

The Study of Compatibility between Gestalt and Social Cognitive Theory of Tertiary Level Students via Sketches at Wat Phumin, Nan Province

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Received	Reviewed	Revised	Published
14.05.2024	28.05.2024	11.06.2024	16.07.2024

<https://doi.org/10.24821/ijcas.v11i1.12617>

Abstract

The study takes place in the setting of Wat Phumin, located in Nan Province, Thailand. This revered temple has proudly maintained its magnificent presence for centuries, earning worldwide acclaim as a symbol of timeless greatness. Located in northern Thailand, Wat Phumin in the province of Nan captures the attention of visitors with its intricate connection between local people and cultural surroundings. The researcher creatively uses sketches of Wat Phumin from the website to understand how tertiary level students perceive and interact with the temple's architecture and cultural heritage. The study used quantitative methods to collect and analyze data, using percentage, mean, and Pearson correlation coefficient. This study aims to understand Gestalt and Social Cognitive Theory, cultural context's impact on cognitive processes and social learning. Urban sketching contributes to Global Goals and sustainable cities by capturing Wat Phumin, Nan Province. The main objective of this research is to enhance people's understanding of the complexities of human cognition and visual perception, with Wat Phumin in Nan Province serving as an intriguing case study. As a result, this study also set the stage for innovative pedagogical models to come.

Keywords: gestalt theory, social cognitive theory, tertiary level students, urban sketching, Wat Phumin

Kajian Kompatibilitas antara Gestalt dan Teori Kognitif Sosial Terhadap Siswa Tingkat Tersier Melalui Sketsa di Wat Phumin, Provinsi Nan

Abstrak

Penelitian berlangsung di Wat Phumin, yang terletak di Provinsi Nan, Thailand. Kuil yang dihormati ini dengan bangga mempertahankan keberadaannya yang megah selama berabad-abad, mendapatkan pengakuan dunia sebagai simbol keagungan abadi. Terletak di Thailand utara, Wat Phumin di provinsi Nan menarik perhatian pengunjung dengan hubungan rumit antara masyarakat lokal dan budaya sekitarnya. Peneliti secara kreatif menggunakan sketsa Wat Phumin dari situs web untuk memahami bagaimana siswa tingkat tersier memandang dan berinteraksi dengan arsitektur candi dan warisan budaya. Penelitian ini menggunakan metode kuantitatif untuk mengumpulkan dan menganalisis data, menggunakan persentase, mean, dan koefisien korelasi Pearson. Penelitian ini bertujuan untuk memahami Gestalt dan Teori Kognitif Sosial, dampak konteks budaya terhadap proses kognitif dan pembelajaran sosial. Sketsa perkotaan berkontribusi terhadap Tujuan Global dan kota berkelanjutan dengan memotret Wat Phumin, Provinsi Nan. Tujuan utama penelitian ini adalah untuk meningkatkan pemahaman masyarakat tentang kompleksitas kognisi dan persepsi visual manusia, dengan Wat Phumin di Provinsi Nan menjadi studi kasus yang menarik. Hasilnya, penelitian ini juga membuka jalan bagi model pedagogi inovatif di masa depan.

Kata kunci: teori gestalt, teori kognitif sosial, siswa tingkat tersier, perkotaan membuat sketsa, Wat Phumin

INTRODUCTION

In the aftermath of the COVID-19 pandemic, Thai royal government has initiated measures to rejuvenate the tourism sector. Nan Province in northern Thailand is a popular destination for travelers, and one standout attraction is Wat Phumin. In addition, this study's findings could inform government policies that indirectly stimulate Thailand's economic growth. This research delves into the architectural and historical significance of Wat Phumin while integrating insights from Gestalt theory and Social Cognitive theory. This study uses an innovative approach, using the website, to gain a deep understanding of how tertiary level students perceive and engage with the temple's architecture cultural heritage through urban sketches.

Wat Phumin is a Buddhist temple located in the city of Nan province in northern Thailand. According to No Na Paknam's book "Wat Phumin and Wat Nong Bua" (Paknam, 1986), Wat Phumin is a royal temple that resides in Nai Wiang sub-district, Muang district. Historic temple has cultural and architectural importance, and is a popular tourist attraction. There are two major components to make Wat Phumin stand out, which are architectural buildings and mural paintings. For Architectural Buildings: Wat Phumin is renowned for its distinctive Lanna-style architecture, which consists of the use of teak wood, intricate carvings, and beautiful ornamentation as Figure 1 and 2.

