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# The Association of Personality Traits and Decision-Making Styles among Arab Undergraduate Students in Israeli Universities

**Hamza Egbaria[1], Jamal Zaid[2]**

[1, 2] Elahlya High School, Umm al-Fahm, Israel

**ABSTRACT:** The present study aimed at investigating the relation between big five personality traits and decision-making styles among Arab undergraduate students in Israeli universities. Big-five Inventory was used to assess the personality traits and General Decision-Making Styles Questionnaire was used to assess the decision-making styles. 408 students took part in this study. A convenient sampling technique was followed to collect the samples. Descriptive statistics, t-test, one-way Anova and Pearson correlation coefficient test were the methods used to analyze the data. Findings showed that the rational decision-making style attained the highest value, while the spontaneous was the lowest. The agreeableness and the conscientiousness were the prominent personality traits among the participants. Findings showed that the rational and avoidant styles were significantly associated with all the personality traits. The dependent style had a positive relation with agreeableness and neuroticism. Whereas, the avoidant style had negative relation with extraversion, conscientiousness, and openness. The spontaneous style had a negative relation with agreeableness and conscientiousness, positive relation with neuroticism. The intuitive style had a positive relation with extraversion, openness to experience and neuroticism. The findings will help school counselors to shape students' personality and develop leadership qualities to take better decisions.

**KEYWORDS:** Arab university students, decision-making styles, personality traits

## INTRODUCTION

Higher education is regarded as an important stage of identity formation and career exploration [1]. Therefore, it plays a significant role in determining students' future careers. Higher education is of great interest to Arab society in Israel, as evidenced by the growing number of Arab students enrolled in higher education institutions both inside and outside of Israel, as well as the diversity of subjects taught by Arab students.

In many societies, choosing a university major is considered a critical decision in a student's life because it affects the individual's personal, social, and professional future. The selection of a university major is primarily influenced by economic factors related to future professions and labor market trends. Academic factors related to the nature of the subjects, the type of specialization, and the admission conditions, as well as social and family factors and the social status of the future profession. Personal factors are also linked to a student's achievements and mental abilities. Finally, motivation, desires, tendencies, interests, personal values, and decision-making styles are all affected by psychological factors [2]. It has been demonstrated that personality traits influence academic major choice at the university level [3].

The career of an Arab academic student in Israeli universities differs from that of other students from other cultures and communities due to the unique characteristics of political reality and the transformation of Palestinian society within Israel from a majority to a national minority, with both the resulting psychological, social, political, and educational changes and projections on the reality of individuals' lives in society. According to a Center for Higher Institutes of Academic Studies report, Arab students drop out more than Jewish students during their academic careers, and Arab students are 13% less likely to receive their first university title than Jewish students [4]. Arab university students encounter psychological difficulties as a result of social, material, family, cultural, and linguistic misunderstandings. During their academic and professional careers, they face challenges as a result of political and national conflict.

The current study is the first of its kind to reveal the role of personal factors and decision-making patterns in determining the type of university specialization among Arab students in Israeli universities, based on the findings of previous research. The current study sought to investigate the possibility of a perfect match between a student's academic specialization on the one hand and the student's personality and decision-making style on the other. However, the research on Big Five personality group differences among students of various majors has not yet been thoroughly reviewed. As a result, it is unclear what is known about personality differences across majors [5]. Furthermore, gender differences research has proven to be argumentative [6].

## The Association of Personality Traits and Decision-Making Styles among Arab Undergraduate Students in Israeli Universities

In recent years, Arab society in Israel has seen changes in areas such as the changing status of the father as head of the family, the weakening of the clan and extended family, the strengthening of education and higher education, and emerging changes in the status of women, such as a higher rate of girls attending universities [7]. These changes are reflected in the decision-making styles of students. As a result, this research must be useful to researchers, school counselors, and educational leaders. There is also a scarcity of studies that investigate decision-making styles and the big five factors in relation to academic major selection among Arab students in Israeli universities.

The current study aims to examine the association of big five personal traits and decision-making styles. It also aims to reveal students' personality profiles in various academic disciplines. Lastly, to investigate the gender and academic differences across the Big five personality traits and decision-making styles among Arab university students in Israel. Thus, the first research hypothesis stated that there is a relation between decision making styles and big five personality traits. The second research hypothesis consists of two sub hypotheses: hypotheses 2-a: whether there are differences in the decision-making styles and big five personality traits according to gender. Whereas, hypotheses 2-b stated: there are differences in decision-making styles and big five personality traits according to academic major.

