Perception of Comfort of Interior Architecture Based on the 4 Personality Characters of Hippocrates Galenus

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ARTICLE INFO	ABSTRACT
	The perception of comfort in interior architecture is closely related to individual personality traits, which can influence design preferences and sensory experiences. This study explores the relationship between Hippocrates-Galen personality types (melancholic, phlegmatic, choleric, and sanguine) with the perception of comfort in interior architecture through a multisensory approach. The research method uses neurological response measurements using EEG (Electroencephalography) with 20 participants aged 20–44 years. The variables tested include visual comfort, texture, aroma, and acoustics, with the main indicators being performance metric data on relaxation and stress levels. The results showed that personality type significantly influenced the perception of comfort. Melancholic individuals tend to be more sensitive to disproportionate room dimensions, rough textures, and high noise but feel comfortable with calming scents such as Lavender or Rose. Phlegmatics show a consistent level of comfort in all sensory stimuli, reflecting their stable and tolerant character. Sanguine is more responsive to cheerful visual factors and fresh scents such as Citrus but is sensitive to high noise. Choleric individuals, although more tolerant of noise and rough textures, prioritize elements that support control and efficiency. This study provides insight into how a personality-based design approach can enhance personal comfort in interior architecture. These results encourage designers to consider the specific sensory needs of each personality in creating spaces that support individual well-being and productivity. Further research is recommended to expand multisensory parameters and explore other external factors that influence comfort perception. **Keywords:** Hippocrates-Galenus Personality, Interior Architecture, Comfort Perception, EEG, Multisensory

INTRODUCTION

In the world of architecture, design developments are taking place very quickly along with innovations in construction materials that are increasingly strong, flexible, and versatile, and various new approaches are continuously explored in architectural design, these new innovations produce increasingly complex and comprehensive designs. However, because of the many sciences that must be learned by architects, there is often a trial-and-error approach in design[1]. This encourages experimentation with various new design approaches and methods[2].

Architecture as a space for humans to live and interact is also closely related to psychology, the science that studies the human mind, thoughts, and behavior [3]. In some projects, misinterpretation often occurs between the architect's and the client's interpretations, which then results in design changes in the middle of the project [4]. These changes are generally caused by ineffective communication and differences in interpretation between the architect and the client, which affects the smooth implementation of the project [5]. To overcome this problem, a design approach based on the client's personality character is very necessary.

Personality theory was first proposed by Hippocrates and then refined by Galen in 400 BC, grouping human personality into four categories: melancholic, phlegmatic, choleric, and sanguine [6]. This science is now widely applied in personality tests by companies and government agencies to place people in suitable work positions, under the principle of "The Right Man on the Right Place" [7]. This approach is very helpful in understanding a person's character so that certain tasks can be tailored to their tendencies and personality.

Given the frequent architectural problems and the importance of a personality-based approach, this study aims to explore the relationship between a person's personality traits and their perception of comfort in architectural space design, particularly by using the EEG method to measure neurological responses [8]. This study is expected to provide guidance for architects in identifying and understanding design preferences that are more in line with the personality types of stakeholders. Thus, space design can be tailored to individual personality preferences, which will ultimately improve their level of comfort and mental health in the designed environment [9].

The scope of the problem to be studied includes architectural elements that influence the perception of comfort (senses of sight, hearing, touch, and smell) and how these factors interact with the client's personality type [10], based on the Hippocrates-Galenus theory. This study will use a 14-channel emotive EEG to measure neurological responses to understand how certain design characteristics affect the emotions and comfort of individuals with different personality types.

The core question of this study is: "Does a person's personality traits influence their perception of comfort?" To answer this question, this study combines two main variables, namely personality traits and perception of comfort. The aim is to measure the relationship between the two variables in the context of interior architecture.

Personality traits are defined based on the Hippocrates-Galen theory which divides personality into four main types: melancholic, choleric, sanguine, and phlegmatic. These personalities are assumed to have an impact on how a person perceives and responds to the physical environment around them, including architectural spaces. Personality traits are defined based on the Hippocrates-Galen theory which divides personality into four main types: melancholic, choleric, sanguine, and phlegmatic. These personalities are assumed to have an impact on how a person perceives and responds to the physical environment around them, including architectural spaces.

To ensure accuracy in measuring the relationship between personality and comfort perception, this study uses subjective methods such as interviews or questionnaires and EEG (Electroencephalography) tools. EEG measures brain activity related to cognitive and emotional functions in the context of architecture. Along with advances in cognitive neuroscience, EEG is increasingly popular in research on cognitive functions in various contexts, including perception, attention, and emotion [11].

METHODOLOGY

Population and Sample: This study involved an adult population aged 20 to 44. This age range is based on the classification of WHO and the Ministry of Health, as well as data from the Central Statistics Agency (BPS), which shows that the 22–39 age group dominates the property market in Indonesia. This age group is considered to have achieved financial stability and is or will be starting a household, so they are the right respondents for this study.

