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Ethnic Differences in the Prevalence of Compulsive and Histrionic Traits among Pilots in the UAE: A Comparative Study

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Abstract:- This study aims to examine the prevalence rates of compulsive and histrionic characteristics among pilots from diverse demographic backgrounds such as South Asian, Middle Eastern, and Western pilots. The research aims to identify differences in personality traits and explore potential correlations within each ethnic group of commercial pilots. The data was provided by sixty pilots, equally representing three different ethnic groups, with twenty participants in each demographic. To collect the data, the researchers used a measuring tool designed to reveal signs of mental disorders, known as the Millon Clinical Multiaxial Inventory (MCMI). According to ANOVA results, there is a notable difference in prevalence rates for compulsive and histrionic traits among the three different ethnic groups ($F(2,87) = 4.76$, $p = 0.00057$). Overall, the results showed that South Asian pilots had more compulsive traits than Middle Eastern and Western pilots. On the other hand, Middle Eastern pilots were found to have a higher occurrence of histrionic traits compared to their counterparts from South Asia and Westen pilots. The correlation analysis confirmed that there was a substantial link between histrionic and compulsive traits ($r = 0.51$, $p < 0.05$). A similar trend was seen for Middle Eastern pilots, where a weakly positive link ($r = 0.24$, $p < 0.05$) was visible. On the other hand, the Western pilots showed a weak, inverse correlation between compulsive and histrionic characteristics ($r = -0.14$, $p<00$), displaying unique profiles within this group in terms of their mutual interaction. These results offer a profound understanding of the relationship between ethnicity and personality traits in pilots.

Keywords:- *Ethnicity, Compulsive Traits, Histrionic Traits, Pilots, Prevalence, Comparative Study*

I. INTRODUCTION

Every person has a distinct assortment of personality traits that have an enduring influence on their thoughts, emotions, and actions - affecting how they interact with the world around them. In aviation, certain characteristics such as histrionic and compulsive are significant due to the potential risks posed to safety, work performance, and overall well-being for commercial pilots. In aviation training programs, a strong emphasis is placed on these traits, as they manifest differently in the aviation environment: histrionic traits may mean a need for excitement or the expression of emotions, while compulsive traits are often expressed through perfectionism and strict adherence to rules and regulations, and a desire for neatness and orderliness.

It is essential to comprehend these qualities as they could affect the conduct and judgment of aviation experts. Aviators who express a propensity for risk-taking or a craving for attention may threaten their rationality, particularly in high-pressure environments—characteristics and traits that are commonly and readily recognized in histrionic personalities. In contrast, pilots and crew members may exhibit excessively careful or rule-following behavior possibly influenced by obsessive tendencies that impede the effectiveness of routine tasks performed onboard an aircraft while in flight, ultimately undermining safety.

II. RESEARCH SIGNIFICANCE

The study aims to understand the incidence of compulsive and histrionic characteristics among pilots with different aviation backgrounds. By analyzing the personality pattern, valuable insights about pilot personality can be gained for this region which could help to keep safety measures, educational programs, and overall pilots' emotional well-being.

The lack of research data on personality from the Middle Eastern area highlights why this research is essential; finding prevalence rates for these qualities in such a population will fill gaps present within existing literature while leading to more specialized interventions or help initiatives tailored explicitly towards those working as pilots there. Furthermore, exploring variations across diverse demographic groups will help provide an extensive comprehension regarding how character attributes impact the safety on board.

➢ *Problem Statement*

To effectively fulfill their duties which include making high-stakes choices and navigating intricate scenarios, personnel in the aviation industry - notably pilots - are expected to possess a superior level of psychological wellbeing. Personality attributes influence conduct, reactions to stressors, and overall job efficacy in this line of work. To guarantee alignment between pilots' personality traits including compulsive or histrionic tendencies with the demands of their roles as well as potential areas for training or support; an assessment must be made regarding how prevalent these specific characteristics are within this professional group.

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The objective of this research is to fill the gap in current studies by investigating the occurrence rates of histrionic and compulsive characteristics among Middle Eastern aviation pilots. With a focus on demographics, particularly ethnic groups, valuable findings will be obtained about the psychological makeup of aviation experts in that area. This information will enable targeted interventions and support systems for enhancing mental well-being and job performance within the industry.

Despite the critical role of personality traits in aviation safety, there is a lack of research focusing on the prevalence of compulsive and histrionic traits among pilots of different ethnic backgrounds. Understanding these traits and their variations across ethnic groups is essential for developing targeted interventions to enhance pilot well-being and safety.

