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Design Criteria for Public Buildings in the Context of Sociological Relativism: Egyptian Police Stations

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ARTICLE INFO	ABSTRACT
	The design reference for public buildings should be reflective of the institutions' orientation and the public' demographics. This underscores the necessity to establish a linkage between architectural and social perspectives, recognizing that social disparities among societies invariably influence architectural outcomes. This necessitates a study of the design of these institutions within their context, in what is known as "sociological relativism". The study definitively reveals that social impediments arise during the design process of police buildings in countries with conservative regimes according to international standards for police buildings design. This is particularly salient in contexts where liberal and conservative police regimes differ significantly. Methodologically, a qualitative approach was adopted, examining the Egyptian context as a case study. Egypt as a subject is chosen because of the architectural development of its police stations, which have been characterized by a conservative system, during the period spanning from 2019 to 2024. The primary sources for this approach rely on an ethnographic component, which is achieved through field observation of conservative police buildings with behavioral mappings, photographs, and field notes. Semi-structured interviews are also conducted with architectural consultants and administrative leaders involved in the process of developing these buildings. These sources are used to reach the design criteria that achieve the optimal architectural model for police buildings with conservative systems, specifically police stations, in accordance with the nature of their inner work and the nature of the public who deal with them. **Keywords**: Design criteria, Public Buildings, Police Stations, Sociological relativism

INTRODUCTION

The authority granted to employees of public institutions, especially police institutions, has imposed on these buildings to be characterized by an appearance of domination and authority, as they symbolize the state's legitimacy (Domination Style) [1], while the entire administrative institutions of the state work to achieve the welfare of the citizen and meet his basic needs, build bridges of communication with citizens, and listen to their needs and complaints to achieve it [2]. This objective is achieved through the implementation of a service model. It stipulates that public buildings must appear welcoming and facilitate interaction with the public (Welcoming Style) [3].

The relationship between authority and service orientation in the design of police institutions is contradictory. It depends on the nature of the work of these institutions and the determinants of the relationship between them and

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the people who own these institutions [4,6]; liberal and conservative police regimes [5]. So, it is imperative to concentrate on the cultural and social differences between societies and their public institutions is a must. Each society has a set of values, beliefs, and social orientations that form the basis for explaining its behavior, interaction, and the nature of its public buildings [6]. Therefore, it can be concluded that social phenomena are not susceptible to comprehension absolutely or universally, that may affect the design criteria for these buildings.

The extant literature has predominantly focused on the analysis of international models of police stations, with the objective of developing a measurement ruler or a matrix of criteria to evaluate local building and generate recommendations for application to these local models [7]. However, these studies have overlooked the potential challenges that may arise from cultural and social differences between societies. These differences could influence the implementation process. While acknowledging the contributions of this scientific heritage to the development of a substantial knowledge base concerning the design of police institutions, it is imperative to recognize the limitations inherent in these studies. These deficiencies contributed to defining the study issue and defining its questions and objectives.

The deficiencies are clear: the reference for designing private institutions is a personal perspective, while the reference for designing public institutions must reflect the orientation of the institution, the state, and the public [6]. In addition to the fact that people have undergoing the same beliefs, institutions, and laws for many centuries. These people possess a system of ethics, politics, and culture that determines the nature of their dealings with their institutions and systems. So, it is not possible to discuss, borrow, and project the values and systems of other countries in an absolute manner, which is known as "sociological relativism". This concept explored by the scientist Gustave Le Bon [8] in his theory about the Psychology of the Masses.

Therefore, the research problem lies in the existence of social obstacles when designing police buildings in countries with conservative regimes, according to the international standard criteria for police buildings, as shown in Figure 1 and 2. So it is necessary to reach design standards that achieve the optimal architectural model for police buildings with conservative regimes, specifically police stations, in accordance with the nature of the work of these departments and the nature of the public who deal with them.

Source: Google maps photos, 2025

Figure 1. Examples of conservative police buildings

Source: Google maps photos, 2025

Figure 2. Examples of liberal police buildings

1. Sociological Relativism Influences the Police buildings Design

The design thinking mechanism of police buildings depends on the transparent box mechanism, also known as the Glass Box Approach [9]. The design methodology consists of three main phases: Analysis, Synthesis, and Evaluation, in Architectural Contextualism [10,11,12]. Architectural design is a social fact, taking place within the framework of the circumstances in which the architectural product occurred. The product only acquires value when considered within the context of its circumstances; otherwise, it is no more than an abstract rule [12].

1.1. The Analysis Phase of the Design Process

In 1980, Paul Laseau [13] argued that the field of architecture was facing significant challenges in the postmodern era. In response, architects must shift their focus from designing buildings for their users to a more proactive approach, one that involved actively engaging with these users to understand their needs and the choices they faced. This shift in perspective, termed "user-centered design", aimed to bring users into the design process, ensuring that the public buildings they use are better aligned with their preferences.

So, in the analysis phase, a "Dramaturgical analysis" is employed from a dramatic perspective, relying on the design analysis of functional spaces inseparable from the social emotions they contain [3,14]. This approach is used to produce designs that reflect the nature of the functionality of public institutions, as follows:

1. Analytical studies of the internal structure of functional design.

2. Analytical studies of the social structure of functional design.

3. Analytical studies of the physical security design of the buildings.

4. Analytical studies to adapt the design to the public.

Dramaturgical analysis is a term adopted by Erving Goffman [15]. It relies on the idea that individuals, in their interaction and communication, present themselves and act according to a pattern of roles they play in social life. Therefore, the building is divided into three main zones: the Front stage zone, the backstage zone, and the offstage zone.

1.2. The Synthesis Phase of the Design Process

Secondly, the synthesis phase is the primary phase. This is associated with the sociological relativism dimensions that influence the architectural design of police buildings. These dimensions are structured into two primary dimensions, as follows:

1.2.1. Historical Race

This concept encapsulates the notion of general sociological relativism, positing that the concept of race undergoes an evolution over time. It is influenced by the gradual integration of elements that contribute to the cultural and historical identity of a given group. Notwithstanding, the concept does not exclude the influence of "Genetic Accumulations" within its purview [8]. The concept of "collective unconsciousness," from which people derive its actions and beliefs, is precisely shaped by such genetic accumulations. These accumulations are often referred to as the "structure of collective unconsciousness" or the mental composition of people and the concept of "historical race" serves as the primary agent that governs this consciousness or mental composition [16].

From a methodological perspective, the study of this phenomenon necessitates a theoretical framework informed by a historical and succession approach to the institutional origins and the nature of its work. Moreover, experimental research is required to examine the nature of daily emotions experienced by citizens and employees of the institution under study.

1.2.2. Architectural Contextualism

This concept encapsulates the notion of special sociological relativism, which is divided into two dimensions [17].

The initial dimension under consideration is that of interior contextualism of the designer. This approach is characterized by the adoption of an internal determinism, which manifests as a set of internal masks that are

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particularly salient due to the designers' adoption of specific attitudes in their approach to the design process [17,18]. It functions as an internal intellectual factor, representing the power of thought and the influence of the designer in its architectural output. This interior context originates from its guiding principles.

The dynamic interplay between the masses and authoritative entities and public institutions, particularly sovereignty, gives rise to a collective mind that gives rise to perceived rigid patterns. These patterns are dropped or posed to the statesmen. The stereotype of sovereign institutions has been expanded and deepened over successive historical periods. This image has been transmitted from one generation to the next, having been both reinforced and stored in the collective sentiment [6]. These perceptions on these institutions can be measured using an empirical method through" Dominance Scale Tool" [19] as follows:

1. A favorable and positive perspective is held, given their responsibility for overseeing state-level affairs.

2. The negative one asserts that they are entrusted with safeguarding the prevailing political order.

The second dimension under consideration is that of exterior contextualism of the designer. The present study utilizes the metaphorical thinking model to examine the influence of the new institutionalization theory in sociology on the contextualism of designers during the design process of public institutions. The new institutionalization theory is a sociological theory that explains how the public institutions interact in their contexts [20].