The indicators and variables in this study are Personality character variables based on the Hippocrates-Galenus theory. Personality characters are divided into four types of personality characters as indicators [12].

The melancholic personality type is characterized by introverted, perfectionist, and deep-thinking traits. People with this type are very oriented towards order and the best quality in their work. They are serious, diligent, and have high standards of living, especially in work and social life. Although generally introverted, melancholics can be extroverted when very happy. In social relationships, they are selective in choosing friends. Melancholics tend to have the principle of "doing it the right way." However, they are also easy to blame themselves, have low self-esteem, and are very influenced by feelings, making them sensitive and sometimes vengeful. This type is also easily stressed at work and tends to withdraw when feeling stressed.

Phlegmatic personality types are known to be introverted, calm, and peaceful. They tend to be consistent, have good self-control, and prefer introspection. Phlegmatics are sociable, patient, friendly, and humorous. In their work, they are capable, have administrative skills, and are supportive and accepting of other people's opinions. Phlegmatics are also good at mediating conflicts and are good listeners.

However, phlegmatic people are often passive, tend to avoid involvement, and prefer to be behind the scenes. They are less enthusiastic about work, tend to procrastinate and have difficulty refusing requests from others. They also tend to take shortcuts and avoid being the center of attention.

The choleric personality type is known to be extroverted, optimistic, and highly goal-oriented. Cholerics tend to appear simple and practical, have strong leadership qualities, and are highly ambitious. They are active, independent, and assertive in decision-making, often taking the initiative when others hesitate. In social relationships, cholerics focus more on goal-oriented activities and are less concerned with friendship. In work, they have high targets and the principle of "do it my way." Cholerics tend to inspire those around them with ambitious ideas and plans. However, they are also known to be rigid, harsh, and sometimes dismissive of other people's feelings, with an attitude that believes they are always right. Cholerics often have difficulty expressing affection and can be stubborn and emotional. When stressed, they vent by working harder.

The sanguine personality type is characterized by extrovert and optimistic traits. People of this type are very concerned about their appearance, like the latest fashion, and bright colors, and have a cheerful, enthusiastic personality, and are not easily discouraged. Sanguine is known to be friendly, enjoy life, and like to talk and tell stories with expressive gestures. They tend to be people-oriented, creative, innovative and have a high curiosity. Their work principle is "do it most enjoyably.". However, the sanguine type also has weaknesses, such as a lack of discipline and a tendency to dominate conversations. They can be excessive in talking, sometimes adding details when telling stories, and are often less assertive in making decisions, easily influenced by their environment. Sanguine people are easily depressed or stressed when they don't get enough attention and tend to deal with this by traveling or shopping.

The variable of comfort perception in architecture consists of four indicators related to various sensory aspects:

Visual comfort refers to the perceived comfort of the visual aspect of the space. This comfort is measured through the participant's response to the most basic design element, namely the dimensions of the space that focuses on the area of the space [13]. This element is designed with five-size models to create a visually pleasing atmosphere according to the preferences or needs of the participants, thus producing a sense of comfort in the space [14].

Tactile comfort focuses on the texture test: Relating to the rough or smooth sensation of the surface of the material being touched. Appropriate texture, either smooth or textured [15], can provide tactile comfort [16].

Auditory comfort refers to the perception of comfort related to noise levels [17]. This comfort includes responses to sounds in the environment, where low noise levels help create a calm atmosphere and support concentration and relaxation.

Olfactory Comfort refers to the perception of comfort caused by the aroma in the room. Pleasant aromas, jasmine, lavender, rose, citrus, mint, and nard provide a sense of comfort, relaxation, and a positive atmosphere for occupants [18]. Conversely, unpleasant or too strong aromas can be disturbing and reduce the quality, and comfort of the room [19]. The right aroma comfort helps create a more harmonious environment and supports the overall well-being of occupants.

This research was conducted in two stages. In the stage of collecting personality character data, the respondent sample was grouped based on personality type through a questionnaire and a validated scoring method. The second stage was measuring comfort perception using EEG – EEG data was collected to obtain performance metric data related to comfort perception. The following are details of the testing stages [20].

PROCEDURE AND IMPLEMENTATION DETAILS

1. Visual Testing

The aim is to measure the visual comfort of participants in interior design with a space model created with SketchUp and rendered with Enscape. The simulation space is created with variations in elements, such as size (length x width).

Participants were asked to wear a Virtual Reality (VR) device that displayed a room simulation with varying room area elements [21]. Then, participants observed the room model through VR for 10 seconds for each variant. Each configuration focused on a specific visual element to explore how each variation affected the perception of visual comfort [22].

2. Aroma Testing

Aims to measure the perception of comfort influenced by the aroma of the room, both in closed-eye conditions.