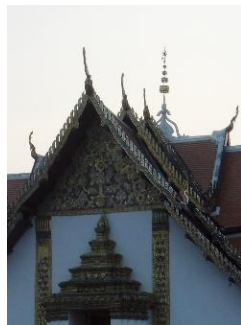


Figure 1. Ornamentation at Wat Phumin, Nan province
Source: Tawipas Documentation, 2023



Figure 2. Carving door at Wat Phumin, Nan province.
Source: The book "Wat Phumin and Wat Nong Bua" by No Na Paknam

The main highlight of the temple is undoubtedly its cruciform Ubosot, or ordination hall. This standout structure features four entrances, each adorned with splendidly crafted Naga balustrades. The main attraction of Wat Phumin is its gorgeous mural paintings. Painted in the 19th century by local artists, these murals are not only striking but also culturally significant. The mural paintings on the walls depict three tales: the enlightened life of Buddha, the intriguing stories of his past lives, and the vibrant lifestyle of the Nan people during the time these magnificent artworks were created. As a result, this temple holds a special position in the center

of the local community and Nan province. In the meantime, Wat Phumin is also a significant attraction for tourists who are interested in both architectural buildings and mural paintings as shown in Figure 3, 4, and 5.



Figure 3. Wat Phumin

Source:

<https://chiangmaitouristport.com/tours/laos/index.html>



Figure 4. Wat Phumin

Source:

<https://mgonline.com/travel/detail/9590000058793.html>



Figure 5. Wat Phumin

Source: Tawipas

Documentation, 2023

Urban sketching is a creative practice that combines art, observation, and storytelling to document urban scenes and cityscapes on location. It has gained prominence in recent years as a popular art form and a means of visual documentation. In the book 'Companion to Urban Design' by Banerjee & Loukaitou-Sideris (2014) has emphasized the increasing significance of urban sketching as both a notable art form and a potent tool for visual documentation in the modern era. In the book "The Urban Sketching Handbook Understanding Perspective: Easy Techniques for Mastering Perspective Drawing on Location, Volume 4" by Bower (2016) also points out urban sketching entails capturing individuals' encounters on paper, by capturing their experiences on paper and in their minds. In addition, urban sketching is primarily focused on capturing various subjects such as buildings, streets, landmarks, objects, animals, and people. It encompasses the act of depicting what grabs one's attention and inspires their creativity (Bonack, 2023). Furthermore, in Gabriel Campanario's book, "The Art of Urban Sketching: Drawing On Location Around The World" (Campanario, 2012) mentions urban sketching is a way to capture the unique essence of a place or moment in time through on location drawing. It is a creative and expressive practice that can be enjoyed by people of all skill levels as Figure 6.



Figure 6. Urban Sketching.

Source: <https://www.sarahburnsstudio.com>

According to Köhler's work (Köhler, 1947), the Gestalt theory is a psychological school of thought that emphasizes the profound importance of the whole entity over the mere collection of its individual parts. According to Gestalt psychologists, our perception of objects and events revolves around recognizing them as structured wholes rather than mere amalgamations of isolated features. This principle, known as the 'Gestalt' or configuration principle, underscores several key tenets of Gestalt theory, which include:

1. Similarity: The tendency to group things that are similar together.
2. Prägnanz : The tendency to perceive things as being as simple and organized as possible.
3. Proximity: Things that are close together tend to be grouped together.
4. Continuity: Our perception favors smooth continuation of lines and curves.
5. Closure: We complete what we see, even if parts are missing.
6. Common Fate: Things moving together are seen as one group.

Gestalt theory has been influential in many areas of psychology, including perception, learning, and personality. It has also been applied to other fields, such as art, design, and architecture.