So, this dimension is characterized by the objectives that guide the design process, rather than focusing on the design's internal intellectual principles. Therefore, it is imperative to prioritize design compatibility with other design entities, such as owner, client, and user. These entities may impose their intellectual orientations on the designer, influencing the architectural product to align with their preferences. Therefore, the design product isomorphism in three distinct forms: Coercive Design, Normative Design, Mimetic Design [20,21]. This dimension can be measured using an experimental method through interviews.

1.3. The Evaluation Phase of the Design Process

Finally, the evaluation phase is associated with the concept of "Architecture Bureaucratize". This term refers to describe a situation in which the design decision is subject to the complexity of procedures and the hierarchy of authority across the different administrative levels of an organization. This concept can lead to a centralization of power, resulting in specialists being unable to perform their architectural tasks due to a lack of necessary powers and authorities. The design decision in the evaluation is based on the extent to which the administrative level dominates the other levels [22].

It is noteworthy that public institutions adhere to a bureaucratic model in their administration, as postulated by Max Weber [23], which aims to standardize work procedures and decisions within these institutions. Therefore, Foucault contends that the offices and ranks delineated by Weber in his abstract treatise on bureaucracy manifest in architectural forms. The buildings of institutions frequently exhibit a vertical design, with the uppermost floors designated for those wielding the most authority within the institution. Figure 3 summarizes the effect of sociological relativism.

MATERIALS AND METHODS

A qualitative approach was adopted, examining the Egyptian context as a case study. Egypt as a subject is chosen because of the architectural development of its police stations, which have been characterized by a conservative system, during the period spanning from 2019 to 2024. The primary sources for this approach rely on an ethnographic component.

The researcher's involvement in the development of police station buildings offers a distinctive opportunity to observe and document the development process and the daily experiences of the public in these buildings. This field observation facilitates a comprehensive study of the design of these buildings, given the paucity of data regarding police stations with conservative systems. The tool also aims to elucidate the influence of Egyptian cultural and societal characteristics on the design of police station buildings.

In addition, a series of semi-structured interviews were conducted with several administrative leaders specializing in the domain of police projects, as well as consulting offices specializing in the development of Egyptian police station buildings. These interviews were conducted with the objective of reaching design standards that would achieve the optimal architectural model for the Egyptian context.
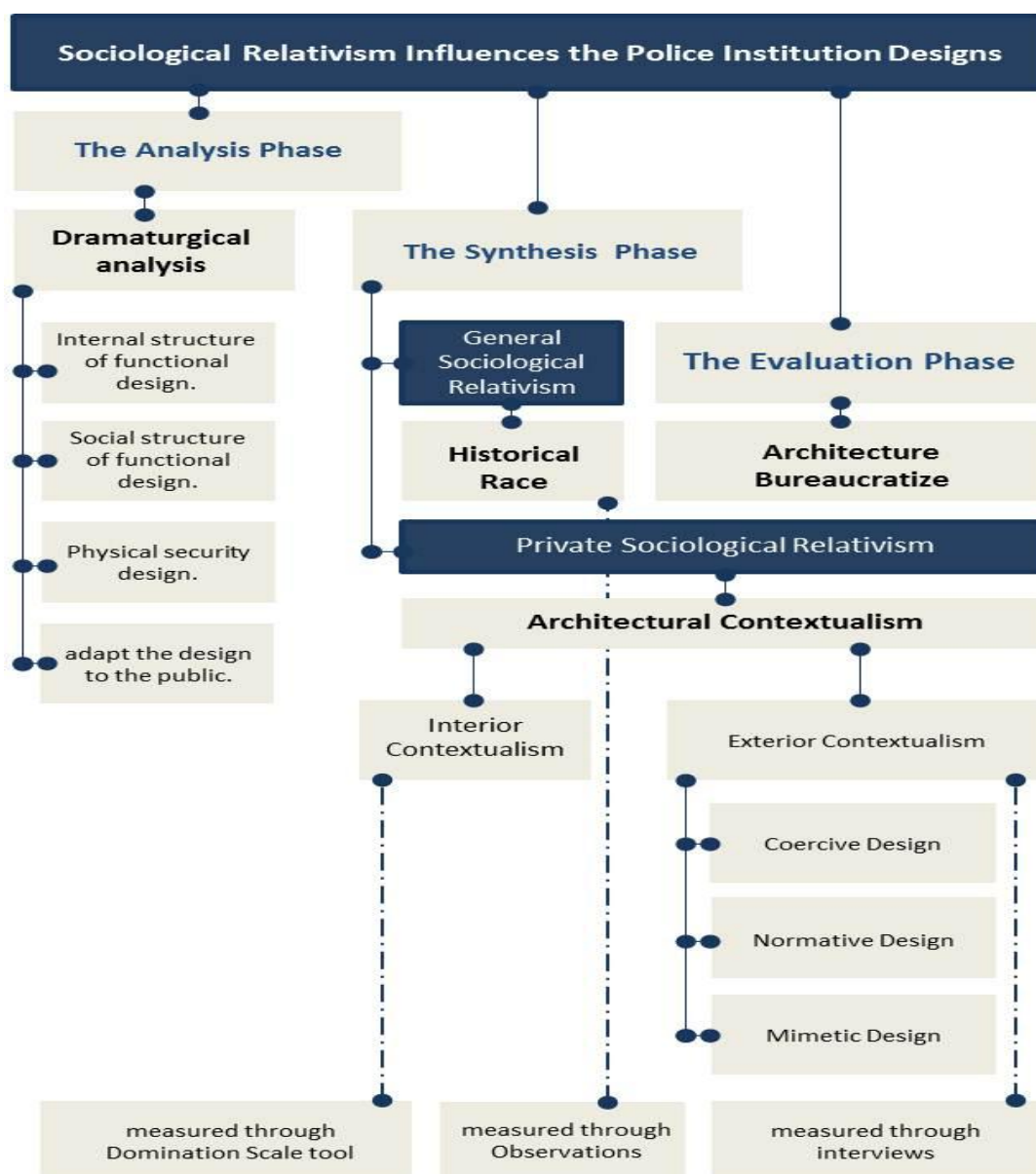

Source: literature Review

Figure 3. The framework of the effect of Sociological Relativism on Designing Police Buildings

2. Study Areas Identification

The population of this study consists of Egyptian police station buildings. The daily interactions between police station employees and the public were observed in four of these buildings through field observation. For semi-structured interviews, four architectural consultants specializing in the development of police station buildings and three administrative leaders with expertise in police projects were consulted.

The researcher employed the divisions assigned by the Egyptian General Directorate of Information and Documentation, which divided Cairo in Egypt into four primary regions: the northern region, the western region, the southern region, and the eastern region [24]. These regions exhibit variances in demographic characteristics of the population and crime rates, ranging from high to medium to low, as illustrated in the following Figure 4.