Participants are in a Blindfold Condition: Participants are given a blindfold to close their eyes and smell the aroma in the room while EEG activity is measured. This helps assess purely neurological responses without visual influences [23].

3. Acoustic Testing

Measuring participant responses to noise levels. Participants were placed in real rooms with varying noise levels. such as high, moderate, and low noise levels. EEG was used to measure participants' brain responses when they were in a room directly on the edge of a highway, with a noise level of 70-80 db, in a room near a highway closed by walls, windows with a noise level of 50-60 db, and in a room 5 meters from the second room which was 15 m from the highway walled room with a noise level of 20-30 DB. EEG data were used to identify brain activity associated with the perception of comfort or stress in various noise conditions with eyes closed.

4. Thermal and Texture Testing

Aims to measure participant responses to material textures that can affect comfort in interior design. Participants interact with various material surfaces to touch the texture. Participants touch the same material surface, namely sandpaper with roughness size variants of 80 (very rough), 120 (rough), 240 (slightly rough), 400 (slightly smooth), and 1000 (smooth).

In the analysis stage, power metric data was obtained: attention, engagement, excitement, interest, relaxation, and stress, but in the discussion, the most relevant data for the perception of comfort are relaxation and stress. Relaxation is relevant to measure comfort because comfort is identical to feelings of calm and free from tension. A comfortable space must provide a relaxing effect, making individuals feel relaxed physically and mentally. Stress is the opposite of relaxation, the higher the level of stress indicates that the space is uncomfortable. So the level of comfort of the space can be measured through the high relaxation score and the low stress score can provide a direct view of comfort from the physiological and emotional aspects, which are the core of the perception of comfort in space.

RESULT AND DISCUSSION

Table 1. Respondents Personality Character

No	Name	Choleric	Phlegmatic	Sanguine	Melancholic		DOMINANT
1	AJ	32.5	22	24	21.5	100%	Choleric
2	TH	20.5	26	34	19.5	100%	Sanguine
3	HH	22	24	31	23	100%	Sanguine
4	HP	21	23	29	27	100%	Sanguine
5	XY	29.5	26	23.5	21	100%	Choleric
6	YT	31.5	19	21.5	28	100%	Choleric
7	IP	25.5	24	21	29.5	100%	Melancholic
8	SS	18	30.5	29	22.5	100%	Phlegmatic
9	BM	17.5	34	20	28.5	100%	Phlegmatic
10	NK	25	29.5	23	22.5	100%	Phlegmatic
11	AT	25.5	21.5	25.5	27.5	100%	Melancholic
12	ST	27	21	22	30	100%	Melancholic
13	HK	32.5	28.5	18.5	20.5	100%	Choleric
14	SK	17.5	21.5	31	30	100%	Sanguine
15	AK	29.5	27.5	23.5	19.5	100%	Choleric
16	BL	27	29.5	31.5	12	100%	Sanguine
17	AR	19	28.5	20	32.5	100%	Melancholic
18	IS	16	30.5	28	25.5	100%	Phlegmatic
19	HS	26.5	23	21.5	29	100%	Melancholic
20	PA	27.5	29	18	25.5	100%	Phlegmatic

Source: *Processed primary data, 2024.*

In the analysis stage as per Table 1, power metric data was obtained: attention, engagement, excitement, interest, relaxation, and stress, but in the discussion, the most relevant data for the perception of comfort are relaxation and

stress. Relaxation is relevant to measure comfort because comfort is identical to feelings of calm and free from tension. A comfortable space must provide a relaxing effect, making individuals feel relaxed physically and mentally. Stress is the opposite of relaxation, the higher the level of stress indicates that the space is uncomfortable. So the level of comfort in the space can be measured through the high relaxation score and the low stress score can provide a direct view of comfort from the physiological and emotional aspects, which are the core of the perception of comfort in space.

The phlegmatic group is known for its calm, stable personality and tendency to avoid conflict. The five individuals in this group are SS, BM, NK, IS, and PA. From the data, BM has the highest score among them, which is 34, which indicates extraordinary emotional stability and the ability to maintain harmonious relationships with others. Phlegmatic individuals are usually sociable, and patient, and have a peaceful approach to solving problems. Their tendency to be good listeners makes them appreciated in social and work environments.

A sanguine personality is characterized by a cheerful, energetic, and optimistic nature. This group includes TH, HH, HP, SK, and BL. Individuals like BL have the highest score in the sanguine category, which is 31.5, which describes a prominent extroverted nature, the ability to liven up the atmosphere, and the ability to interact with many people. They tend to enjoy attention, have strong social appeal, and are good at adapting to various environments. However, in some situations, they may have difficulty maintaining focus and consistency.

Melancholic personalities are often described as perfectionists, analytical, and highly emotionally sensitive. The five individuals included in this group are IP, AT, ST, AR, and HS. Of this group, AR has the highest score, at 32.5, indicating a deep-thinking character, attention to detail, and the ability to complete tasks meticulously. Melancholic individuals usually have high standards for themselves and others, and a tendency to be critical thinkers. Although they can appear serious, their most prominent qualities are loyalty and dedication.