In “Social Cognitive Theory: An Agentic Perspective on Human Nature” Albert Bandura delves into Social Cognitive Theory, a framework built upon a foundational set of processes that exert a significant influence on human behavior (Bandura, 2023). These processes serve as the cornerstone for understanding how individuals acquire knowledge and undergo personal development. Furthermore, this study present an overview of the six fundamental processes within Social Cognitive Theory as follows;

1. Observational Learning (Modeling): Observational learning, also known as modeling, is a fundamental process in the Social Cognitive Theory (Bandura, 1977). It involves acquiring new behaviors and skills by observing and imitating the actions of others. Individuals learn from the experiences of those around them, which can influence their own behaviors and choices (Bandura, 1977: 27).
2. Cognitive Processes including attention, memory, and thinking, are vital in the Social Cognitive Theory. These processes mediate between external stimuli and the individual's behavioral responses (Bandura, 1986). Attention and retention of observed behaviors are crucial for the later reproduction of those behaviors (Bandura, 1986: 35).
3. Self-Efficacy: Self-efficacy, a central concept in the Social Cognitive Theory, refers to an individual's belief in their own ability to successfully perform specific tasks or behaviors (Bandura, 1994). Self-efficacy influences motivation, effort, and persistence, playing a pivotal role in

determining the goals individuals set for themselves and their level of perseverance in the face of challenges (Bandura, 1994: 64).

4. Vicarious Reinforcement and Punishment: The theory suggests that individuals can be motivated to adopt or avoid behaviors based on the consequences experienced by others (Bandura, 1977). Vicarious reinforcement occurs when an individual observes someone else receiving positive reinforcement for a behavior, making them more likely to engage in that behavior. Vicarious punishment, on the other hand, involves observing negative consequences, which can deter individuals from certain behaviors (Bandura, 1977: 76).
5. Self-Regulation is the process of setting and managing personal goals, monitoring progress, and adjusting behavior to achieve those goals (Bandura, 1991). It includes self-observation, self-evaluation, and self-reinforcement. Self-regulation allows individuals to exercise control over their actions and responses to external stimuli (Bandura, 1991: 83).
6. Reciprocal Determinism: The theory proposes that human behavior is influenced by a dynamic interaction between personal factors (such as cognition, emotion, and biological factors), the environment, and behavior (Bandura, 1986). This reciprocal determinism emphasizes the bidirectional relationships between these factors and their continuous influence on one another (Bandura, 1986: 117).

Vermunt & Donche (2017) mentions Tertiary level students, also known as higher education students, encompass a diverse population with varying backgrounds, motivations, and needs. They constitute a critical segment of the educational landscape, pursuing advanced learning beyond secondary education. Bean & Melzer (2011) adds that Tertiary level students must effectively balance their academic pursuits, acclimate to novel learning approaches, and successfully navigate the administrative aspects of university life. In addition, Kuh (2008) explains every experience, whether academic or extracurricular, shapes a person's personal and professional growth for the future.

Participants: This study involved tertiary-level students from Poh Chang Academy of Arts in Bangkok, Thailand, as well as students from School of Economics and College of Arts, Media and Technology at Chiang Mai University in Chiang Mai province. The researcher selected three specific undergraduate majors, namely Design majors from Poh Chang Academy of Arts, Economics majors from the School of Economics, and Modern Management and Information Technology majors from the College of Arts, Media and Technology.

METHODOLOGY

Studying the intersection of psychological theories and individual experiences is an interesting area of research. The purpose of this study is to investigate the correlation between gestalt theory and social cognitive theory in the context of how tertiary level students perceive Wat Phumin in Nan province. By examining these students' experiences, the research explores how these two theories relate with their perceptions of the historical site. The study divided tertiary level students into three distinct groups: G1, consisting of Economics majors; G2, composed of Design majors; and G3, consisting of Modern Management and Information Technology majors. The number of the participants in this research is ninety tertiary level students, divided into 30 tertiary level students and put into three different groups. In addition, there are two steps to investigate this research. Firstly, discover the methodology of implementing the six fundamental principles of Gestalt theory as this study delves into three urban sketches of Wat Phumin, Nan province by three different urban sketchers. The researcher put three different urban sketchers on the website: <https://phumintali.wixsite.com/visual-image/team-4> (Pichaichanarong, 2023). Then tertiary level students have to access the website through their smartphones.