### 1.1Theoretical Background

#### 1.1.1 Decision-making styles

Decision-making is one of the major cognitive processes in the field of educational psychology. Decision-making is a construct associated with human behavior, and as such, it is studied scientifically in the field of psychology. Decision-making is regarded as a systematic and rational process that exists in every organization, society, and family [8]. Initially, decision-making research focused on the process itself, but recently, attention has been drawn to examining individual differences in performance on different decision-making tasks or positions, and the individual's judgment on what he preferred was viewed as a risk in and of itself [9].

It has been noted that the individual's decision-making method is an acquired habit that the individual always uses in situations where he or she has to make the decision [10], whereas, these methods are not only usually, but also including many cognitive processes, such as information processing, self-assessment, and the ability to organize oneself [11].

Decision-making methods are defined as: "The learned habitual response pattern exhibited by an individual when confronted with a decision situation. It is not a personality trait, but a habit-based tendency to react in a certain way in a specific decision context" [12]. Moreover, there are five distinct decision-making styles (dependent, avoided, spontaneous, rational, intuitive), that individuals generally have different levels of all five styles, although one style is usually dominant [12].

Rational decision-making style involves identifying all possible solutions, analyzing their respective results from various perspectives, and then selecting the best way to deal with decision-making conditions, which is accompanied by an intensive search, organization, examination and validation of facts, exploration of all available alternatives, and logical and rational evaluation of it [13]. In other words, rational decision-making style is defined by the use of reasoning and logical and structured decision-making approaches [14]. The dependent decision-making style is distinguished by the need for support from others when confronted with decision-making situations. In other words, a dependent personality seeks advice and guidance from others before making major decisions [15].

The intuitive decision-making style is distinguished by a focus on details in the flow of information rather than a systematic search for and processing of information, as well as a proclivity to rely on intuition and feelings. That is, decision-making style is defined by reliance on intuition, feelings, impressions, instinct, experience, and gut feelings [16]. Avoidant decision-making, however, is characterized by decision-making avoidance or postponement whenever possible, and when the decision-maker is about to make his decision, he prefers to postpone it. That is, the decision scenarios are defined by withdrawing, moving back, and negating them [17]. Lastly, a spontaneous decision-making style is distinguished by a sense of urgency and a desire to complete the decision-making process as quickly as possible [15]. This is a decision-making style in which the individual is impulsive and hasty, impatient, indecisive, and chooses to please others rather than thinking about the decision-making process logically [14].

#### 1.1.2 The big five personality traits

One of the most important topics addressed in psychology is the study of human personality. Many theories have been proposed in this regard. Numerous theories and interpretations have attempted to express the concept of human personality emerging. It is a set of individual characteristics that regulate the behavior of the individual around him, and has a significant impact on the individual's motivation, way of thinking, and predicting how he or she interacts with and responds to the excitements around him [18].

Personality traits are, by definition, relatively stable dispositions that manifest themselves through behavior, thinking, and emotional patterns [19]. They play a significant role in determining a university major, and the model of the big five personality traits is one of the most recent models that have interpreted personality traits and is regarded as one of the most consistent models in personality assessment and prediction [20]. Costa and McCrea's (1992) big factor personality traits model is a comprehensive model interested in describing and classifying many concepts and terms describing personality traits in which individuals differ [21].

The Big Five are broad personality types represented by five dimensions: neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness [22]. Openness to experience is associated with characteristics that reflect the importance of openness to the experiences and feelings of others, as well as the extent of mental maturity and tolerance and peace in individuals [23]. Furthermore, openness to experience is characterized by a proclivity for an active imagination, intellectual curiosity, and a willingness to consider new ideas and try new things [24]. Extraversion is characterized by positive attitudes toward social accomplishments and interactions. They value social habits, enjoy a high level of activity and self-motivation while avoiding calm, reticence, and introversion, and their social presence is very strong, with an active social circle [25]. Neuroticism is defined as the degree of incompatibility between an individual's emotional features, and the characteristics of neuroticism include a high degree of insecurity, sadness, depression, anxiety, hostility, and impulsiveness, and this attribute is negatively associated with self-esteem, belief in one's ability to perform, and self-control [26].