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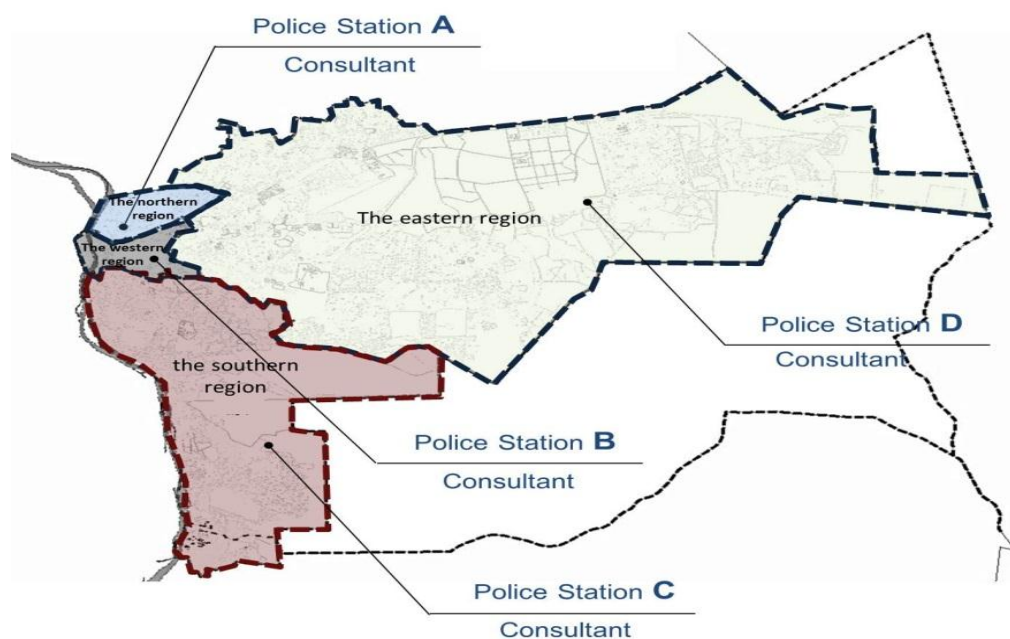
Source: Google maps, 2025 (Modified by author)

Figure 4. The four primary regions of Cairo, Egypt

2.1 Data Collection

The empirical study was conducted from April to June of 2024. Primary data was collected through semi-structured interviews, as follows:

Initially, the designers' interior contextualism was assessed through the social domination scale, which comprised a questionnaire containing 16 questions [19]. This questionnaire was distributed to the respondents at the beginning of the interviews.

Secondly, the external contextualism of the designer is identified by examining the main design priorities from the perspectives of consultants and police leaders involved in these projects. It is noted that the design process for police stations is subject to two distinct proposals: one based on security concerns, given the authoritarian nature of these buildings, and another based on architectural considerations, given their service function.

Thirdly, respondents proposed a set of design criteria for the design of police stations that adhere to a conservative system.

2.2 Data Analysis

Dramaturgical analysis was used in the field observation process, followed by value analysis regarding the respondents' opinions in the semi-structured interviews about the proposed design criteria.

RESULTS AND DISCUSSIONS

The Results are thematically organized according to the sequence of the theoretical constructs in the literature and the sequence of Tools used in data collection.

3. Field Observations

The field study through field observation of the case studies revealed that the daily interactions between police and the public at conservative police stations contradict the service nature of police stations. Therefore, this contradicts international standards for police stations, which aim for a service model. The following figure 5 illustrates this point.

Thus, the functional spaces of Egyptian police stations are divided into three types according to the dramaturgical analysis and the field observations, as shown in the following Figure 6.

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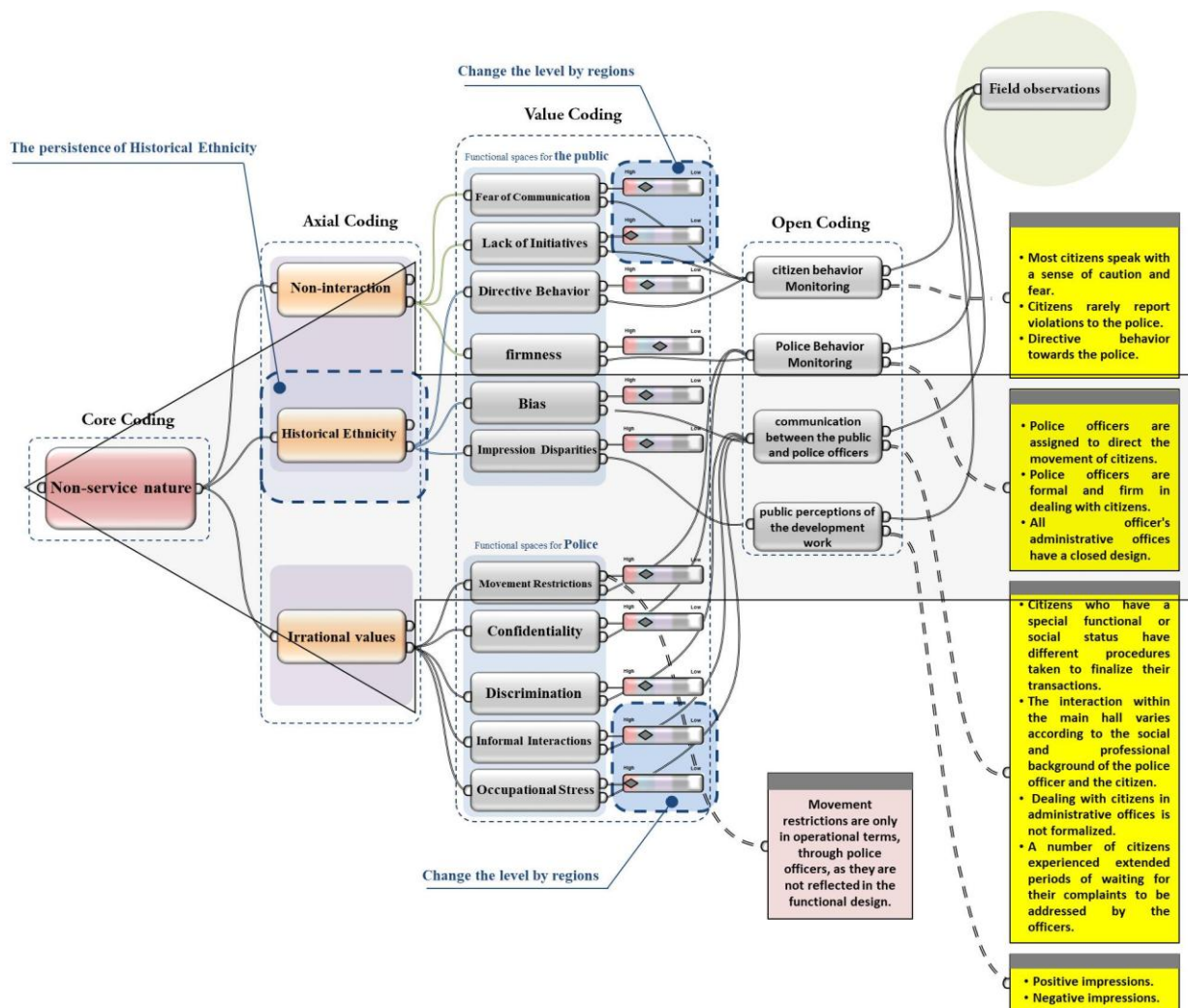
Source: Author based on observations, 2024