➢ *Research Question:*

What are the prevalence rates of compulsive and histrionic traits among pilots of different ethnicities, specifically South Asian, Middle Eastern, and Western, and how do these traits vary across these groups?

➢ *Objectives:*

- Determine the prevalence rates of compulsive and histrionic traits among South Asian, Middle Eastern, and Western pilots.
- Examine the variations in prevalence rates of these traits across the different ethnic groups.
- Assess significant differences in prevalence rates among the ethnic groups.

III. LITERATURE REVIEW

Graham and colleagues (2017) analyzed data from 15 studies and found that people who scored high in neuroticism and low in conscientiousness, extraversion, and agreeableness were more likely to die early. Carter et al. (2018) talked about how having extreme personality traits can be bad and suggested expanding the idea of personality traits to include unhealthy levels. Zgodavová et al. (2019) highlighted how human factors affect aviation safety. Sanchez-Roige et al. (2019) looked at how personality traits are inherited and how they might be linked to mental health issues. Akbari et al. (2019) discovered that less agreeable people are more likely to drive recklessly, and Lemarié et al. (2019) found certain attitudes that are linked to risky driving. In the aviation industry, Chaparro et al. (2020) found that pilots tend to have specific personality traits: they are less neurotic, more extroverted, similarly open, less agreeable, and more conscientious. Efrati et al. (2021) studied how some personality traits are common across different disorders. Clemente et al. (2022) did a study on how common obsessive-compulsive personality disorder is global.

The UAE is a hub of commercial activity with multiple local and international airlines operating in the country. Pilots from diverse cultures work in this environment. However, there is limited worldwide data on compulsive and narcissistic traits in both the general population and specifically among aviation professionals. Unfortunately, the UAE lacks any data in this area. This study aims to fill this gap and serve as the foundational research for the country.

IV. METHODOLOGY

In the methodology chapter, we will discuss the research design, participants, data collection tool, procedure, and statistical analysis used in the study.

A. Null Hypothesis (H0):

There are no significant differences in the prevalence rates of compulsive and histrionic traits among pilots across different demographic groups.

B. Alternative Hypothesis (H1):

There are significant differences in the prevalence rates of compulsive and histrionic traits among pilots across different demographic groups.

C. Variables:

➢ *Dependent Variables:*

- Prevalence rates of compulsive traits among pilots.
- Prevalence rates of histrionic traits among pilots.

➢ *Independent Variable:*

- Ethnicity: South Asian, Middle Eastern, Western.

D. Research Design:

To examine how often pilots of various ethnicities show compulsive or histrionic traits, researchers utilized a certain method of investigation known as "quantitative cross-sectional." The focus of their examination was homed in on a sample of 60 pilots with an even portion from South Asia, the Middle East, and the West.

E. Participants:

Sixty pilots from the UAE aviation industry participated in this research. Convenient sampling was employed to select participants across all ethnic groups. The age range for the participants was between 20 and 60 years old.

F. Data Collection Tool:

To determine the occurrence of compulsive and histrionic characteristics among the pilots, researchers administered the Millon Clinical Multiaxial Inventory (MCMI). This instrument is a standardized psychological evaluation that yields insights into both mental illnesses and personality attributes.

G. Procedure:

Professional psychologists trained in the administration of the MCMI conducted the data collection. Participants were briefed about the study's purpose and instructions were given on how to complete the inventory. The scoring process followed the standard procedures outlined in the MCMI manual.

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H. Statistical Analysis:

Analysis of Variance (ANOVA) will be used to examine differences in the prevalence rates of compulsive and histrionic traits among pilots from different ethnicities. Additionally, the Pearson correlation coefficient will be used to explore the relationship between age and the prevalence of these traits.