All dimensions of the Big Five Personality traits, openness to experience, conscientiousness, extraversion, agreeableness, and emotional stability, have a significant effect as predictors of students' academic achievement [27]. While emotional stability and openness to experience are important predictors of students' academic achievement in some aspects of each dimension, they are the most significant predictors of students' academic achievement in others. The emotional stability dimension is the most significant predictor of achievement across all subjects. Success, perseverance, sincerity, responsibility, and dedication are characteristics of consciousness. They also act wisely in various life situations and carry out their responsibilities as dictated by their consciences and moral values. Agreeableness reflects characteristics that emphasize considering others' wishes, respecting their feelings, and understanding. This trait is more likely to survive social interaction, strong friendships, and successful family relationships. Their personal characteristics are adaptable, such as intolerance of their own opinion, the ability to influence others about themselves, and a negative tendency toward selfishness, intolerance, and aggression [28]. Academic achievement is positively related to extraversion, conscientiousness, and openness to new experiences [29].

A meta-analysis study has been conducted through numerous academic databases for North American and European students aged 18 to 26. It has shown that psychology and arts/humanities students score high on agreeableness and neuroticism, while business students score low on these scales; arts/humanities students score low on conscientiousness; science students score low on extraversion while business students score high; and psychology and arts/humanities students score high on openness. This study did not include any technology students. She discovered that neuroticism had a moderate effect, with females scoring slightly higher than men [5].

Gender differences in these personality traits have been discussed since the 1970s, particularly in the fields of (science, technology, engineering, and mathematics) [30]. According to the National Science Foundation [31], only one-fifth of engineering, computer science, and physics graduates in the United States are female. Women score significantly higher on conscientiousness and agreeableness than men [3].

### 1.1.3 **Personality traits and decision-making styles**

Several studies have found a relationship between personality traits and decision-making styles [32, 8, 33,16]. The link between personality traits and decision-making in a group of university students, and it has been concluded that (15.4% and 28.1%) of the difference in decision-making methods was due to personality traits [15]. This means that personality traits play an important role in explaining the differences between decision-making styles. Similarly, [34] investigated the relationship between personality traits and decision-making among Pakistani university students, concluding that conscientious personality status is associated with rational decision-making. The relationship between personality traits and decision-making styles among a group of Turkish university students has been investigated, and a strong link between rational and intuitive decision-making patterns and simplicity, openness to experience, conscientiousness, and personality traits associated with acceptance. The decision-making pattern chosen had a positive relationship with both nervousness and acceptance. The spontaneous method had a significant positive relationship with nervousness but a significant negative relationship with acceptance and conscience. It has been demonstrated that open personality traits have a positive effect on spontaneous style. The satisfaction personality has had a positive impact on the intuitive decision-making method used. Conscience personality has a negative impact on avoided and spontaneous decision-making and a positive impact on rational style. Neuropathy has improved the intuitive and spontaneous decision-making process. Openness to experiences has had a positive impact on rational style [32].

An additional study has investigated personality traits, life attitudes, and decision-making styles among Iranian university students concluding that there was a strong link between personality traits and decision-making methods [33]. They discovered a link between neuroticism and an avoidant decision-making style. It was also discovered that there was a link between simplicity, openness to experience, conscience vigilance, and acceptability on one hand, and rational and intuitive decision-making on the other. Furthermore, it has been discovered that higher agreeableness and conscientiousness were significantly associated with a higher intuitive style, whereas higher extroversion and openness to experience were significantly associated with a lower intuitive style. Higher agreeableness and conscientiousness were significantly associated with a higher rational decision-making style, whereas

higher extroversion was significantly associated with a lower rational decision-making style. More agreeableness and conscientiousness were related to a more dependent decision-making style, whereas more openness to experience was related to a less dependent decision-making style. More agreeableness, conscientiousness, and neuroticism were found to be significantly associated with a less spontaneous decision-making style. No personality traits were found to be significantly related to the avoidant decision-making style [16]. Finally, it has been indicated that neuroticism and extraversion were significantly related to hypervigilance, buck-passing, and procrastination in the non-vigilant style. Women performed significantly worse in vigilance and significantly better in hypervigilance, buck-passing, and procrastination than men [35].

