as Maslow (1970) considered it, is the accomplishment of one's greatest potential.

Self-regulation includes beliefs, behaviour, and attention using metacognitive skills (Behncke, 2008), while self-monitoring is considered as one of the functions of the higher control processes of the cognitive activities that the individual uses when performing a specific task (Sternberg, 1998). Self-control or self-management refers to the ability to manage capabilities to achieve specific goals, reflecting a person's attitudes and feelings about themselves (Abdel Hamid & Badir, 2012).

The self is crucial in deciding how much one can influence one's thinking processes. Neisser (1997) indicated that the self is either internal, focusing on private experience and mental aspects, or external, embedded in its social and physical environment. Therefore, the self helps develop better ideas, values, beliefs, and habits. Additionally, it helps him develop his abilities in various cognitive and educational contexts. It raises his awareness and self-assurance, which aids in his comprehension of the various situations he is exposed to. He is better able to manage himself as a result of this.

2.2. Thinking Styles

Numerous studies have explored the prevailing thinking styles. For instance, Harrison and Bramson (1982) identified five thinking styles: idealistic, analytical, realistic, pragmatic, and synthetic. Meanwhile, Bushra (2020) found that the most common thinking styles are analytical, realistic, idealistic, pragmatic, and synthetic. In contrast, Abdel-Hadi (2021) reported that prevailing thinking styles ranked as pragmatic, idealistic, synthetic, and realistic, with analytical coming last. Lastly, Al Soude and Al Yousef (2023) suggested that the prevailing thinking methods followed this order: synthetic, realistic, practical, idealistic, and finally, analytical.

Thinking styles are considered as a set of intellectual methods or strategies by which an individual deals with the information available to him about himself or his environment. Beddoes and Jones (1999) described it as the strategy employed to understand the methods used for collecting information and understanding others. Sternberg (1997) defined it as the individual's favoured way

of thinking when performing various tasks. He added that it is not an individual's ability but rather an opted method for using abilities and intelligence. Harrison and Bramson (1982) see it as a group of intellectual methods by which the learner is accustomed to dealing with the information available to solve problems he faces.

Many theories have attempted to determine the styles of thinking. Harrison and Bramson (1982) was the most famous classification which identified five basic thinking styles which are synthetic, idealistic, practical, analytical, and realistic. Synthetic thinking Style is the ability to communicate and synthesise new and original ideas that are different from what others practice and to link points of view that seem to be conflicting. Syntheses engage in constructive debates, valuing diverse viewpoints without bias. Idealistic thinking Style denotes the individual's ability to form different views towards things and the tendency to future orientation and thinking about goals and the individual's interests and needs. Idealists work toward big goals, set the bar high, and expect others to do the same.

The pragmatic thinking Style indicates the ability of the individual to logically evaluate the experience he went through in terms of what is right or wrong. Pragmatists are flexible and achieve their goals with the least effort, cost, and the shortest possible time. Analytic thinking style means the individual's ability to face problems cautiously. Analysts work methodically. They collect data to find facts, measure, and categories along the way. They work accurately and rationally and always follow scientific problem-solving procedures. Finally, the Realistic thinking style which refers to the individual's ability to rely on observation and experimentation through the facts he is aware of, including the enjoyment of direct discussions. Realists do not acknowledge any reasoning that extends beyond their sensory perceptions. They focus solely on the tangible, dismissing anything occult or beyond sensory perception.

2.3. Relationship between Self and Thinking Styles

As for the studies that dealt with the relationship between the general self and thinking styles, the researchers did not find any studies that directly indicated a relationship between them. However, some studies have studied the relationship between one of the dimensions of the self and thinking styles. For example, Zhang (2001) found a statistically significant correlation between thinking styles and self-esteem. Balkoumidi (2012) reported no correlation between thinking styles and self-esteem. The results of Sagone and De Caroli (2013) yielded a correlation between self-esteem and thinking styles, legislative, executive, judicial, royal, and hierarchical. Mohammed (2014) found a statistically significant correlation between thinking styles (executive, legislative, judgmental, global, liberal, internal, and external) and self-esteem.

Furthermore, Abboud (2016) found a correlation between executive and liberal thinking styles and self-efficacy. Additionally, Fan (2016) pointed out that thinking styles have a positive and significant role in achieving self-efficacy in professional decision-making. A study by Abdul-Hadi (2021) showed a positive correlation between the pragmatic style, goal planning, self-promotion, and the total degree of self-regulation, and there was a positive correlation between the synthetic style and the total degree of self-regulation.

3. Methodology

3.1. Population and Sample

The study population consisted of all undergraduate students (n=18147) at Al-al-Bayt University enrolled in the first semester of the academic year 2022/2023, according to the data issued by the Admission and Registration Department. The study sample consisted of (357) male and female students, who were selected using the convenient sampling method.