Each personality has its own uniqueness that can make a positive contribution to social and professional life. Choleric is suited to leadership roles, phlegmatic excels at maintaining stability, sanguine is able to create a pleasant atmosphere, and melancholic can deliver detailed and high-quality work. This diversity shows the importance of complementing each other between personality types to create harmony in a group.

Table 2. Correlation of Personality with Visual Comfort Perception

	0	1
Personality-Average Correlation	-0.087751367	
Personality Correlation-3x3	-0.135911922	
Personality Correlation -3x4	-0.113380414	
Personality Correlation -3x5	-0.092892859	
Personality Correlation -4x5	-0.061344628	
Personality Correlation -4x6	-0.033466879	
Coefficient (Slope)		-1.464
Intercept		40.46
R-squared		0.007700302

*Source: Processed primary data, 2024.*
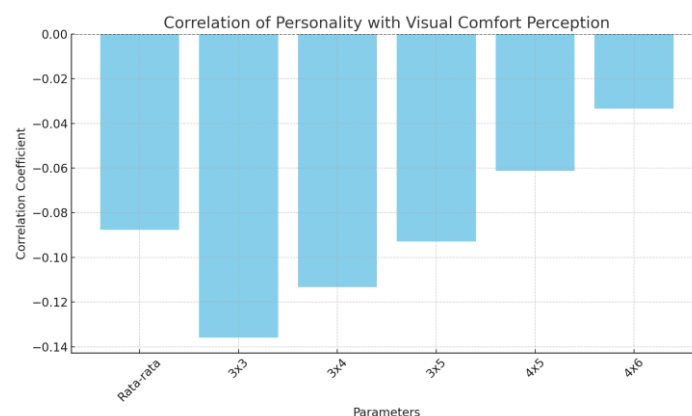
Picture 1. Correlation of Personality with Visual Comfort Perception

The results of the analysis of Table 2 and Picture 1 above show that the Hippocrates-Galen personality type affects the perception of visual comfort toward the dimensions of space. The trend graph shows a weak negative relationship, where individuals with melancholic traits tend to have lower perceptions of visual comfort than individuals with phlegmatic traits. The perfectionist and sensitive nature of melancholics to visual details makes them more critical of environmental elements, such as spatial dimensions that may not be by their aesthetic or functional expectations.

Individuals with a phlegmatic nature, who have a calm, stable, and undisturbed character, show higher and more consistent levels of visual comfort across a variety of spatial dimensions.

Choleric traits, which tend to be dominant and have a need to control the environment, show greater variation in perceptions of visual comfort. Choleric individuals feel comfortable if visual elements support their goals, but are less comfortable if the environment does not match their need for focus or control.

Individuals with sanguine traits show inconsistent patterns of visual comfort. As more spontaneous individuals, sanguine people are more influenced by other external factors, such as color, lighting, or social atmosphere, than just the dimensions of the space itself.
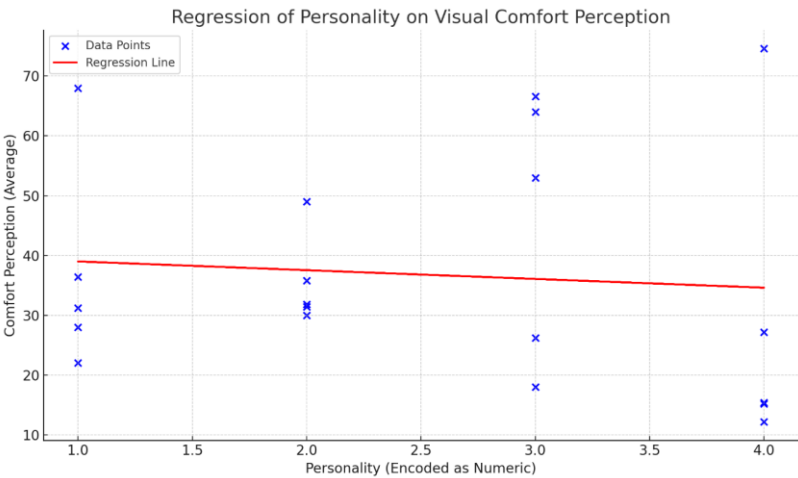

Picture 2. Regression of Personality on Visual Comfort Perception

The results of the regression analysis from Picture 2 above show that the R-squared value is small, which is around 0.12 to 0.18. This indicates that personality type only explains a small part of the variability in the perception of visual comfort to the dimensions of space. In other words, around 82% to 88% of the variability in the perception of visual comfort is influenced by factors other than personality.