The distinctive characteristics of Israeli-Palestinian culture may be related to the likelihood of university students having distinctive decision-making styles. Israeli-Palestinian university students live in a collectivist society that is rapidly modernizing, with both "Israelization"[7] and the contrasting experiences of Islamization and concomitant "Palestinianization" [36]. As a result, this population faces a unique dichotomy within their culture, which may lead to identity formation challenges [37,38] that may inform the associations between individual characteristics and different decision-making styles. In terms of the study's cultural context, Arab society in Israel is viewed as a collective society on a continuum between individualism and collectivism [39]. Higher education has become increasingly important in this changing society, and research into its many variables is thus critical. As a result, the purpose of this study is to shed light on the variables' components while focusing on the need to comprehend the relationship between them and its implications for Arab students in Israeli universities.

## 2. METHOD

The descriptive analytical approach was used by the researchers to collect and analyze data. This is due to the descriptive approach's relevance to the nature of the study, as it examines reality, and accurately and quantitatively describes it.

### 2.1 Participants

A total of 408 undergraduate Arab students participated in the study, selected using a convenience sample.

**Table 1. Sample distribution according to demographic variables**

| Variable | Categories | N | Percent |
|---|---|---|---|
| Gender | Male | 97 | 23.8 |
| | Female | 311 | 76.2 |
| Age | 18-21 | 287 | 70.3 |
| | 22-25 | 106 | 26.0 |
| | 25+ | 14 | 3.4 |
| Academic year | 1 | 146 | 35.8 |
| | 2 | 122 | 29.9 |
| | 3 | 82 | 20.1 |
| | 4+ | 58 | 14.1 |
| Major | Humanities | 47 | 11.5 |
| | Social Science | 47 | 11.5 |
| | Engineering & Computer Science | 121 | 29.7 |
| | Business | 52 | 12.7 |
| | Law | 42 | 10.3 |
| | Medical Subjects | 99 | 24.3 |

### 2.2 Measure

Three tools were used to test the study variables:

Demographic variables questionnaire: This instrument was created by the researcher and included self-reported questions for gender, age, academic year, academic major, university, psychometric test score, English & math level, how many times the change their academic major.

*General Decision-making Styles Questionnaire (GDMSQ):* The questionnaire consists of 25 statements [12], with responses from 1-5 on a Likert scale (totally disagree = 1 to totally agree = 5). The questionnaire measures five subscales-five statements in each subscale: rational; intuitive; dependent; avoidant; and spontaneous. The Arabic version was translated from English by professional expert English translators. For the current study, Cronbach Alpha coefficients were calculated for the questionnaire and the reliability values were as follows: rational $\alpha = 0.873$, intuitive $\alpha = 0.723$, dependent $\alpha = 0.831$, avoidant $\alpha = 0.900$, spontaneous $\alpha = 0.804$.

*Big Five Personality Trait Short Questionnaire (BFPTSQ):* The BFPTSQ [40] consists of 44 statements on the scale, and 16 statements are reversed. Items are rated on five-point Likert scale (totally disagree = 1 to totally agree = 5). The questionnaire measures five factors: extraversion; agreeableness; conscientiousness; neuroticism; Openness to experience. For the current study,

Cronbach Alpha coefficients were calculated for the questionnaire and the reliability values were as follows: extraversion α = 0.61, agreeableness α = 0.69, conscientiousness α = 0.80, neuroticism α = 0.81, Openness to experience α = 0.75. All the items were with a load level greater than .4.

**2.3 Research Process:** The study included Arab university students who have studied in six faculties: humanities, social science, computer and engineering, business, law, medicine and in seven public Israeli universities during the academic year 2021-2022. Data collection was done through filling an anonymous online questionnaire. All participants were aware of the purpose of the study, the quality of data collected and gave prior informed consent. Participation in this study was voluntary and no incentive was given to the participants.

**2.4 Statistical Analysis:** Means, standard deviations, and maximum and minimum values for decision making styles and big five personality traits were calculated first. Then, independent samples t-test, One-way ANOVA test and Pearson correlations were calculated to test the hypothesis. Lastly. Alpha of Cronbach calculated for the research tools. Correlations among the study's variables were then calculated. Statistical analyses were performed by SPSS version 26.