3.2. Instruments:

Two instruments were used in this study:

1- Self-scale: The self-scale developed by Atoum et al. (2023) was used in this study consisting of (48) items within eight dimensions, namely: self-concept (1-5), self-esteem (6-11), Self-efficacy (12-20), self-worth (21-24), self-regulation dimension (25-28), self-actualisation and acceptance dimension (29-37), self-management and self-control dimension (38-44), and self-monitoring dimension (45-48). The original scale was tested recently on the same population and had shown good indications of validity and reliability.

To check the measures and construct validity, it was applied to a pilot sample (n=48) of male and female students. Pearson correlation coefficients were calculated between the item scores, dimension scores, and total scale scores. Correlations ranged from (0.34-0.86), which give acceptable validity indicators. The Cronbach alpha equation was used to verify the self-scale reliability by calculating the internal consistency coefficients. The scale was administered to the previous pilot sample comprising (48) male and female students. The values of the reliability coefficients in the internal consistency method (Cronbach alpha) for the dimensions ranged from (0.62-0.87) and (0.94) for the total scale, which is considered acceptable.

2- Thinking Styles Scale: The current study used the thinking styles scale developed by Harrison and Bramson (1982). The scale consists of (90) items that measure (18) daily situations that the individual faces and each situation has five items, each representing a solution to the situation. These solutions are classified into five levels of thinking: synthetic, idealistic, pragmatic, analytical, and realistic. The scale was used widely and has good indicators of validity and reliability (Bruvold et al., 1983).

The scale's construct validity was verified by applying it to a pilot sample (n=48) of male and female students. Pearson correlation coefficients were calculated between item scores and dimension scores for each thinking styles and ranged from (0.70-0.52). These values are considered acceptable. Scale reliability was checked by calculating the internal consistency coefficients using the Cronbach alpha equation. The scale was administered to the previous validity sample. The values of the reliability coefficients were (0.93, 0.90, 0.92, 0.92, 0.93) synthetic, idealistic, pragmatic, analytical, and realistic, respectively. These values are acceptable (Brown, 1983).

The researchers employed the approach detailed by Harrison and Bramson in 1982 to refine the scale. This method involved organising each section of the scale into five items, with respondents assigning a score of 5 to the most relevant method among these items and a score of 1 to the least relevant. Consequently, the total score for each section equated to 15 (computed as 1 + 2 + 3 + 4 + 5). Each of the five items corresponds to a specific thinking style: synthetic, idealistic, pragmatic, analytical, and realistic. These individual style scores were then tallied separately.

4. Results

1. The level of self among Al al-Bayt University students: Descriptive analysis (mean, standard deviation) was computed to determine the self-level among subjects, as shown in Table 1.

Table 1. Means and standard deviations of the self-power scale

Rank	No	Domain	Mean	Standard deviation	Level*
1	6	Self-actualization and acceptance	4.07	.506	High
2	2	Self-esteem	4.24	.453	High
3	3	Self –efficacy	3.90	.556	High
4	7	Self-control and Self-management	4.17	.510	High
5	1	Self-concept	4.08	.593	High
6	4	Self-worth	4.26	.461	High
7	5	Self-regulation	3.88	.546	High
8	8	Self-monitoring	3.94	.583	High
Total self			4.04	.447	High

Note. 1 – 2.33 = Low, 2.34 – 3.67 = Medium, 3.68-5= High

Results in Table 1 shows that the mean scores for dimensions ranged between (3.88–4.26). The Self-worth dimension ranked first with the highest score (mean=426), while the Self-regulation dimension ranked last (mean=3.88). The overall mean score of the level of self-scale was (4.04), which is considered with a high level.

2. The prevailing thinking styles among Al al-Bayt University students: To identify the prevailing thinking styles among subjects, frequencies were computed, as shown in Table 2.

Table 2. Results of frequencies of subjects' thinking styles

N	Styles	Frequency	%
1	Synthetic	53	14.8
2	Idealistic	45	12.6
3	Pragmatic	59	16.5
4	Analytical	73	20.4
5	Realistic	127	35.6
Total		357	100.0

Table 2 demonstrates that the realistic thinking style ranked first (freq= 127, 35.6%), followed by the analytical thinking style (freq= 73, 20.4%), Pragmatic thinking style (freq= 59, 16.5%), synthetic thinking style (freq= 53, 14.8%), and Idealistic thinking style (freq= 45, 12.6%) which ranked last.

3. Predictive ability of thinking styles at the self-level among Al al-Bayt University students: Pearson's correlation coefficient was calculated to determine the initial correlations between thinking styles and self-scores among subjects, as shown in Table 3.

Table 3. Results of correlation coefficients between self scores and thinking styles

Variables	Synthetic	Idealistic	Pragmatic	Analytical	Realistic
Self	.261**	.295**	.330**	.423**	.294**

** Statistically significant at (0.01).

Table 3 shows positive, statistically significant relationships between the predictive (thinking styles) and predicted (self-scores) variables. To identify the percentage of the variance explained by the thinking styles predicting the variance of self, the stepwise multiple linear regression analysis was utilized to enter the predicted variables into the regression equation in the predictive model, as shown in Table (4).