Figure 5. The field observation of the case studies in Cairo, Egypt
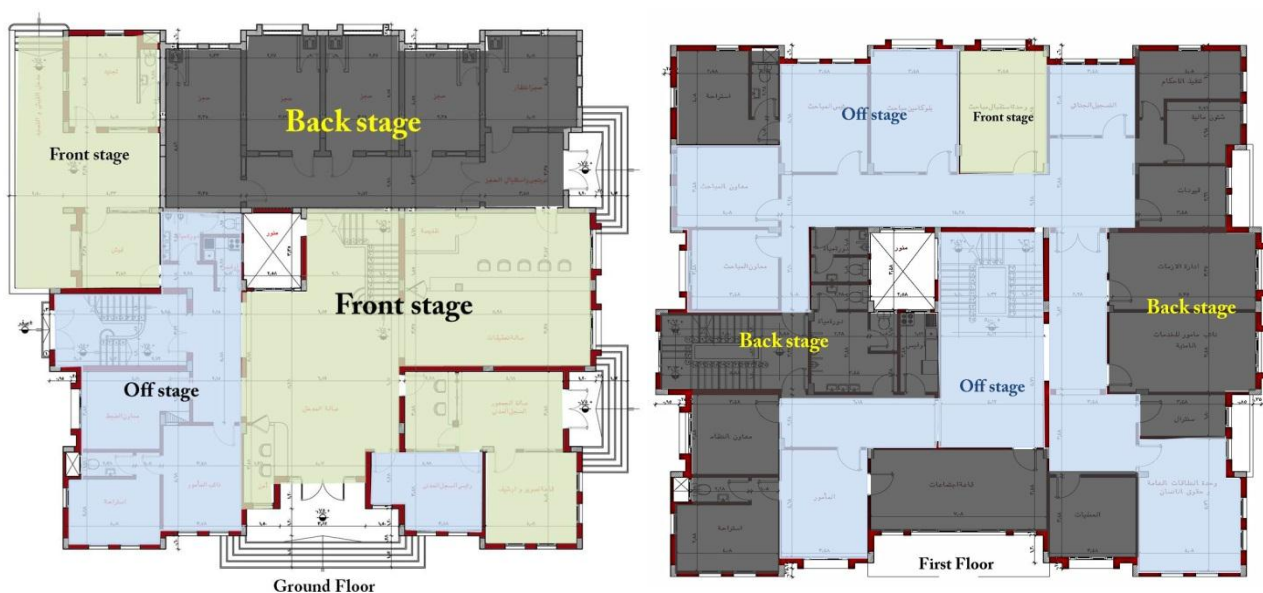
Source: Consultant A (Modified by author)

Figure 6. The three types of the functional spaces of police stations

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The building's spaces were categorized according to the figure above due to the following justifications:

1. The front stage zone encompasses the spaces that are designated for public use, including the reception hall and public services halls. These spaces exhibit a direct relationship with the main entrance of the building.

2. The backstage zone includes the detention area in addition to various administrative offices, restrooms, and warehouses. The researcher's rationale for classifying these areas as "backstage" stems from their nature as off-limits to the public. Furthermore, the design analysis reveals a weak correlation between these spaces and the reception area. The researcher's assertions are further substantiated by the absence of any public presence observed in these areas, which lends credence to the idea that these spaces are indeed isolated from public view.

3. The off-stage zone includes all spaces designated as off-limits to the public. These spaces are dedicated to police staff and are not intended for public access. The researcher's rationale for categorizing these spaces as off-stage is as follows:

   a. As indicated by analytical studies of the functional design, these spaces exhibit strong and medium relationships with the reception area and the entrance. However, it is imperative to note that these spaces require complete functional separation from the public areas in order to be designated as backstage zone.

   b. As indicated by Analytical studies of the social structure of functional design, the public was observed occupying these spaces at varying densities. As shown in Figure 7.

   c. As indicated by Analytical studies to adapt the design to the public, the public is present in these spaces with informal interactions, bias, confidentiality, and operational movement restrictions.
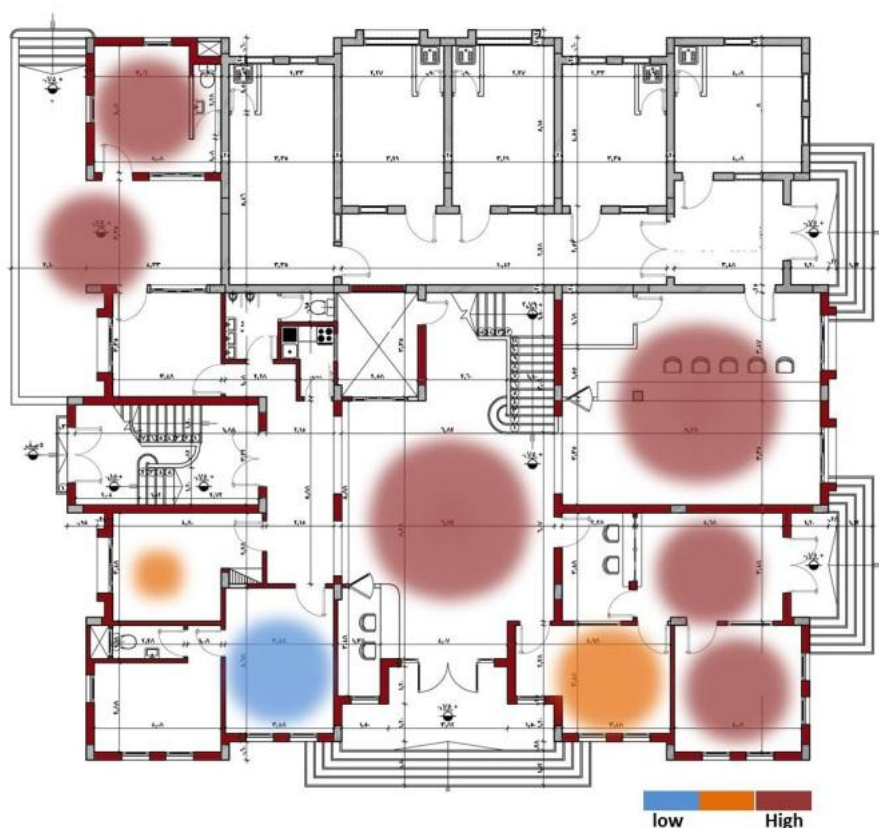
Source: Author, 2024

Figure 7. Public densities observed in building

The following Figure 8 illustrates the functional relationship diagram for the design of Egyptian police station buildings, "the conservative model".