Table 3. Correlation of Personality with Comfort Perception of Scents

	0	1
Personality-Average Correlation	0.244465234	
Personality Correlation -Jasmine	0.234515144	
Personality Correlation -Lavender	0.227448086	
Personality Correlation -Rose	0.228187333	
Personality Correlation -Citrus	0.248774358	
Personality Correlation -Mint	0.229311643	
Personality Correlation -Narwastu	0.296859566	
Coefficient (Slope)		4.313333333
Intercept		40.93333333
R-squared		0.059763251

Source: *Processed primary data, 2024.*
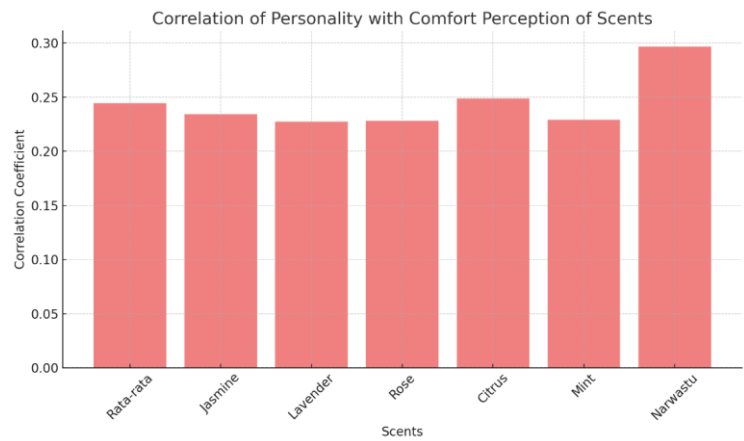
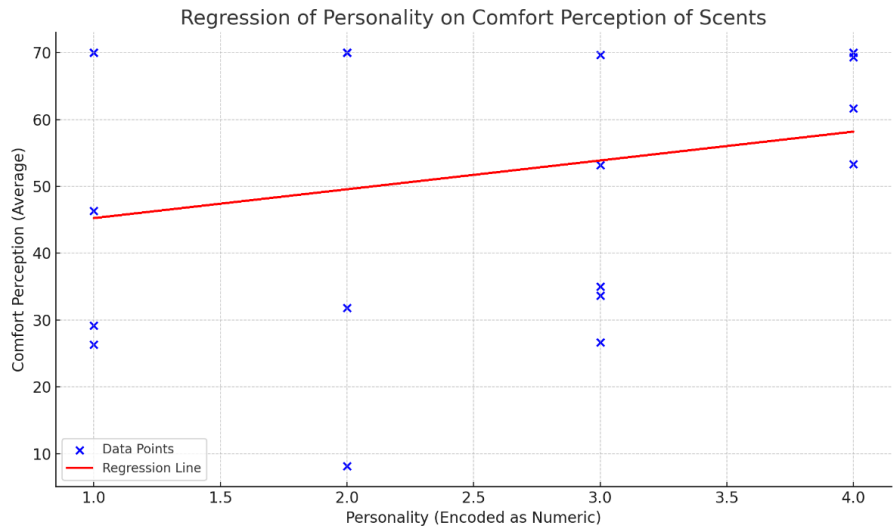**Picture 3.** Correlation of Personality with Comfort Perception of Scents

The graph from Table 3 and Picture 3 above shows that the Hippocrates-Galen personality type influences the perception of pleasantness towards various aromas (Jasmine, Lavender, Rose, Citrus, Mint, and Narwastu) with varying relationships based on the typical traits of each personality. The positive correlation in the graph shows that personality has a small but consistent influence on the perception of pleasantness of aromas, with variations in response based on sensory sensitivity and preference.

Individuals with a phlegmatic character, who are calm, stable, and not easily disturbed, show a high and consistent level of comfort with almost all scents. This reflects their ability to receive various sensory stimuli without being too affected by differences in scent characteristics. Scents such as Lavender and Rose, which give a calming impression, are expected to further strengthen the comfort of phlegmatics.

The goal-oriented and practical nature of cholerics makes them less likely to pay attention to sensory experiences such as scent. However, choleric do show a moderate comfort response to strong or refreshing scents, such as citrus or narcissus, which can stimulate energy or give a sense of vitality in keeping with their character.

Melancholic characters, who are analytical, sensitive, and perfectionists, show a more selective comfort tendency towards scents. They tend to feel more comfortable with scents that are calming or have aesthetic associations, such as Mint or Rose, because of their nature of valuing harmony and tranquility. However, scents that are too strong or not by their tastes can reduce comfort.