Table 4. Multiple regression for thinking styles predicting the self-scores

Predictive variable*	(R)	(R2)	Adjusted (R2)	(B)	F value	T value	β 0	P
Realistic style	.423	.179	.179	.225	77.576	8.808	3.280	.000
Synthetic style	.437	.191	.120	-.082	41.804	-2.265	3.299	.000

- **Dependent variable: self-scores**

Table 4 shows that the realistic and synthetic styles are the variables involved significantly in predicting the Self scores. Together, they explained (19.1%) of the explanatory variance of the self-scores. The realistic style variable was most predictive of the self-scores and explained (17.9%) of the variance, followed by the synthetic style variable, which explained (1.2%) of the variance.

The percentage of the explained variance for these variables was statistically significant at the significance level ($\alpha = 0.05$). The variables Idealistic, pragmatic, and analytical styles were not included in predicting the self-scores, given that the explained variance they added is not statistically significant at the significance level ($\alpha = 0.05$).

Table 4 also indicates that an increase in the realistic style by one standard unit (standard deviation) increases the self-scores by .225 (standardized unit). The increase in the synthetic style by one standard unit (standard deviation) reduces the self-esteem measure by (.082) standard unit.

5. Discussion

The results of the first question revealed that the general self-level of Al al-Bayt University students was high, which might be attributed to several factors, the most important of which is the degree of student awareness of the importance of self through planning tasks, arranging priorities, and working to achieve realistic goals considering potential and capabilities. This is supported by the fact that the highest dimensions of self-scale were in self-worth and self-esteem. This is expected to reflect on students feeling rewarded and adjusted to their university environment and reflect a high general self-score.

These findings are consistent with the results of Abdel-Khalek and El-Gohari's (2014) study, and research supports the notion that high scores on any measure of positive self-scales indicate a high self-awareness, confidence, and autonomy. It also means a positive self-image and is likely to be resilient and adaptable in difficult times. Students with high self-scores will likely have better regulations and emotional intelligence (Atoum et al., 2019).

The results of the second question indicated that the most common thinking style was realistic thinking, which could be linked to the fact that university students realistically deal with study and life requirements. Academic achievement necessitates setting realistic goals and working logically and realistically. This thinking is necessary to handle the challenges in both study and life. Moreover, the university environment may encourage the development of realistic thinking since higher education revolves around research, analysis, and critical thinking. When students learn to think realistically and logically, they become better at problem-solving and decision-making.

None of the previous studies reported supported the finding that the realistic thinking style ranked first among (35.6%) of the students. Previous studies did not agree on the most prevailing thinking style; however, two studies reported that the realistic thinking style ranked second among the five styles studied (Bushra, 2020; Al Soude & Al Yousef, 2023).

The results of the third question showed that the variables predicting self-scores are the realistic thinking and systematic thinking styles. Realistic thinking had the highest predictive power, explaining 17.9% of the variance, which could be attributed to realistic thinking processes, which reflect on improving self-image and self-formation, leading to a clearer understanding of situations and better logical thinking about self and others. It also aids in setting appropriate and realistic goals. Self-image relies on self-perception, understanding one's feelings and thoughts, and analysing successes and failures. Thus, a realistic thinking style enhances self-image through a clearer comprehension of situations and interactions with others, leading to improved self and increased self-confidence. When an individual can set and plan to achieve goals realistically and logically, this enhances self-image and self-confidence.

The systematic thinking style which explained (1.2%) of the variance in the self-scores. The researchers attribute the predictive ability of systematic thinking to the characteristics associated with individuals who possess this thinking style. Those who employ systematic thinking are characterized by challenge and skepticism and consider opposing or contradictory perspectives of various events and phenomena. These individuals can engage in dialogues involving contradictions and respect differing viewpoints. They also actively listen to these perspectives, and individuals with such traits require an extended period to complete academic tasks, which might explain why the systematic thinking style attains this percentage of predictive capability in the self-concept.

6. Limitations and Recommendations

The study was limited to a convenient sample of undergraduate students at Al-al-Bayt University who were enrolled during the first semester of the academic year (2022/2023). The possibility of generalizing the study results is determined in light of the validity and reliability of the measures used in the current study and the extent of the credibility of the study sample in answering the study tools.

Based on the study's results, the researchers recommend the following: (i) Utilize the high level of self among university students to guide and direct them in investing their energy across various fields, positively impacting their goal achievement. (ii) Harness the predictive ability of self-realistic thinking in constructing training programs and selecting university teaching methods. (iii) Conducting a study on the relationship between the self and learning styles.

Declarations

Conflicts of Interest. The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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