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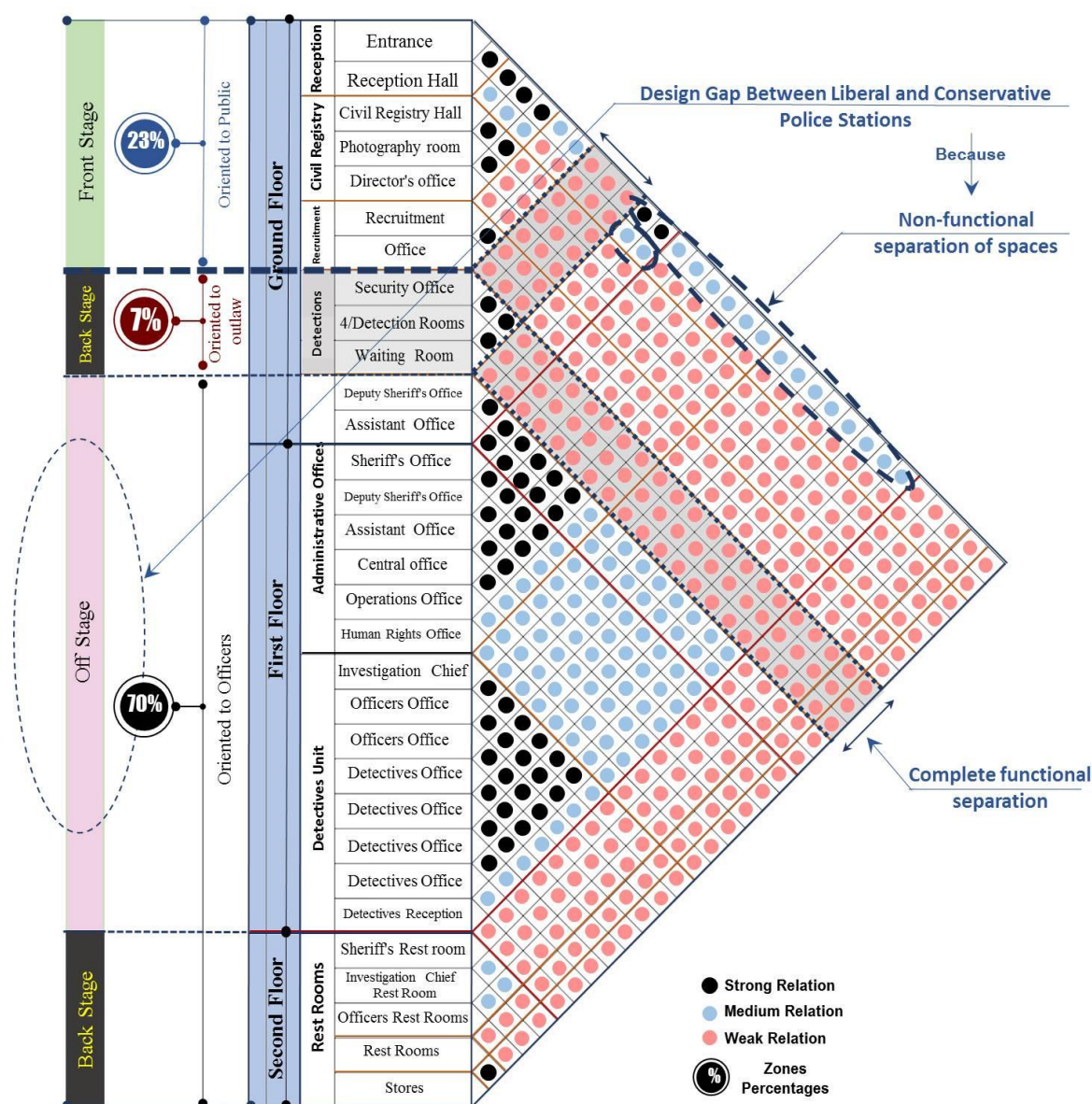
Source: Author, 2024

Figure 8. The functional relationship diagram for the design of Egyptian police station buildings "the conservative model"

In the domain of physical security design, a field observation of Egyptian case studies has identified several distinctive features of these buildings with a conservative system. These features are outlined below:

1. Classic architectural elements are used to achieve symmetry.

2. The domination Style is present in design facades

3. There are small glass areas.

4. The building must have one main entrance for security purposes.

5. The entrance has armored doors.

6. Showing the elements of physical security

7. Design the concrete fences and watchtowers around the department's building.

4. Semi-structured interviews

According to the first aspect, the respondents' degree of social dominance demonstrated by their responses to the questions of the "Social Dominance Scale" is indicated in the chart in Figure 9.
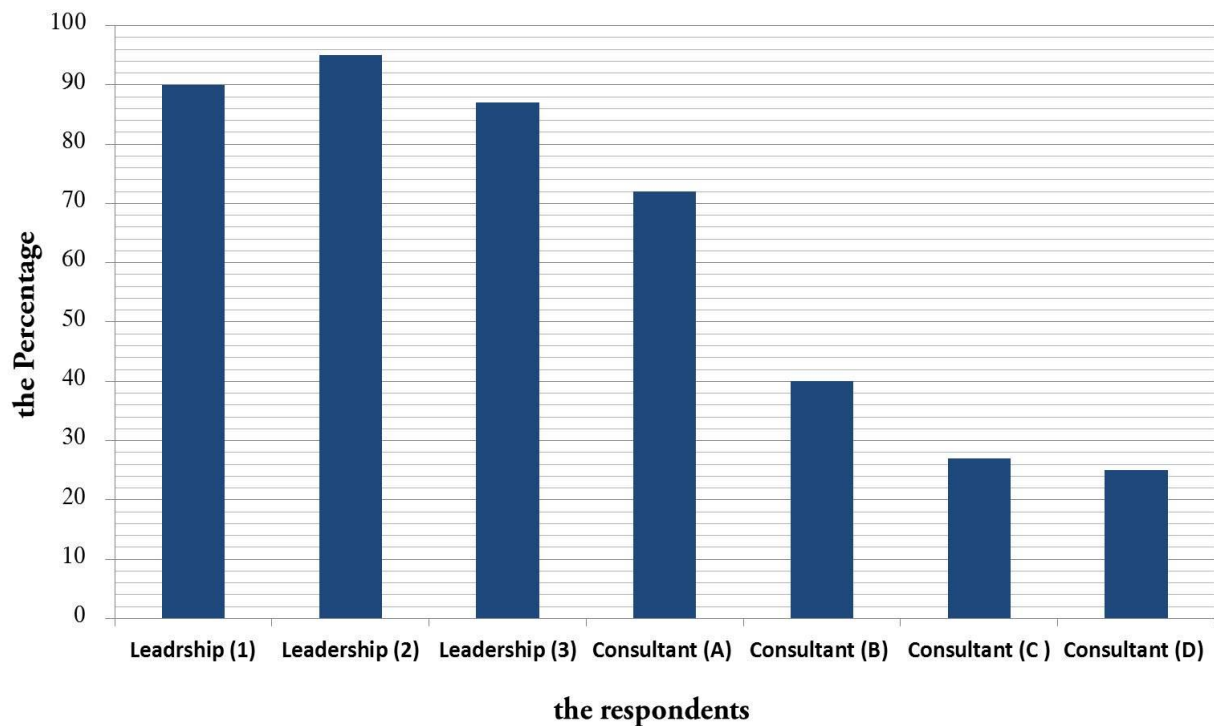
Source: Author, 2024

Figure 9. The respondents' degree of social dominance

The final categorization of the respondents' internal contextualism according to the degree of social dominance can be analyzed through Figure 10.
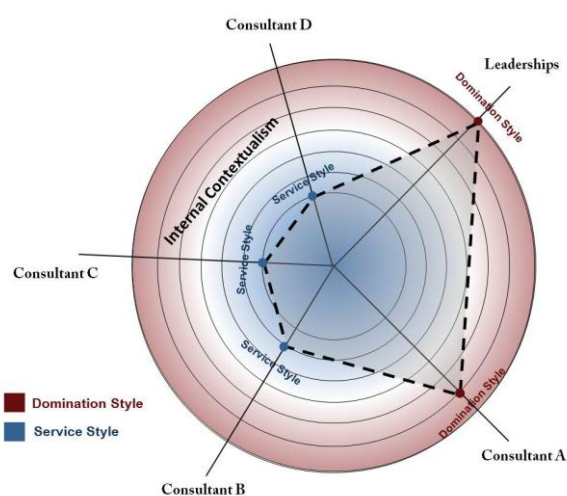
Source: Author, 2024

Figure 10. The respondents' internal contextualism

According to the second aspect, the Figure 11 offers a summary of the priorities of consultants and

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administrative leaders according to the service and security nature of these building, which is represented by external contextalism.

Source: Author, 2024

Figure 11. The respondents' priorities in design of these buildings

Hence, the following Table 1 illustrates the most important values that the respondents addressed for their opinions in this axis.