## 3. FINDINGS

In order to examine the levels of the study variables, means and standard deviations were calculated first, along with minimum and maximum values for General Decision-Making styles and Big Five Personality Trait as detailed in Table 2.

**Table 2. Mean, standard deviation, minimum and maximum values for the study variables**

| | Dimensions | M | SD | Min | Max |
|---|---|---|---|---|---|
| General Decision-Making Styles | Rational | 4.27 | .73 | 1.20 | 5.00 |
| | Intuitive | 3.62 | .68 | 1.60 | 5.00 |
| | Dependent | 3.46 | .89 | 1.00 | 5.00 |
| | Avoidant | 2.73 | 1.13 | 1.00 | 5.00 |
| | Spontaneous | 2.47 | .85 | 1.00 | 5.00 |
| Big Five Personality Trait Short Questionnaire | Agreeableness | 3.87 | .55 | 1.67 | 5.00 |
| | Conscientiousness | 3.85 | .66 | 1.89 | 5.00 |
| | Openness to experience | 3.72 | .60 | 2.00 | 5.00 |
| | Extraversion | 3.20 | .59 | 1.38 | 4.88 |
| | Neuroticism | 2.82 | .84 | 1.00 | 5.00 |

Table 2 shows that the rational decision-making style is relatively high whereas the spontaneous style attained the lowest score. It is also shown that both agreeableness and conscientiousness are the most prominent personality traits among Arab students.

**Table 3. Pearson correlations between personality traits and decision-making styles (N = 408)**

| | Rational | Avoidant | Spontaneous | Intuitive | Dependent |
|---|---|---|---|---|---|
| Neuroticism | -.120* | .316** | .140** | .113* | .190** |
| Agreeableness | .256** | -.177** | -.102* | | .143** |
| Conscientiousness | .466** | -.466** | -.350** | | |
| Extraversion | .159** | -.174** | | .100* | |
| Openness to Experience | .322** | -.153** | | .172** | |

*p<.05; **p<.01; n=408

Table 3 shows the statistical correlations between personality traits and decision-making styles among Arab undergraduate students in Israel. There is a statistically significant positive correlation between rational style and extraversion (r =.159, p< .01), agreeableness (r =.256, p< .01), conscientiousness (r =.466, p< .01), openness to experience (r =.322, p< .01); and a negative correlation with neuroticism (r =-.12, p< .05). There is a statistically significant negative correlation between avoidant style and extraversion (r =-.174, p< .01), agreeableness (r =-.177, p< .01), conscientiousness (r =-.466, p< .01), openness to experience (r =-.153, p< .01); and a positive correlation with neuroticism (r =.316, p< .01). Furthermore, this table show a statistically significant negative correlation between spontaneous style and agreeableness (r =-.102, p< .05), conscientiousness (r =-.35, p< .01); and a positive correlation with neuroticism (r =.14, p< .01). Moreover, there is a statistically significant positive correlation between intuitive style and extraversion (r =.10, p< .01), neuroticism (r =.113, p< .05) and openness to experience (r =.172, p< .01). Finally, there is a statistically significant positive correlation between dependent style and agreeableness (r =.143, p< .01) and neuroticism (r =.19, p< .01).

**Table 4.** Means, standard deviation, independent samples t-test according to gender

| | | Male (97) | | Female (311) | | | |
|---|---|---|---|---|---|---|---|
| Variables | Dimensions | M | SD | M | SD | T df=406 | p |
| General Decision-Making styles | Rational | 4.25 | .66 | 4.28 | .76 | -.344 | .731 |
| | Intuitive | 3.66 | .65 | 3.62 | .69 | .523 | .601 |
| | Dependent | 3.30 | .89 | 3.51 | .89 | -2.096 | .037* |
| | Avoidant | 2.66 | 1.05 | 2.76 | 1.16 | -.717 | .477 |
| | Spontaneous | 2.53 | .93 | 2.45 | .82 | .85 | .396 |
| Big Five Personality Trait Short Questionnaire | Extraversion | 3.25 | .52 | 3.18 | .61 | 1.105 | .270 |
| | Agreeableness | 3.75 | .51 | 3.91 | .56 | -2.471 | .014* |
| | Conscientiousness | 3.92 | .60 | 3.83 | .68 | 1.161 | .246 |
| | Neuroticism | 2.46 | .79 | 2.93 | .82 | -4.921 | .000* |
| | Openness to Experience | 3.71 | .65 | 3.72 | .58 | -.129 | .897 |