Secondly, this study explores the use of Social Cognitive Theory to understand tertiary level students as they analyze urban sketches depicting Wat Phumin in Nan province. There is a graphic to explain these two methodologies as Figure 7. In addition, Figure 8 illustrates Social Cognitive Theory with brief definitions and relevant visuals.

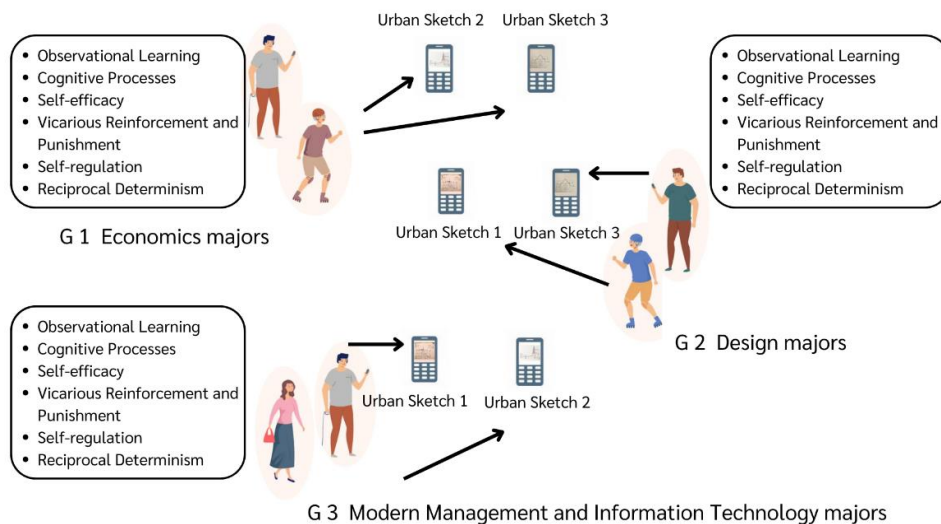


Figure 7. Three groups of tertiary students interacted with three urban sketchers via the website using their smartphones and two methodologies.

Source: <https://www.freepik.com>

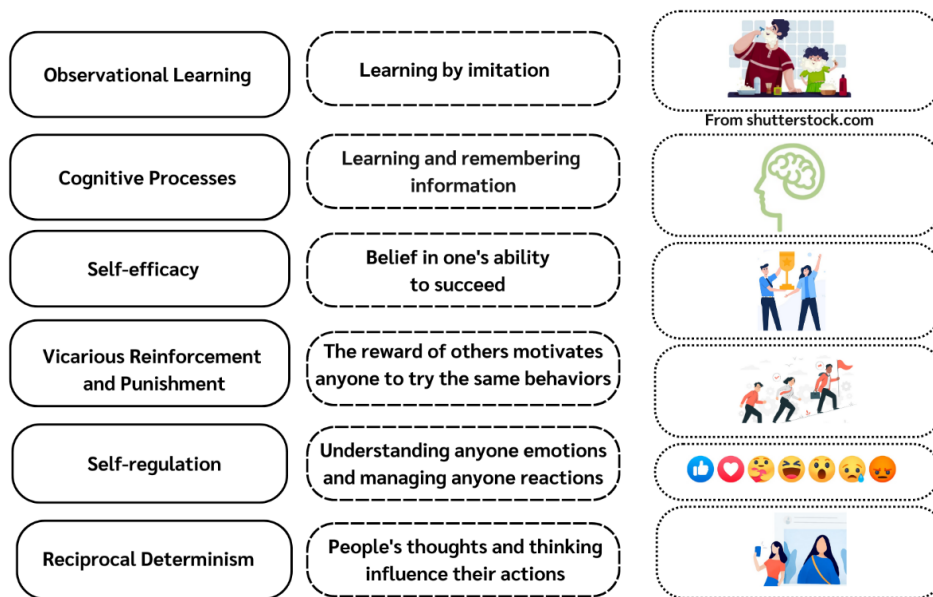


Figure 8. Shorter definitions and relevant visuals.
Source: <https://www.freepik.com>

1. Discover the methodology of implementing the six fundamental principles of Gestalt theory with three different urban sketches of Wat Phumin, Nan province as Figure 9, 10, and 11 as follows through questionnaires.