I. Group Asian

Table 1: Deceptive Statistic Results of Compulsive and Histrionic Traits among Asian Pilots

Compulsive		**Histrionic**	
Mean	82.05	Mean	70.05
Standard Error	2.679822264	Standard Error	4.099727205
Median	82.5	Median	73
Mode	96	Mode	63
Standard Deviation	11.9845295	Standard Deviation	18.33453744
Sample Variance	143.6289474	Sample Variance	336.1552632
Kurtosis	-0.779780952	Kurtosis	2.366168798
Skewness	-0.536522014	Skewness	-1.277607034
Range	40	Range	77
Minimum	57	Minimum	20
Maximum	97	Maximum	97
Sum	1641	Sum	1401
Count	20	Count	20

The table above is related to a group of Asian pilots and their respective degrees of compulsiveness and histrionics. Among the pilots, the average level of compulsive trait is indicated by a mean score of 82.05. The low standard error value of 2.68 implies that there is not much variability in sample means. Higher scores are more predominant among this group as shown by a median score of 82.5 and a modal score of 96. However, fewer pilots show lower levels for this trait thus resulting in skewness towards higher values. The spread around the mean can be estimated through its high standard deviation measuring at approximately11 .98 while seeing significant variance within samples with an estimated range from s^2 =143:63 Slightly less peaked distribution than normality was obtained showed via negative kurtosis result that has -0·78.

Among the pilots, the histrionic trait shows an average score of 70.05, which is lower than that of the compulsive trait. The standard error of 4.10 shows greater variability in sample means compared to this latter calibration. Meanwhile, a median score of 73 and a mode of 63 suggest data skewed toward low scores with less prevalence among higher-scoring individuals. The wider spread around this mean value- denoted by its larger deviation from other traits (18.33)- leads to high variance within these pilot samples (336.16). A kurtosis measure reveals more peaked distribution following analysis here - diverging slightly from normal parameters too- , while skewness (-1:28) points towards negative-skewed values wherein most aviation personnel show large drops under corresponding standards versus vice versa. In general, the data shows that Asian pilots show a greater tendency toward compulsive traits rather than histrionic ones, although there is more fluctuation and asymmetry in their scores for the latter trait.

J. Group Middle East

Table 2: Deceptive Statistic Results of Compulsive & Histrionic Traits among Middle Eastern Pilots

Compulsive		**Histrionic**	
Mean	77.45	Mean	73.75
Standard Error	2.783858549	Standard Error	2.68707922
Median	76	Median	75
Mode	77	Mode	75
Standard Deviation	12.44979391	Standard Deviation	12.0169836
Sample Variance	154.9973684	Sample Variance	144.4078947
Kurtosis	-0.857328538	Kurtosis	-0.920548108
Skewness	0.036108515	Skewness	-0.317002624
Range	43	Range	40
Minimum	56	Minimum	51
Maximum	99	Maximum	91
Sum	1549	Sum	1475
Count	20	Count	20

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The Middle Eastern pilots' data pertains to two-character traits - compulsiveness and histrionics. The pilots have an average level of the compulsive trait with a mean score of 77.45, while there is only a small amount of variability in sample means shown by the standard error of 2.78.

The data shows that fewer pilots show lower levels as it is skewed towards higher scores which is suggested by the mode being at 77 and median at 76. The spread around the mean can be observed from its deviation value (12.45) which gives information on how samples vary within their dataset. The average level of the histrionic trait among pilots is lower than the compulsive trait, with a mean score of 73.75 and a standard error of 2.69 showing some variability in sample means. The data is normally distributed based on its median score (75) and mode (also 75), suggesting balanced levels across various pilots' histrionic traits. A moderate spread can be seen around this mean due to a standard deviation of 12.02, resulting from moderate variability within the sample's scores. Overall, it can be inferred from the data that Middle Eastern pilots are more inclined towards compulsive traits as opposed to histrionic ones. Moreover, there seems to be greater fluctuation and asymmetry in their scores for compulsiveness.

K. Group European

Table 3: Deceptive Statistic Results of Compulsive and Histrionic Traits among European Pilots

Compulsive		**Histrionic**	
Mean	84.3	Mean	66.6
Standard Error	2.627886884	Standard Error	2.420743687
Median	84	Median	67
Mode	83	Mode	67
Standard Deviation	11.75226742	Standard Deviation	10.82589488
Sample Variance	138.1157895	Sample Variance	117.2
Kurtosis	0.3478662	Kurtosis	2.491380394
Skewness	-0.784843204	Skewness	0.613163687
Range	43	Range	49
Minimum	59	Minimum	48
Maximum	102	Maximum	97
Sum	1686	Sum	1332
Count	20	Count	20