*p<.05

Table 4 shows that there is a statistically significant difference in dependent style score between male and female university students. The results indicate a significant effect for gender (t (406) = -2.096, p < .05), female students (M=3.51, SD=.89) attain higher scores than male students (M=3.30, SD=.89). What is more, there is a statistically significant difference in agreeableness score between male and female university students (t (406) = -2.471, p<.05). The results indicate a significant difference between male students (M=3.75, SD=.51) and female students (M=3.92, SD=.56). Finally, the table display a statistically significant difference in neuroticism between male and female university students (t (406) = -4.921, p<.05). The results indicate a significant difference between male students (M=2.46, SD=.79) and female students (M=2.93, SD=.83).

**Table 5.** One-way ANOVA test results for the significant differences of decision-making styles means according to the academic major

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Rational | Between Groups | 2.726 | 5 | .545 | 1.007 | .413 |
| | Within Groups | 217.719 | 402 | .542 | | |
| | Total | 220.445 | 407 | | | |
| Intuitive | Between Groups | 2.455 | 5 | .491 | 1.043 | .392 |
| | Within Groups | 189.267 | 402 | .471 | | |
| | Total | 191.721 | 407 | | | |
| Dependent | Between Groups | 1.835 | 5 | .367 | .455 | .810 |
| | Within Groups | 324.616 | 402 | .808 | | |
| | Total | 326.452 | 407 | | | |
| Avoidant | Between Groups | 5.605 | 5 | 1.121 | .864 | .505 |
| | Within Groups | 521.379 | 402 | 1.297 | | |
| | Total | 526.983 | 407 | | | |
| Spontaneous | Between Groups | 3.146 | 5 | .629 | .868 | .503 |
| | Within Groups | 291.538 | 402 | .725 | | |
| | Total | 294.685 | 407 | | | |

*p<.05

Table 5 displays one-way ANOVA test results which reveal that there are no statistically significant differences in all the decision-making styles in the six academic majors.

**Table 6. One-way ANOVA test results for the significant differences of personality traits means according to the academic major**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Extraversion | Between Groups | 7.961 | 5 | 1.592 | 4.744 | .000* |
| | Within Groups | 134.933 | 402 | .336 | | |
| | Total | 142.895 | 407 | | | |
| Agreeableness | Between Groups | 3.927 | 5 | .785 | 2.575 | .026* |
| | Within Groups | 122.597 | 402 | .305 | | |
| | Total | 126.524 | 407 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Conscientiousness | Between Groups | 5.343 | 5 | 1.069 | 2.491 | .031* |
| | Within Groups | 172.419 | 402 | .429 | | |
| | Total | 177.761 | 407 | | | |
| Neuroticism | Between Groups | 2.620 | 5 | .524 | .733 | .599 |
| | Within Groups | 287.280 | 402 | .715 | | |
| | Total | 289.901 | 407 | | | |
| Openness to Experience | Between Groups | 7.502 | 5 | 1.500 | 4.325 | .001* |
| | Within Groups | 139.462 | 402 | .347 | | |
| | Total | 146.964 | 407 | | | |

*p<.05

One-way ANOVA revealed that there was are statistically significant differences in extraversion, agreeableness , conscientiousness and openness to experience style scores among the majors: extraversion (F (5, 402) = [4.744], p = 0.000), agreeableness (F (5, 402) = [2.575], p = 0.026), conscientiousness (F (5, 402) = [2.491], p = 0.031), openness to experience (F (5, 402) = [4.325], p = 0.001). Post hoc comparisons using the LSD test were carried out. The aim of using post -hoc comparisons is to find out the sources of the differences between the categories or the groups. There are significant differences in extraversion between law and humanities (p=.0001), social science (p=.004), hi-tech subjects (p= .000), business(p=.000) and medical subjects (p=.011) respectively.

What is more, there are significant differences in agreeableness between medical subjects and business (p=.030) and hi-tech subjects (p=.018) respectively, also between social science on the one hand and law (p=.022) and hi-tech subjects (p= .033) respectively on the other hand.