Table 1. The most important values of the respondents

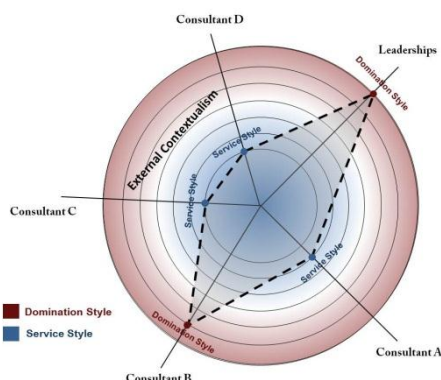| Leaderships	Consultant A	Consultant B	Consultant C,D
Domination Style (5)	Domination Style (1)	Service Style (1)	Service Style (5)
Security View (3)	Security View (2)	Service Aspect (2)	Design Aspect (3)
A vital tool to enforce order (1)	Repeatability and stability (1)	Opening to community (1)	Opening to community (2)
Physical Security (1)	Power and prestige (1)	Breaking the deadlock (1)	Breaking the deadlock (1)
positive relationship for authority and deterrence (1)	Dominican buildings (1)	Changing organizational culture (1)	Changing organizational culture (1)
Dominican buildings (1)	Physical Security (1)	Changing the mental image (1)	Changing the mental image (1)
A representation of the state's prestige.	Unstable security visibility (1)	Service Buildings (1)	Service Buildings (1)
Standardize the Design (1)	Balanced rationalization of security and crime rates (1)	Achievable Buildings (1)	Achievable Buildings (1)
Stable security visibility (1)	Service- oriented for low crime rates (1)	Interactivity and transparency (1)	Interactivity and transparency (2)
Security is an expensive commodity (1)	Functional Separation of Security and Service Spaces (2)	Unstable Design visibility (1)	Stable Design visibility (1)
Authority does not affect the efficiency of security services (1)	Not focusing on one side (1)	Security- oriented for high crime rates (1)	Police stations are similar to all service buildings (1)
Monopolistic services (1)	Balancing the Security and service (4)	Functional Separation of Security and Service Spaces (3)	Invisible security

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			elements (1)
Lack of public interest in the architectural character of the building (1)	Physical security is not a rigid (1)	Not focusing on one side (1)	Crime prevention through CPTED (1)
Systemic nature (2)	application stands on the security variables (1)	Balancing the Security and service (4)	The security process is a collaborative process (1)
		Physical security is not a rigid (1)	Police work with and for the community (1)
		application stands on the security variables (1)	The negative impact of authority (1)

Source: Author, 2024

The following Figure 12 shows a graph of the three most frequently repeated values for each respondent, through their opinions on the questions on that axis.
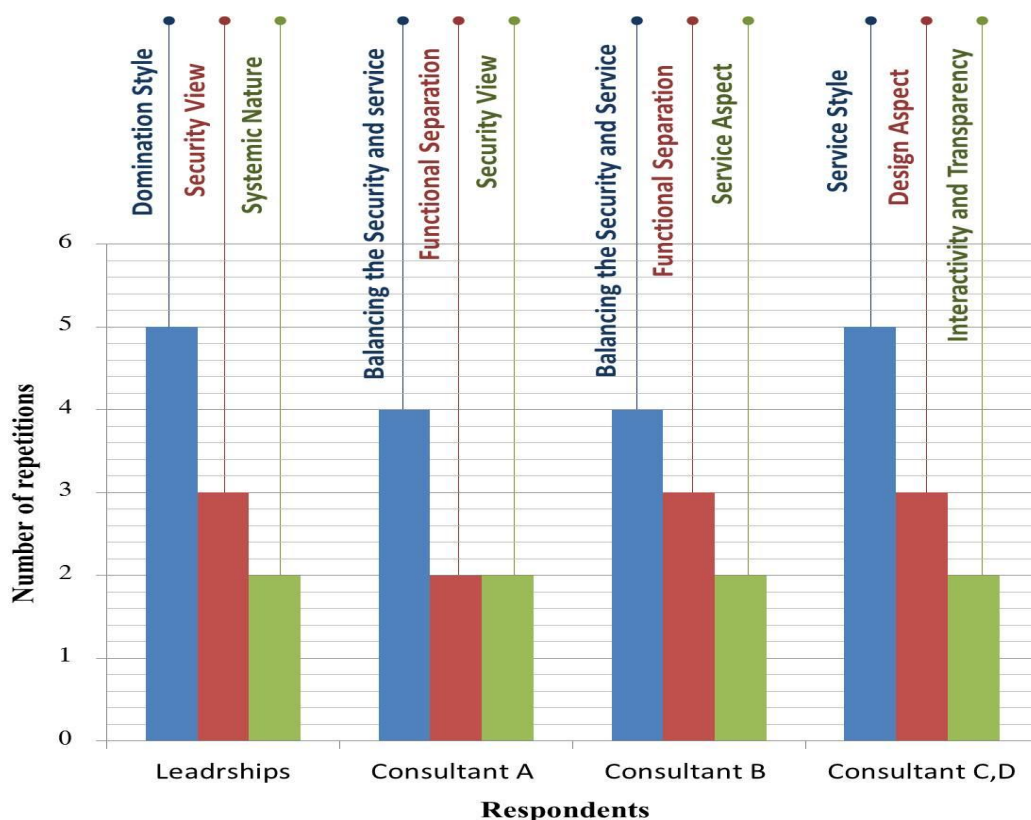
Source: Author based on interviews, 2024

Figure 12. The three most frequently repeated values

The following Table 2 illustrates the relative weight of the most frequently repeating values for each respondent. This value was calculated by "***the number of repetitions of the values / the total number of repetitions of all values for the respondent * 100***". The purpose of this calculation is to explore the main intellectual orientations of each respondent's views on the design of Egyptian police station buildings.

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Table 2. The relative weight of the most frequently repeating values

	Leaderships	Consultants		
		A	**B**	**C,D**
Repeated values	Domination Style	5	21	24%
no. of repetitions	Balancing	4	20	20%
Total no. of repetitions	Balancing	4	21	19%
Adapt the design to the public	Service Style	5	23	22%

Source: Author, 2024

As demonstrated in the preceding data, approximately 24% of the police leaders' opinions are aligned with the "Domination Style" perspective. Meanwhile, approximately 20% of the opinions expressed by the first and second consultants are aligned with the "Balance between the authoritarian and service aspects". Finally, the "Service Style" perspective accounts for about 22% of the opinions held by the third and fourth consultants.

The respondents' opinions regarding the design of police station buildings are as follows:

4. A domination building that represents the law and state authority, as the basis of its role is to enforce the law in the state. Consequently, its architectural composition is imbued with elements that symbolize strength and prestige, while prioritizing the physical security aspects of the building.

5. A service building that is designed to foster a sense of inclusivity, welcoming all citizens and conveying a sense of protection through its architectural design. This approach diverges from the traditional fortress-like image often associated with authority. It emphasizes a participatory security paradigm that engages the community in the security process.

6. A building that strikes a balance between authority and service according to the security variables surrounding the building, with a functional separation between the security and service spaces.

According to the third aspect concerning the design criteria proposed by the respondents, the following Tables 3 and 4 present the relevant data.