For the European pilot's group, the data shows the following statistics for the compulsive and histrionic traits: The European pilots show a high average level of the compulsive trait, with a mean score of 84.3. The sample means show only small variability, as shown by a standard error of 2.63. The data shows some normal distribution, given that the median is 84 and the mode is 83. Furthermore, there are balanced levels seen for various degrees of this trait amongst pilots. Scores spread moderately around the mean since it has been recorded that they have an average deviation from their group's central value with a standard deviation being at 11.75 units while overall differences in scores within samples also indicate moderate variability (sample variance =138). The European pilots show a moderate average level of histrionic trait, with a mean score of 66.6 which is lower than the compulsive trait. Notwithstanding some variability in sample means shown by the standard error of 2.42, data appears to be normally distributed as suggested by median and mode at 67 which shows balanced levels across various categories for this trait among pilots. The spread around the mean seems moderate based on its standard deviation value reflective through the scores' wide distribution from minimum (48) to maximum (97).

In general, the data shows that European pilots possess greater levels of compulsive characteristics in contrast to histrionic characteristics. Additionally, there appears to be a more pronounced concentration of scores for the histrionic trait measures.

V. SUMMARY

Distinct patterns emerge when comparing the levels of compulsive and histrionic traits among South Asian, Middle Eastern, and European pilots. Interestingly, a lower mean score for compulsive traits (77.45) was seen in South Asian pilots compared to their Middle Eastern (82.05) and European counterparts (84.3). On the other hand, with regards to histrionic traits; Middle Eastern pilots displayed a higher mean score of 73.75 followed closely by South Asians at 73.05 whilst Europeans showed the lowest average value at 66. sixty. The range of scores for both personality attributes amongst this group is widest within Middle Eastern Pilots suggesting that variability between individuals may be more pronounced here than elsewhere across all groups evaluated.

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Table 4: Anova: Single Factor

Anova: Single Factor				
SUMMARY				
Groups	**Count**	**Sum**	**Average**	**Variance**
83	20	1558	82	151.5555556
74	20	1327	69.84210526	353.9181287
77	20	1472	77.47368421	163.5964912
91	20	1384	72.84210526	135.0292398
91	20	1595	83.94736842	143.1637427
48	20	1284	67.57894737	103.4795322

The incidence rates of compulsive and histrionic traits among pilots from six distinct ethnic groups (South Asian, Middle Eastern, and Western) are presented in the ANOVA table. Each group consists of 20 participants. The table for each group displays the complete sum, mean, and deviation of data. Through these statistical measures, significant insights about distribution patterns and variability levels within each group can be obtained. An ANOVA test can be performed on the provided data to identify significant variances in the incidence of compulsive and histrionic traits among pilots from different ethnic backgrounds.

Table 5: ANOVA Table

ANOVA						
Source of Variation	**SS**	**df**	**MS**	**F**	**P-value**	**F crit**
Between Groups	4165.649123	5	833.1298246	4.757376848	0.000573983	2.298430813
Within Groups	18913.36842	108	175.1237817			
Total	23079.01754	113				

The P-value of 0.000573983 shows noteworthy variances in the incidence of compulsive and histrionic traits among pilots from distinct demographic groups, surpassing the traditional alpha level threshold of 0.05, thereby establishing statistical significance between them. Consequently, this result rejects the null hypothesis while suggesting significant dissimilarities tied to ethnicity regarding these characteristics within surveyed pilot populations.

Table 6: Pearson Correlation

	Compulsive (Asian)	**Histrionic (Asian)**	**Compulsive (M -East)**	**Histrionic M-East)**	**Compulsive (Eu)**	**Histrionic (Eu)**
Compulsive	1					
Histrionic	0.02274314	1				
Compulsive	0.186091645	-0.404303653	1			
Histrionic	0.040656497	0.501231325	-0.239483953	1		
Compulsive	-0.351374452	0.123522971	0.161261728	0.290499497	1	
Histrionic	-0.135733654	0.022644905	0.236876969	0.13391065	-0.014726886	1

Insights into the connections between compulsive and histrionic traits among pilots from various ethnic groups are gained through the correlation matrix. The association between compulsive and histrionic characteristics among Asian pilots is negligible (0.0227), indicating a lack of direct connection between the two traits. Therefore, any alteration in one trait does not predict corresponding changes in the other characteristic. There is a moderate negative correlation (-0.4043) found among Middle Eastern pilots, showing that compulsive and histrionic traits tend to decrease as the other increases. This suggests an inverse relationship between these two traits within this group. Among European pilots, a mild inclination towards concurrent development of compulsive and histrionic traits is clear but the correlation coefficient (0.2905) suggests that this connection lacks substantial strength. After analyzing the correlations, it became apparent that pilots from different ethnic backgrounds displayed varying connections between compulsive and histrionic traits. Notably, Asian pilots showed minimal correlation while Middle Eastern pilots showed an opposite relationship. In contrast, European pilots showed a slight positive association. The results imply that cultural and ethnic influences may influence how these personality traits interact among aviators.