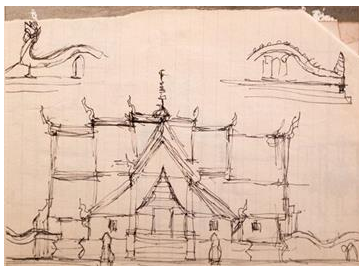


Figure 9. Urban Sketching by Assistant Professor Fua Haripitak (Thai National Artist).
Source: <https://becommon.co/culture/fua-haripitak-archive/>



Figure 10. Urban Sketching by kseew.
Source: <https://www.blockdit.com/kseew>



Figure 11. Urban Sketching by Author.
Source: Tawipas Documentation, 2023

Questionnaires: Participants will complete surveys designed to evaluate their comprehensive comprehension of Gestalt theory, including its application in their sketches and their perceptions of Wat Phumin.

2. Examine tertiary level students through the understanding of Social Cognitive Theory while analyzing three urban sketches of Wat Phumin, Nan province, depicted as Figure 12, using questionnaires.



Figure 12. Three groups of tertiary level students have interacted of three unique urban sketchers through the Social Cognitive Theory.

Source: Tawipas Documentation, 2023.

Questionnaires: Participants will be required to carefully complete questionnaires specifically designed to assess their comprehension of Social Cognitive Theory. The purpose of these questionnaires is twofold: to assess participants' ability to apply this theory in their sketches and to gather their valuable insights and perspectives on Wat Phumin.

Tool of Measurement

Three groups of thirty tertiary level students will review two images each and provide feedback to two other groups as Figure 7. Participant responses were measured using scales adapted from Smith et al. (2007). These scales assessed six characteristics of Gestalt theory and six items of social cognitive theory using a 9-point Likert scale ranging from 1 (strongly disagree) to 9 (strongly agree). Evidently, respondents choose the answer choice that best reflects their level of agreement with the statement.

Part 1 of the study used a differential scale to ask participants to rate whether categories of Gestalt theory were closer to one or the other of two bipolar attributes. Part 2 of the study asked tertiary level students to observe each other while filling in the questionnaire and drawing on it. Participants then used a differential scale to rate whether categories of social cognitive theory were closer to one or the other of two bipolar attributes.

Procedures

To test the hypotheses, a questionnaire was administered to students with their approval. To ensure instrument reliability and prevent respondent sensitization, the questionnaire instructed respondents to answer the questions with the conditions of Gestalt theory and social cognitive theory in urban sketching of Wat Phumin, Nan Province in mind.

Test of Hypotheses

To test the hypotheses, correlation analyses were used to examine the relationship between compatibility with Gestalt theory and social cognitive theory among tertiary level students who practiced urban sketching at Wat Phumin in Nan Province.

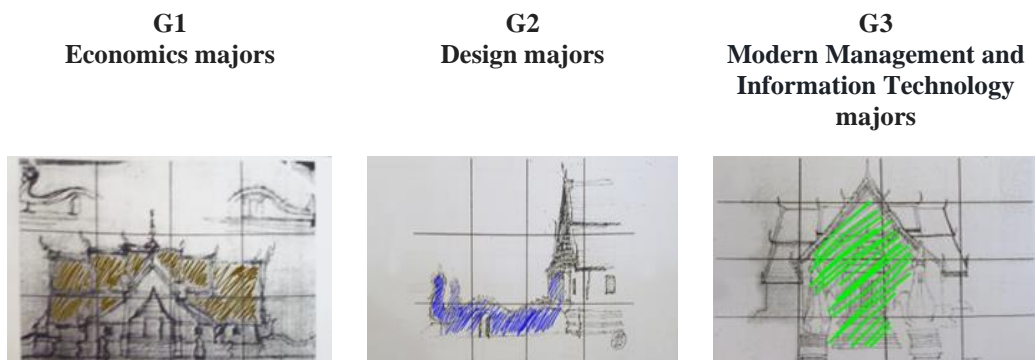
H-1: predicts Gestalt theory is compatible with urban sketching of Wat Phumin, Nan province by tertiary level students. To test H-1, the correlation was computed between: G2 with G3, G3 with G1, and G1 with G2.