Sanguine, known for their optimistic, energetic, and adaptable nature, tend to respond positively to fresh or cheerful scents, such as Citrus and Jasmine. Sanguine's openness to new experiences allows them to be comfortable with a wide variety of scents, although they may be less inclined to scents that are too complex or calming, such as Narwastu.
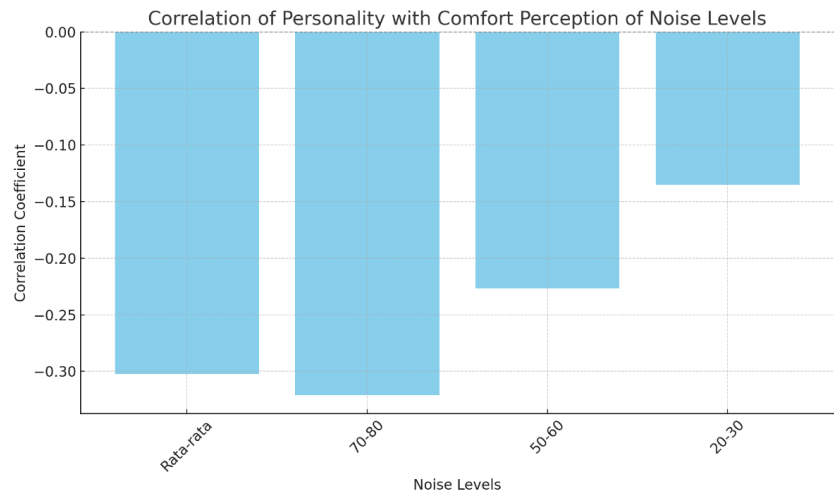

Picture 4. Regression of Personality on Comfort Perception of Scents

The results of linear regression from Picture 4 indicate that the relationship between personality traits and the average perceived pleasantness of aromas exhibits a small yet statistically significant effect. Responses categorized as phlegmatic tend to remain stable, whereas melancholic and sanguine responses demonstrate variations in pleasantness contingent upon the distinct aroma variants. Although the influence of personality on the perceived pleasantness of aromas is modest, these preferences offer important insights into the potential for tailoring sensory experiences to align with specific personality traits, thereby fostering more comfortable and personalized environments.

Table 4. Correlation of Personality with Comfort Perception of Noise Levels

|	0	1
Personality-Average Correlation	-0.302496835	
Personality Correlation-70-80	-0.321021584	
Personality Correlation -50-60	-0.226436886	
Personality Correlation -20-30	-0.134941174	
Coefficient (Slope)		-3.626666667
Intercept		54
R-squared		0.091504335

Source: Processed primary data, 2024.

Picture 5. Correlation of Personality with Comfort Perception of Noise Levels

Hippocrates-Galen personality type influences the perception of auditory comfort, based on correlation and regression analysis of three noise level variants (70-80 dB, 50-60 dB, and 20-30 dB). The correlation results as per Table 4 and Picture 5 showed a small to moderate negative relationship for the average perception of comfort at all noise levels. Individuals with more sensitive personality types, such as melancholic, had lower comfort than other types.

At high noise levels (70-80 dB), the strongest negative correlation was found, indicating that high noise levels have a greater impact on melancholic and sanguine individuals who are sensitive to external stimuli. Conversely, at moderate noise levels (50-60 dB), the correlation relationship is weaker, indicating that noise at this level is more acceptable to all personality types, although melancholics still feel less comfortable. At low noise levels (20-30 dB), the correlation is very weak or almost non-existent, reflecting that low noise provides relatively similar comfort to all personality types.
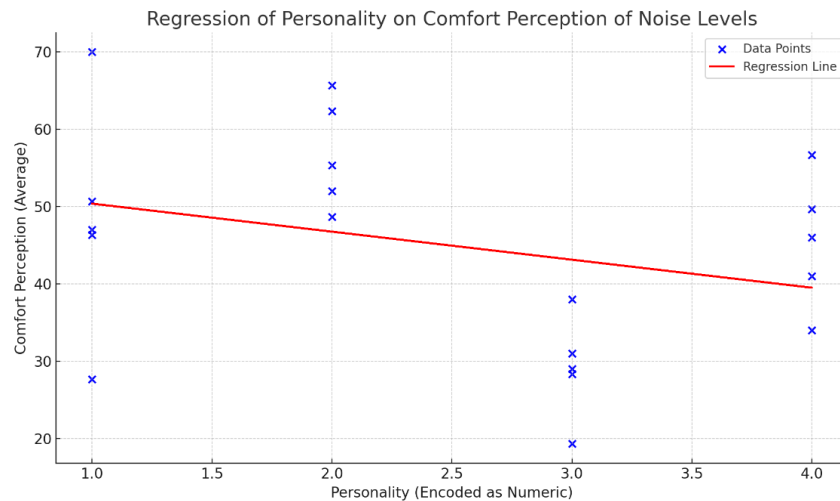
**Picture 6.** Regression of Personality on Comfort Perception of Noise Levels

The results of the linear regression on Picture 6 showed that personality type had a significant effect on the average perception of comfort towards noise. The negative regression coefficient value indicates that the perception of comfort tends to decrease along with certain personality traits that are more sensitive to external stimuli, such as melancholic and sanguine. Individuals with melancholic traits, who tend to be perfectionists and analytical, are more disturbed by high noise because they are more sensitive to external disturbances. Likewise, the sanguine nature that is open and responsive to stimuli makes them less comfortable in situations with high noise levels (70-80 dB), although they may be more accepting of moderate noise conditions (50-60 db). In contrast, individuals with phlegmatic traits, who are calm, stable, and difficult to disturb, show a high level of comfort at all noise levels, including high noise (70-80 dB). Their peaceful nature and ability to ignore external disturbances allow them to remain comfortable even though the environment is in high noise (70-80 dB). Choleric, who is more goal and task-oriented, tends to be able to accept the situation of noise as long as it does not hinder their achievement.