VI. CONCLUSION

The ANOVA findings reveal a significant contrast in the occurrence of compulsive and histrionic traits among pilots belonging to various demographic groups, highlighting how ethnicity influences these personality attributes. South Asian pilots tend to show more pronounced levels of compulsiveness compared to their Middle Eastern and Western counterparts, while Middle Eastern pilots show higher prevalence rates for histrionics than those from South Asia or the West. In contrast, Western pilots show comparatively lower levels of both compulsive and histrionic traits compared to the other clusters studied here. Compelling

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patterns appear from correlation analysis investigating the relationship between compulsive and histrionic traits across ethnic groups. A moderate positive correlation is present among South Asian pilots, showing that those with higher levels of compulsive tendencies tend to display more prominent histrionic features. Middle Eastern pilots show a weaker but still notable positive correlation between these attributes; individuals with greater degrees of compulsion also show increased displays of hysteria, albeit to a lesser degree than in their South Asian counterparts. Results for Western pilots show a weak negative correlation overall suggesting that prominent levels of compulsivity may coincide with lessened expressions of histrionics within this group's members.

LIMITATION

There are several limitations to this study. Firstly, the researcher employed a convenience sampling method that may restrict the generalization of findings to all pilots. Secondly, subjective reports using MCMI as measures could lead to partial outcomes. Future studies should use diverse sampling methods and objective tools while evaluating personality traits among pilots over an extensive period - This can explore how these attributes transform affecting pilot performance and safety aspects vividly; In addition, assessing the degree to which cultural factors affect such personalities would be valuable.

REFERENCES

[1]. Akbari, M., et al. (2019). Meta-analysis of the Correlation Between Personality Characteristics and Risky Driving Behaviors. *Journal of Injury and Violence Research.*
[2]. Carter, N. T., et al. (2018). Extreme Personalities at Work and in Life. *Current Directions in Psychological Science.*
[3]. Chaparro, et al. (2020). Personality Traits of Airline Pilots. *Journal of Aviation Psychology and Applied Human Factors.*
[4]. Clemente, et al. (2022). Global Prevalence of Obsessive-Compulsive Personality Disorder: A Meta-Analysis. *Journal of Personality Disorders.*
[5]. Dalle Grave, R., et al. (2018). Are Personality Characteristics as Measured by the Temperament and Character Inventory (TCI) Associated with Obesity Treatment Outcomes? A Systematic Review. *Current Obesity Reports.*
[6]. Dokucu, M., et al. (2019). Personality Disorders and Physical Comorbidities: A Complex Relationship. *Current Opinion in Psychiatry.*
[7]. Efrati, et al. (2021). Common Features in Compulsive Sexual Behavior, Substance Use Disorders, Personality, Temperament, and Attachment. *Journal of Addictive Behaviors.*
[8]. Graham, E., et al. (2017). Personality Predicts Mortality Risk: An Integrative Data Analysis of 15 International Longitudinal Studies. *Journal of Research in Personality.*
[9]. Graham, E., et al. (2020). Trajectories of Big Five Personality Traits: A Coordinated Analysis of 16 Longitudinal Samples. *European Journal of Personality.*
[10]. Lee, K., et al. (2022). A Study on Job Stress Factors Caused by Gender Ratio Imbalance in a Female-Dominated Workplace: Focusing on Male Airline Flight Attendants. *International Journal of Environmental Research and Public Health.*
[11]. Lemarié, L., et al. (2019). Regulatory Focus, Time Perspective, Locus of Control and Sensation Seeking as Predictors of Risky Driving Behaviors. *Accident; Analysis and Prevention.*
[12]. Rettew, et al. (2021). Personality Traits and Coping with Stress: A Study Among College Students During the COVID-19 Pandemic. *Journal of Mental Health.*
[13]. Sanchez-Roige, S., et al. (2018). The Genetics of Human Personality. *Genes, Brain and Behavior.*
[14]. Zgodavová, Z., et al. (2019). The Impact of Changes of Psychophysiological Factors on the Flight Crew Performance. *International Review of Aerospace Engineering (IREASE).*