H-2: predicts Social Cognitive Theory is consistent with the experiences of tertiary level students who engage in urban sketching of Wat Phumin, Nan province. To test H-2, the correlation were computed between: G2 with G3, G3 with G1, and G1 with G2.

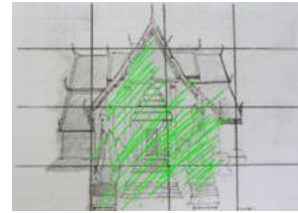
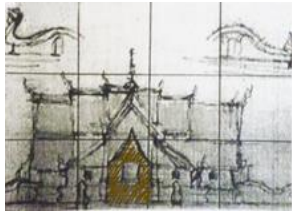
RESULTS

Part One

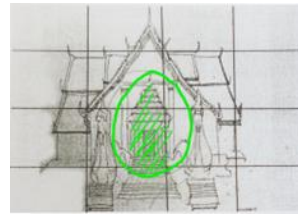
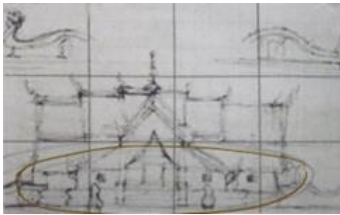
Tertiary level students were categorized into three groups: G1, comprising Economics majors; G2, consisting of Design majors; and G3, comprising Modern Management and Information Technology majors. Members of each group demonstrated their comprehension of Gestalt theory through the creation of six distinct sketches. Figure 13 showcases these sketches, serving as illustrative examples of the application of Gestalt theory in urban sketching.



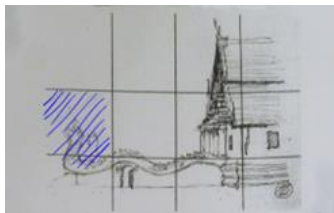
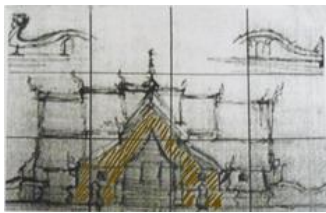
Similarity



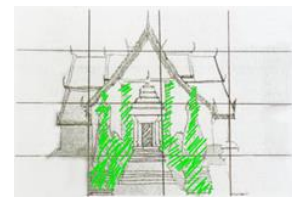
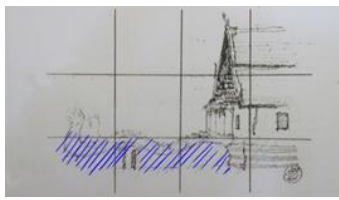
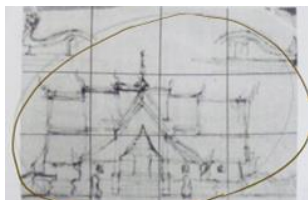
Prägnanz



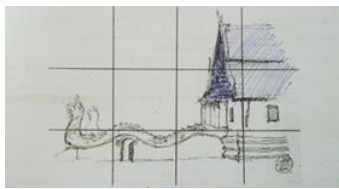
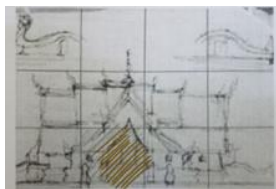
Proximity



Continuity



Closure



Common Fate

Figure 13. Tertiary level students demonstrated their understanding of Gestalt theory through six distinct sketches.

Source: Tawipas Documentation, 2023.

Part Two

The research was organized into three distinct groups, with each group consisting of a total of thirty tertiary level students. This guideline was established to guarantee an adequate sample size, thereby enhancing the statistical power and enabling researchers to effectively identify meaningful relationships or associations within the data. According to Hogg et al. (2021: 201-202), a minimum sample size of 30, researchers increase the likelihood of achieving statistical significance when genuine relationships exist between variables, ultimately improving the overall research quality. The statistical reports for H-1 and H-2 as Table 1, 2, 3, 4, 5, and 6.