Table 3. The codes of design criteria proposed by the respondents

	Leaderships	Consultants		
		A	**B**	**C,D**
The internal structure of Functional design.	A_1	A_2	$A_{2,3}$	$A_{2,3}$
The social structure of functional design.	B_1	B_2	B_2	$B_{2,3}$
The physical security design	C_1	C_2	C_3	C_4
Adapt the design to the public	A_1	D_1	D_1	D_2

Source: Author, 2024

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Table 4. The design criteria proposed by the respondents (Data Collection &Analysis)

Leaderships L	Consultants A,B,C,D	● Applied=1	◉ Partially Applied=0.5	○ Not Applied=0

Criteria Collection			Criteria Coding	Criteria analysis					
					Respondents				Result
Symbol	No.	The design criteria proposed by the respondents			L	A	B	C	D	
A₁	1	The functional design of the building should divide the interactive area into three main zones: Oriented to Public, Oriented to Officers, Oriented to outlaw.	Public zone, Officers zone, detainees zone	●	●	●	●	●	5
	2	The detention zone is fully functionally separated from the operational sections of the building to ensure the desired confidentiality and security.	detention zone is Fully functionally separated	●	●	●	●	●	5
	3	The public zone and the police staff zone are not fully separated due to the functional overlap between the two spaces.	Public& police Zones not fully separated	●	○	○	○	○	1
	4	The building's reception hall functions as the main distribution hall for all spaces within the building, for both police staff and the public. That's for enhancing security control measures.	Enhancing security control	●	○	○	○	○	1
	5	The building is equipped with a vertical motion battery in the lobby, in addition to escape stairs.	Vertical motion battery	●	●	●	●	●	5
A₂	6	Ensuring functional separation between the movement paths of citizens, police staff, and outlaws is imperative.	Fully functionally separation	○	●	●	●	●	4
	7	The building is equipped with elevators in the lobby.	Elevators	○	●	●	●	●	4
	8	In regard to the functional spaces for the public, the building must include, but not be limited to: a reporting hall, criminal evidence, a civil registry hall, and a recruitment office.	Including all functional spaces for the public	●	●	○	●	●	5
A₃	9	It is imperative to prioritize the details of the functional space and its subdivisions to ensure a successful communication process.	Ensuring a successful communication process	○	●	●	●	●	4
	10	The functional design of public spaces is not merely a physical division but should embody a set of guiding principles that inform and shape communication with the public.	Guiding principles for public spaces	○	●	●	●	●	4
	11	The functional design of police staff spaces must prioritize achieving several guiding principles in their work.	Guiding principles for police spaces	◉	●	●	●	●	4.5

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B₁	12	Functional spaces are divided according to the nature of the internal interactions between police staff and the public into three main types: Front stage, Back Stage, Off Stage	Front stage, Back Stage, Off Stage	●	◎	◎	○	○	2
	13	The front area represents the lowest percentage of the total area of the building, about 25%, due to the domination style of the building's design.	The lowest percentage of the front area	●	○	○	○	○	1
B₂	14	Design for peaceable Society by focusing on the social architecture of the citizen services building to achieve the targeted community interaction and participation.	Design for peaceable society	○	●	◎	●	●	3.5
	15	Including community engagement by giving the public more functional spaces and using large windows to let in natural light and make the space more transparent.	Include community engagement	○	●	◎	●	●	3
	16	Modern artistic decorations, which stray from the typical interior designs, can be used to reflect the architectural character of the city and give the space a unique and attractive personality.	Modern artistic decorations	○	●	◎	●	●	3.5
	17	The integration of physical security and architectural elements in space fosters the establishment of an aesthetically pleasing character, thereby achieving creative harmony and contrast.	The integration of physical security and architectural elements	○	●	○	●	●	3
	18	Hang a welcome sign and provide public hall with innovative waiting furniture to create a cohesive aesthetic and encourage interaction.	Hang a welcome sign	○	●	◎	●	●	3.5
B₃	19	Remove the off-stage area, through a complete functional separation between the spaces of the police staff and the spaces of the public.	Removing the off-stage area	○	●	◎	●	●	3.5
	20	The design for holistic wellness must focus on the social structure of police officers' workspaces to maximize productivity and positive interaction with the public.	The design for holistic wellness	○	○	●	●	●	3
	21	The design must reflect the commitment to positive interaction with citizens and the achievement of their security expectations.	Reflecting positive interaction with citizens	○	●	◎	●	●	3.5
	22	The skylight must be used to allow much natural light into the police spaces as possible.	Using the skylight	○	○	●	●	●	3
	23	Open designs for administrative offices are essential for integrated socialization. Eliminate solid walls and replace them with glass walls, to promote interaction between police staff and break the hierarchical structure of work. This	Open designs for administrative offices	○	○	◎	●	●	2.5

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|									
		criterion will foster better experiences and knowledge sharing.							
	24	Introduce biophilia by using botanical elements in the design of functional spaces to reduce stress levels and brighten the indoor environment for better productivity.	Introduce biophilia	○	◎	◎	●	●	3
C₁	25	The layout must overlook the main street.	layout overlook a main street	●	●	●	●	●	5
	26	It is imperative that the building ratio be at least 50% of the total area of the layout.	the building ratio is at least 50% of the total area	●	●	●	●	●	5
	27	The public site is equipped with fences, guard towers, and one main entrance on the main street.	fences, guard towers, and one main entrance	●	◎	◎	○	○	2
	28	The Layout is equipped with parking for police staff cars.	Parking for police staff cars	●	●	●	●	●	5
	29	Design the building's exterior in domination style.	domination style of exterior	●	◎	◎	○	○	2
	30	The building has three entrances: one for police staff and the public for security control, another for the detention area, and a secondary entrance.	One entrance for police staff and the public	●	○	○	○	○	1
C₂	31	Dividing the layout into two main parts: • The front part is without fences or guard towers, dedicated to the citizens' services building, overlooking the main street directly, and equipped with parking spaces for the public. • The back part has the same specifications as the current police stations, with fences and guard towers.	Dividing the layout into two main parts: The front part is without fences, the back part has the same specifications as the current police stations	○	●	○	○	○	1
	32	A "horizontal link" will be created between the police building and the service building, allowing for easy movement of staff and quick response to emergencies.	A horizontal link between two buildings	○	●	○	○	○	1
	33	The same existing physical security elements are achieved for the police building, while in the service building, architectural elements are introduced that achieve the desired security through CPTED.	CPTED for service building	○	●	○	○	○	1
	34	The facades of the police station must be designed in a domination style, and the service building must be designed in a welcoming style with the addition of a stereotypical architectural element that, through its repetition, forms the	domination style of police station & welcoming style of service building	○	●	◎	○	○	1.5

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		mental image of the citizen about the presence of the service buildings.							
C₃	35	Adhere to the same current specifications of the police building and the standards referenced in C₁, adding to: • Provide the building with a separate public entrance from the police staff entrance to provide functional separation. • Provide the building with a secure and enclosed garage for the detention area to provide visual separation when transporting detainees, in addition to providing the layout with a public entrance separate from the main entrance.	Partially functional and visual separation	○	●	○	○	○	1
C₄	36	Fences and guard towers have been completely removed from the site.	Removing Fences and guard towers	○	○	○	●	●	2
	37	Achieve the desired physical security of the building by integrating with the surrounding environment.	CPTED	○	○	○	●	●	2
	38	Achieve complete functional and visual separation between the public entrance and the police staff entrance.	complete functional and visual separation	○	○	○	●	●	2
	39	Design a welcoming and service-oriented style on the exterior facades of the entire building, reflecting the urban character of the city.	Design a welcoming and service-oriented style	○	◎	○	●	●	2.5
D₁	40	Enhancing productivity: By equipping the department with a fitness center.	Enhancing productivity	○	◎	◎	●	●	3
	41	Enhancing accountability: By providing the building with an investigation room separate from the investigations unit to hear witnesses' statements about crimes, provided that the room is equipped with CCTV systems.	Enhancing accountability	○	◎	◎	●	●	3
	42	Enhancing equality: Through the complete functional separation of the functional spaces of public services from the administrative offices of police staff.	Enhancing equality	○	●	●	●	●	4
	43	Enhancing transparency: Through a visual connection between the reporting hall and the reception area.	Enhancing transparency	◎	●	●	●	●	4.5
	44	Enhancing work environment: By providing the	Enhancing work	◎	●	●	●	●	4.5