The intercept in the regression indicates that phlegmatic individuals start with a higher level of comfort, reflecting their emotional stability. However, the relatively low R-squared value suggests that personality type explains only a small portion of the variability in perceived comfort. Other factors, such as an individual's experience with noise, habitual adaptability, and specific environmental conditions, play an important role in influencing these perceptions. This confirms that while personality traits play a role in determining auditory comfort from noise, external factors and an individual's subjective experience remain the primary components that shape comfort. The combination of personality and environmental conditions creates a unique auditory experience for each individual.

Table 5. Correlation of Personality with Comfort Perception

	0	1
Personality correlations-Average	-0.401415203	
Personality Correlates-80	-0.437065008	
Personality Correlates-120	-0.466947966	
Personality Correlates-240	-0.438496404	
Personality Correlates-400	-0.299813016	
Personality Correlates-1000	-0.307820044	
Coefficient (Slope)		-5.772
Intercept		46.3
R-squared		0.161134165

Source*: Processed primary data, 2024.*
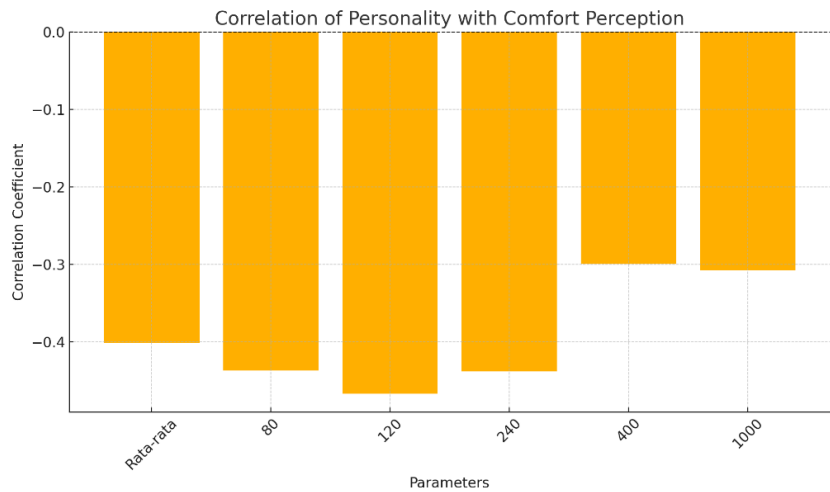
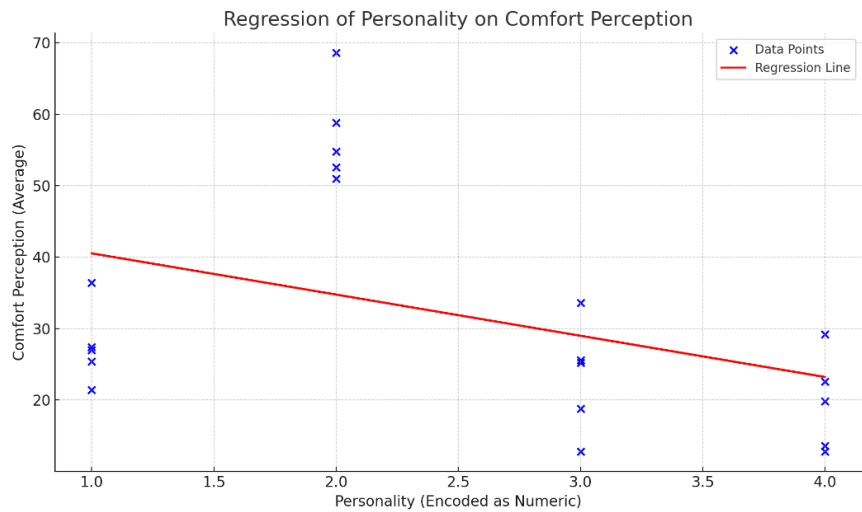**Picture 7.** Correlation of Personality with Comfort Perception

The graph as per Picture 7 and Table 5 above shows that the Hippocrates-Galen personality type influences the perception of comfort towards various roughness parameters (80, 120, 240, 400, 1000). The negative correlation found indicates that the more sensitive a person's personality trait is, the lower the level of comfort perceived towards rough surfaces.