Table 1. The relationship between variables G2 and G3 in Gestalt theory, as proposed by G1

		G2	G3
G2	Pearson Correlation	1.000	0.6989
	Sig (2-tailed)	-	0.000017
	N	30	30
G3	Pearson Correlation	0.6989	1.000
	Sig (2-tailed)	0.000017	-
	N	30	30

There is a moderate positive correlation between variables G2 and G3, meaning that high values of G2 tend to correspond with high values of G3, and vice versa. The correlation coefficient is 0.6989, and the p-value is 0.000017, which indicates that the correlation is statistically significant.

Table 2. The relationship between variables G3 and G1 in Gestalt theory, as Proposed by G2

		G3	G1
G3	Pearson Correlation	1.000	0.5071
	Sig (2-tailed)	-	0.004236
	N	30	30
G1	Pearson Correlation	0.5071	1.000
	Sig (2-tailed)	0.004236	-
	N	30	30

There is a moderate positive correlation between variables G3 and G1, meaning that high values of G3 tend to correspond with high values of G1, and vice

versa. The correlation coefficient is 0.5071, and the p-value is 0.004236, which indicates that the correlation is statistically significant.

Table 3. The relationship between variables G1 and G2 in Gestalt theory, as Proposed by G3

		G1	G2
G1	Pearson Correlation	1.000	0.4766
	Sig (2-tailed)	-	0.007752
	N	30	30
G2	Pearson Correlation	0.4766	1.000
	Sig (2-tailed)	0.007752	-
	N	30	30

Although there is a positive correlation between variables G1 and G2, the relationship between G1 and G2 variables is weak. The correlation coefficient is 0.4766, and the p-value is 0.007752, which indicates that the correlation is statistically significant.

Table 4. The relationship between variables G2 and G3 in Social Cognitive Theory, as Proposed by G1

		G2	G3
G2	Pearson Correlation	1.000	0.6268
	Sig (2-tailed)	-	0.00021
	N	30	30
G3	Pearson Correlation	0.6268	1.000
	Sig (2-tailed)	0.00021	-
	N	30	30

The correlation coefficient between variables G2 and G3 is 0.6268, indicating a moderate positive correlation. The relationship between G2 and G3 variables is weak. which means there is a tendency for high G2 variable scores go with high G3 variable scores (and vice versa). The p-value is = 0.00021, which means that the correlation is statistically significant at the $p < 0.05$ level.

Table 5. The relationship between variables G3 and G1 in Social Cognitive Theory, as Proposed by G2

		G3	G1
G3	Pearson Correlation	1.000	0.7544
	Sig (2-tailed)	-	< .00001
	N	30	30
G1	Pearson Correlation	0.7544	1.000
	Sig (2-tailed)	< .00001	-
	N	30	30

A strong positive correlation exists between variables G3 and G1, with a correlation coefficient of 0.7544. This means that high values of G3 tend to correspond with high values of G1, and vice versa. The p-value is less than 0.00001, indicating that the correlation is statistically significant at the $p < 0.05$ level.

Table 6. The relationship between variables G1 and G2 in Social Cognitive Theory, as Proposed by G3

		G1	G2
G1	Pearson Correlation	1.000	0.945
	Sig (2-tailed)	-	< .00001
	N	30	30
G2	Pearson Correlation	0.945	1.000
	Sig (2-tailed)	< .00001	-
	N	30	30

The correlation coefficient, R, is 0.945, which indicates a strong positive correlation between variables G1 and G2. This means that high values of G1 are associated with high values of G2, and vice versa. The p-value is less than 0.00001, which means that the correlation is statistically significant at the $p < 0.05$ level.

DISCUSSION

The study's findings unveil a significant connection between the comprehension of Gestalt theory and Social Cognitive Theory among tertiary level students. In the first part of the study, the outcomes demonstrate how students at the tertiary level understand Gestalt theory through the examination of six distinct sketches. These sketches serve as practical examples of how Gestalt theory can be