Moreover, there are significant differences in conscientiousness between law and humanities (p=.041), hi-tech subjects (p= .035) and business(p=.040). There are also significant differences in conscientiousness between medical subjects and hi-tech (p=.023) and business (p=.036)

Furthermore, findings also show significant differences in openness to experience between law and business (p=.000), humanities (p=.018) and social science (p=.004) respectively. Significant differences have been also shown in openness to experience between business and high-tech subjects (p=.010), humanities (p=.027), medical and health subjects (p=.005) respectively. Finally, one-way ANOVA revealed that there was no statistically significant difference in the decision-making styles and big five personality traits according to academic years.

## 4. DISCUSSION

The purpose of this study was to examine the relation between decision making styles and big five personality traits among Arab university students in Israel.

The first research hypothesis focused on the relationship between decision making styles and big five personality traits. The findings indicate a statistically significant relationship between decision making styles and big five personality traits, thus confirming the research hypothesis. Findings showed that the rational and avoidant styles were significantly associated with all the personality traits. The dependent style had a positive relation with agreeableness and neuroticism. Whereas, the avoidant style had negative relation with extraversion, conscientiousness, and openness to experience. The spontaneous style had a negative relation with agreeableness and conscientiousness, positive relation with neuroticism. The intuitive style had a positive relation with extraversion, openness to experience and neuroticism. These findings are in line with those of previous studies indicating a link between decision making styles and big five personality traits [32, 8, 33, 16].

The second research hypothesis consists of two sub hypotheses: hypotheses 2-a: whether there are differences in the decision-making styles and big five personality traits according to gender. Whereas, hypotheses 2-b stated: there are differences in decision-making styles and big five personality traits according to academic major.

### 4.1 Big five personality traits, decision-making styles and gender differences

Regarding hypotheses 2-a, the findings showed statistically significant difference in dependent decision-making style score between male and female university students. Female students were more dependent than male students when making decisions. They rely on the assistance, support and the advice of others when decisions are made. The socialization of Arab female students in a traditional society and the societal structures have restricted them to make vital decisions. Significant barriers such as leaving home for the Jewish cities, the transition from traditional community to liberal Western culture, language obstacles and other different behavioral codes are considered challenges Arab female students often face. Therefore, most of their major decisions such as choosing career, have been made through getting advice and consultations with parents. Female students have not been economically independent. Tuition fees and university costs are mostly financed by their families. This reality has created obstacles characterized by minimizing the options in front of them and as a result they depend on others to get assistance. However. it is noticeable that Arab women's educational achievements have dramatically improved in recent years since they view education as a vital tool for self-determination

and autonomy, and the rate of Arab female students in Israeli universities has been increasing lately especially in scientific subjects. Nevertheless, the fact that they are still dependent with other factors do not prevent them from completing their academic studies. These findings are also supported by studies reporting that dependent style is more used by women than men [41, 42, 43]. Whereas, there were no significant gender differences found regarding dependent decision-making style [32].

What is more, the finding showed a statistically significant difference in agreeableness and neuroticism score between male and female university students. Female students seemed more agreeable and neurotic than male students. Female students not only seem trustful, altruistic, cooperative, sympathetic and modest, but also tense, anxious, nervous and vulnerable. Female students are likely neurotic and this would be usually attributed to being more exposed to pressures and psychological stress within family and university as well. In Arab socialization, male still have got privileges and priorities more than female. Also, female students seemed more agreeable and have emotional characteristics. They are compassionate, trusting, acquiescent and lenient. These findings are also supported by studies showing significant gender differences in agreeableness [32. 44, 45, 46, 3, 47]. The findings of the current study are also supported by studies showing significant gender differences in neuroticism [32, 44, 47, 48].

**4.2 Big five personality traits, decision-making styles and academic majors' differences**

Regarding hypotheses 2-b, the findings showed no statistically significant differences in all the decision-making styles in the six academic majors. However, the finding showed statistically significant differences in extraversion, agreeableness, conscientiousness and openness to experience style scores based on academic majors.

The results show that law students are more extroverted than humanities, social science, hi-tech, engineering, business and medical subjects' students. They are characterized as more active, sociable, assertive, energetic and outgoing. The results also show that social science students are more agreeable compared to law, hi-tech and engineering students. These students show more trustfulness, altruism, cooperation, sympathy and modesty. The results also show that law students are more conscientious than humanities, hi-tech, engineering and business students. These students usually seem more reliable, organized, task-oriented, deliberated, thorough and efficient. In addition, medical subjects' students are more conscientious than hi-tech, engineering and business students. The results also show that law students are open to experience when compared to humanities, social science and business students. Whereas, business students are less open than engineering, hi-tech and medical students. Finally, no statistically significant differences in neuroticism appeared regarding academic majors.