Phlegmatic individuals, who are calm, stable, and tolerant, tend to show higher comfort at all levels of roughness. Their unflappable nature makes them better able to accept variations in texture without being too affected by changes in roughness. They tend to feel comfortable even when faced with rough or smooth surfaces because of their emotional flexibility.

Individuals with a **melancholic** nature, who have a perfectionist and sensitive character, are more easily inconvenienced, especially on very rough surfaces such as 80 or 120 roughness. Their high sensitivity to detail and sensory stimuli causes them to be more disturbed by variations in texture that do not match their aesthetic or comfort preferences.

The **sanguine** character, who is adaptive, optimistic, and tends to be impulsive, shows varying levels of comfort. They are comfortable on certain surfaces that give a pleasant impression or attract attention, but the consistency of their comfort level is lower than that of the phlegmatic.

Choleric individuals, who are dominant, assertive, and goal-oriented, tend to show moderate comfort with variations in roughness. However, they show lower tolerance for very roughness levels, such as 80 or 120, because their nature focuses less on sensory aspects and more on functionality.

Picture 8. Regression of Personality on Comfort Perception

The regression analysis from Picture 8 above supports this finding by showing a negative relationship between personality type and average perceived comfort. The negative slope confirms that individuals with a more sensitive and responsive character to external stimuli, such as melancholic, tend to feel more uncomfortable than those with a more stable type, such as phlegmatic.

However, the low R-squared value suggests that personality is not the only factor influencing the perception of comfort toward roughness. There are other factors, such as past sensory experiences, habits, or environmental conditions, also play a role in shaping the perception of comfort.

CONCLUSIONS

Each personality has its uniqueness. Each individual is only dominant and none of them has only one of the personality types. Choleric is suitable in leadership roles, phlegmatic excels in maintaining stability, sanguine is able to create a pleasant atmosphere, and melancholic can provide detailed and high-quality work results. This distinction shows the importance of complementarity between personality types.

This study shows that the Hippocrates-Galen personality type has a significant influence on the perception of comfort in various sensory stimuli, textures, visual dimensions, aromas, and noise.

The results of the analysis show that:

Individuals with a phlegmatic personality trait have a stable and consistent level of comfort with all types of stimuli, in keeping with their calm, tolerant character, and not easily disturbed by environmental changes.

Individuals with sensitive and perfectionist melancholic personality traits are more likely to feel uncomfortable, especially when stimuli do not match their preferences, such as rough surfaces, disproportionate room dimensions, or high noise.

Individuals with Sanguine personality traits, with spontaneous and adaptive characters, show more varied comfort responses depending on the context or environmental atmosphere.

Individuals with a dominant, goal-oriented choleric character are not bothered by certain stimuli, but they are also not completely comfortable if elements in the environment do not support their needs or goals. Their comfort is somewhere in between, depending on whether environmental factors match their control- or efficiency-oriented expectations.

In terms of texture, melancholic individuals prefer smooth surfaces, while phlegmatic individuals are better able to tolerate variations in roughness. In terms of visual perception, melancholic individuals require aesthetic and proportional room dimensions to feel comfortable, while phlegmatic individuals remain comfortable with variations in room design. Sanguine and choleric individuals are more influenced by additional elements such as lighting or decoration than just room dimensions. In terms of aroma, melancholic and phlegmatic individuals feel more comfortable with calming fragrances such as Lavender or Rose, while sanguine and choleric individuals are more suited to refreshing scents such as Citrus or Mint. In terms of noise, melancholic and sanguine individuals are more sensitive to high noise (70−80 dB), while phlegmatic individuals show consistent comfort at all noise levels. Choleric individuals tolerate moderate noise but may require a quieter environment to focus better.

This research focuses on how personality characteristics can be an important foundation in interior architectural design. By understanding the sensory needs of each personality type, designers can create spaces that are not only functional but also provide personal comfort. This multisensory approach allows for the creation of environments that support individual well-being and productivity, whether at home, at work, or in public spaces. Dimensions of space, texture, aroma, and noise control are key to creating spaces that are harmonious with personality preferences.

There is scope for further exploration of the various factors that influence multisensory comfort in the context of interior architecture. In the sense of sight, future research can consider parameters such as room height, lighting, color choices, and furniture arrangement to create a visual environment that is more supportive of comfort. For the sense of smell, the use of more diverse aroma samples, including unpleasant aromas such as garbage or dirt, can be studied to understand their impact on sensory comfort. Meanwhile, in terms of the sense of hearing, focusing on the ideal acoustic design of a room can provide new insights into creating an environment that is more in line with the needs of certain personalities. In the sense of touch, research can further examine thermal parameters such as ambient temperature and surface texture of materials, including their hardness. By exploring these factors, future

research is expected to be able to provide more comprehensive guidance for designing comfortable spaces that support the physical, emotional, and sensory needs of individuals.

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