applied in the context of urban sketching. The student participants were categorized into three groups based on their majors: G1 for Economics, G2 for Design, and G3 for Modern Management and Information Technology, each group represented by a distinct color, namely brown for G1, blue for G2, and green for G3. In the second part of the study, the statistical results strongly support the hypotheses outlined in H-1 and H-2. H-1 pertains to the relationship between variables G2 and G3 in Gestalt theory from the perspective of G1, revealing a moderate positive correlation between these two variables. Similarly, the relationship between variables G3 and G1 in Gestalt theory from the perspective of G2 demonstrates a moderate positive correlation between them. Finally, the relationship between variables G1 and G2 in Gestalt theory from the perspective of G3 also shows a strong positive correlation. Consequently, the study concludes that Gestalt theory is positively correlated with Economics tertiary level students and exhibits a moderate positive correlation with Design and Modern Management and Information Technology tertiary level students. Therefore, the visible outcomes from the examination of six distinct sketches by three tertiary students show that they are able to apply Gestalt theory into different urban sketches of Wat Phumin, Nan province. In the meantime, the researcher checked their response on six items of Gestalt theory through Likert scale, which the results are related to in significant levels. Therefore, we can confidently confirm that H-1 is valid: Gestalt theory is highly valued by tertiary level students and has a positive correlation with urban sketching. H-2 explores the interrelationship between variables G2 and G3 as viewed from the standpoint of G1, the connection between variables G3 and G1 as observed from the perspective of G2, and the interaction between variables G1 and G2 as examined from the perspective of G3 within the realm of Social Cognitive Theory. In all three cases, the findings consistently demonstrate a robust and positive correlation between these pairs of variables in G1, G2, and G3.

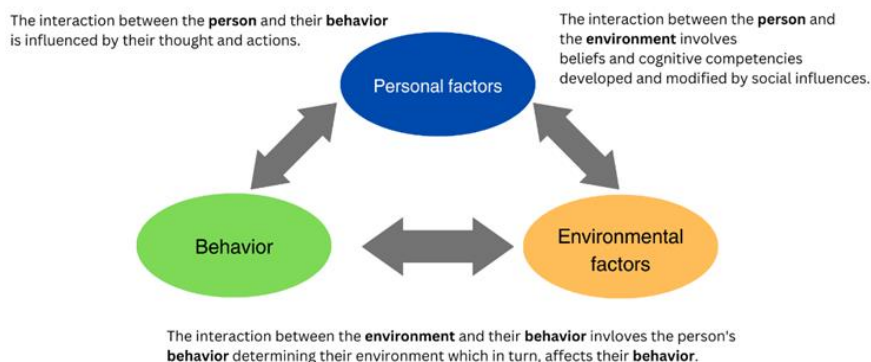


Figure 14. Social Cognitive Theory Model.

Source:

<https://hl250w15socialcognitivetheory.weebly.com/application-to-health.html>

Hence, Figure 14 illustrates the manifestation of variables in G1, G2, and G3 according to the principles of Social Cognitive Theory, formulated by Albert Bandura, within the psychological framework that emphasizes the role of observational learning, personal factors, and the environment in shaping human behavior. According to this theory, students at the tertiary level acquire knowledge not solely through personal experiences, but also by carefully observing and emulating the behavior of others. In this case they have learned from urban sketches of Wat Phumin, Nan Province as Figure 9, 10 and 11. Consequently, the results are variables in G1, G2, and G3 in Social Cognitive Theory reflected tertiary level students in their personal factors, behaviors, and the environment. In conclusion, the significant influence of Social Cognitive Theory in elucidating the ways in which tertiary level students assimilate and employ knowledge in their academic endeavors. the comprehensive impact of Social Cognitive Theory in understanding how students at the tertiary level integrate and apply knowledge in their academic pursuits. In addition, the study of urban sketching shows great promise in advancing the SDGs, particularly SDG 4: ensuring quality education and lifelong learning for all. This study highlights its potential to promote a more humanized approach to education. Future research can capitalize on the insights garnered from this study to seamlessly blend principles from Gestalt theory and Social Cognitive theory, thus enriching various facets of visual disciplines. These upcoming investigations hold promise for enhancing understanding across a wide array of academic domains, with the potential to benefit a diverse audience, including students at the tertiary level.

ACKNOWLEDEMENTS

I am deeply grateful to International Journal of Creative and Arts Studies (<https://journal.isi.ac.id/index.php/IJCAS>) for accepting my papers. I would also like to express my sincere gratitude to College of Communication Arts, Suan Sunandha Rajabhat University, Nakhon Pathom Campus for their support. Finally, I would like to extend my heartfelt thanks and gratitude to my loving mother, who has supported me in every way.

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