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		building with a police staff lounge with a buffet.	environment						
	45	Enhancing oversight: By designing administrative offices with transparent glass walls.	Enhancing oversight	○	◎	◎	●	●	3
	46	Enhancing integrity: By providing the building with locker rooms for police staff, to ensure that uniforms are only used during official working hours.	Enhancing integrity	○	◎	◎	●	●	3
D₂	47	Enhancing professionalism: By providing the building with a training lecture hall.	Enhancing professionalism	○	○	○	●	●	2
	48	Enhancing collaboration: By creating interactive spaces between the public and police staff, such as a "community hall" to hold conferences, seminars, or community events with citizens in the neighborhood.	Enhancing collaboration	○	○	○	●	●	2
	49	Problem solving: By applying Open Design to workspaces and minimizing the use of closed office.	Problem solving	○	○	○	●	●	2

Source: Author based on interviews, 2024

The design criteria in the previous table were analyzed in accordance with the Kano model [25], as illustrated in Figure 13.This is accomplished by comparing the design criteria of all respondents and examining the extent to which these criteria align with each respondent's opinion, as follows:

1. The design criteria are regarded as basic criteria, which were applied to all respondents *(Results equal to 5).*

2. The design criteria are regarded as obligatory criteria, which were partially applied *(3≤Results<5)*.

3. Finally, criteria that were applied by　　*(1≤Results<3)* are considered preferred design criteria according to the designer's vision.
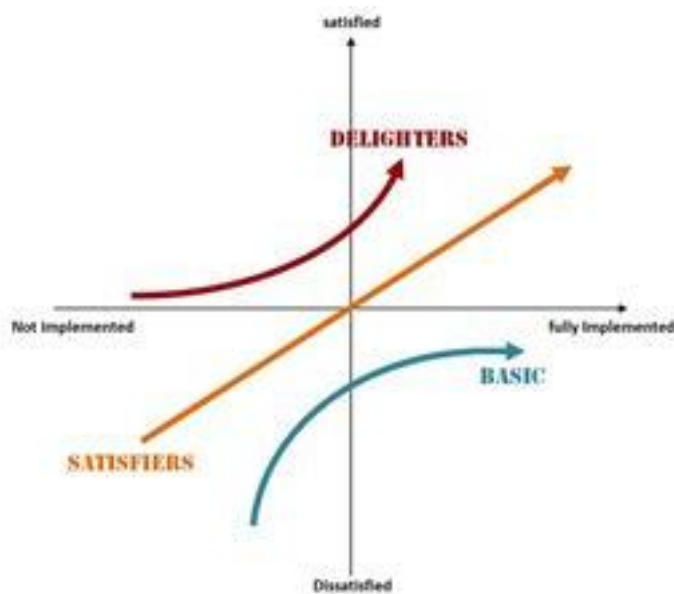
Source: Empirical research on Kano's model and customer satisfaction

Figure 13. Kano model

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Table 5. The Classification of design criteria for police stations according to the respondents with Kano model

The internal structure of functional design.	The social structure of functional design.	The physical security design	Adapt the design to the public
Public zone, Officers zone, detainees zone	Front stage, Back Stage, Off Stage	layout overlooking a main street	Enhancing productivity
Detention zone is Fully functionally separated	The lowest percentage of the front area	The building ratio is at least 50% of the total area	Enhancing accountability
Public& police Zones not fully separated	Design for peaceable society	Fences, guard towers, and one main entrance	Enhancing equality
Enhancing security control	Include community engagement	Parking for police staff	Enhancing transparency
Vertical motion battery	Modern artistic decorations	Domination style of exterior	Enhancing work environment
Fully functional separation between citizens and staff zones	The integration of physical security and architectural elements	One entrance for police staff and the public	Enhancing oversight
Equipped by Elevators	Hang a welcome sign	Dividing the layout into two main parts: The front part is without fences, the back part has the same specifications as the current police stations	Enhancing integrity
Including all functional spaces for the public	Removing the off-stage area	A horizontal link between two buildings	Enhancing professionalism
Ensuring a successful communication process	The design for holistic wellness	CPTED for service building	Enhancing collaboration
Guiding principles for public spaces	Reflecting positive interaction with citizens	Domination style of police station & welcoming style of service building	Problem solving
Guiding principles for police spaces	Using the skylight	Partially functional and visual separation	
	Open designs for administrative offices	Removing Fences and guard towers	
	Introduce biophilia	Complete functional and visual separation	
		Design a welcoming and service-oriented style	

Classification Color Key

Basic Design criteria	Obligatory Design Criteria	Preferred Design Criteria

Source: Author based on interviews, 2024

The respondents' architectural criteria, as outlined in the semi-structured interviews identify four design patterns for Egyptian police stations. The researcher believes that these four design patterns for Egyptian police stations

represent the intellectual orientations that shape the respondents' design behavior towards Egyptian police station buildings. These behaviors were shaped by each respondent's preferred criteria rather than by the basic or obligatory criteria, so that these behaviors varied between the following:

1. The positive behavior towards domination style, as represented by administrative leaders, is a coercive design intended to produce a conservative architectural product, "domination building".

2. The negative attitudes toward domination style, as represented by consultants C and D, are a mimetic design intended to produce a radical architectural product. This is due to the different ecological character of the liberal model being emulated, which is referred to as "service building".

3. The behaviorally relevant perceptions, as represented by consultants A and B, are a normative design intended to produce a developmental architectural product. This product is referred to as "balance between authority and service".

It is clear that, despite the balance between the service and domination character in the arguments of both consultants A and B, the relative weight of the domination character in the opinions of the first consultant was lower than the second consultant. This led to two alternatives to the balanced conceptualization: "Design Model II and III".

CONCLUSIONS

Based on the results and discussion from this study, it can be concluded that the potential challenges that may arise from cultural and social differences between societies could influence the design process of police buildings because of the "sociological relativism" effect. So, the current outcome of the study enhances the achievement of design standards that achieve the optimal architectural model for police buildings with conservative regimes, specifically police stations, in accordance with the nature of the work of these departments and the nature of the public who deal with them.

A synthesis of the design criteria for police buildings under a conservative regime is categorized by three types: basic criteria, obligatory criteria, and preferred criteria. The preferred criteria have resulted in four design models with three perceptions, which clearly summarize the design criteria as follows: coercive design towards domination style, mimetic design towards service design, and a balance between service and domination towards normative design with two alternatives.

This study acknowledges certain limitations that must be addressed in future research. At present, data collection is restricted to observations at human eye level and semi-structured interviews with experts, which results in less accurate measurements of the Egyptian police station buildings. It is recommended that future research employs 3D AI applications to collect and analyze data to obtain more accurate data that can be processed and simulated in three dimensions. This approach promises not only enhanced accuracy but also the exploration of potentialities beyond the human eye level, exploring additional potential from different perspectives that may not have been previously considered.

Furthermore, this research focuses only on a select group of Egyptian police station buildings and their respective consultants. These buildings are chosen to represent their respective typologies. It is hoped that future research will expand to include other conservative models in other countries, thereby uncovering a wider range of design criteria.

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