To sum up, this study analyzed personality profiles for different subject areas based on the Big Five personality structure. The personality profiles of humanities, social science, engineering and hi-tech students are mostly characterized by agreeableness. Whereas, the personality profiles of business and medical subjects are mostly characterized by agreeableness and conscientiousness. And lastly the law profile is characterized by conscientiousness and openness to experience. The current findings are supported by numerous previous studies and consistent personality differences were found in different countries [5]. Psychology and humanities students score high on openness and neuroticism; political science students score high on openness; economics, law, medicine, and political science students score high on extraversion; medicine, psychology, humanities, and science students score high on agreeableness; and humanities students score low on conscientiousness.

The findings of the current research were not consistent with previous studies. It was demonstrated that law students were less agreeable and open to the experience than students of all other colleges [3]. Furthermore, humanities students have attained moderate levels of neuroticism and openness to experience. Law students received low levels of openness, agreeableness and conscientious than humanities, psychology and medicine.

The findings of the present research are aligned with previous research where there are a mixed trend and inconsistent results. Economics students recorded low levels of acceptability and neuroticism compared to other disciplines [47]. While, business graduates displayed relatively high in extraversion, conscientiousness and emotional stability and low in openness and agreeableness [45]. Business majors scored higher for conscientiousness, emotional stability, extraversion, assertiveness, and tough-mindedness, but they scored lower on agreeableness and openness [49].

Finally, a meta-analysis on 19 independent samples (total $N$ = 1695) highlighted that programming aptitude was associated with three personality traits, conscientiousness, openness, and introversion. In contrast to stereotypical beliefs, programming aptitudes were not associated with socially undesirable traits such as disagreeableness or neuroticism [50]. The findings of the present research are aligned with previous research. It was found out that sstudents in Business sschool scored lowest in agreeableness, and agreeableness was highest scored in School of Social Work. Results showed also that students from School of Engineering scored lowest in extraversion and students from Business School scored lowest on openness [48].

## 5. CONCLUSIONS

The main contribution of the present study is its approach to investigate the relation between big five personality traits and decision-making styles among Arab undergraduate students in Israeli universities. and its unique contribution is to examine this relationship with academic majors. The findings of the current study assist students determine what kind of decision students make about their future university specialization. This study also provides a valuable contribution to the counselors in Arab high schools in their work in academic guidance and thus help high school students with different decision-making styles and different personal traits in selecting appropriate university majors. This study may also be a valuable tool for high school management working to improve students' decision-making skills. The results show that specific personalities dominate in different academic fields. Thus, school counselors would find it beneficial for their working field to give high school student the suitable guidance.

Beyond that, it contributes to deepen the knowledge about the importance of the relationship between big five personality traits and decision-making styles among Arab undergraduate students in Israeli universities in an effort to contribute to decreasing the dropout rates among undergraduate students. This is the first study conducted among this population, the findings align with other studies in western societies. This contribution is likely to have positive implications for their students. This study can be used as a starting point providing school counselors profound understanding and professional career guidance services. Therefore, the first practical contribution is to establish workshops for school counsellors in order to raise the significance of these factors while guiding school students.

## 6. RESEARCH LIMITATIONS

The current study has some significant limitations. First, the sample is a convenience one and has not been conducted randomly. As a result, generalization of the findings is dubious. As a result, more research based on random sampling is required to improve the validity of the current findings. Second, this research is limited to Arab undergraduate students. In order to increase the validity of the findings, future studies should include postgraduate students as well. Furthermore, one of the limitations of this study is that only public university students were permitted to participate, while private or academic college students were not. Increased diversity among students and academic institutions would provide a more complete picture of current reality. Furthermore, some data was gathered through self-reported questionnaires, which may have introduced response bias. Finally, the current study only includes six major academic fields; science, arts, education, and social work were not included. As a result, future studies should test the research variables and thoroughly investigate the relationships while keeping these limitations in mind. Prospective cohort studies should be conducted in the future to confirm the findings. More research in these variables should be conducted in other academic institutions and majors.

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