

Personality Traits and Risk-taking Behavior in Emerging Adulthood: A Correlational Study

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Abstract

This paper has discussed the relationship between the personality traits and risk-taking behavior and gender differences in terms of these two variables among college students. A cross-sectional study design was adopted in this study, and 200 students (18-25 years old) referred to as a sample were selected using a purposive sampling method. Personality and risk-taking were measured with the use of the Ten-Item Personality Inventory (TIPI) and Risk-Taking Behavior Scale (RT-18), respectively. Findings indicated that there was high reliability of RT-18 and moderate to low reliability of TIPI subscales. Correlation analysis was used to show that Conscientiousness was significantly negatively correlated with risk-taking, while with Extraversion and Openness to experience having positive correlations. This implies that disorganized and more outgoing or curious students have more risk behavior. Independent samples t-tests showed phenomena of significant differences of gender, as males reported to have a higher risk-taking possibility, and females scored high in Agreeableness and Neuroticism capabilities. The results partially proved the main hypothesis, as they have shown that personality traits, particularly Conscientiousness, Extraversion, and Openness, are useful predictors of risk-taking behavior. The paper suggests that university-based interventions should be used to improve self-regulation and direct sensation-seeking tendencies towards positive behaviours to minimize dangerous risk behaviours among young adults.

Keywords: Risk-Taking Behavior, Personality traits, Big Five, College Students, Gender Differences

Introduction

One of the psychological issues that are intriguing to study is the connection that exists between the stable personality characteristics and the risk-taking behavior of a person, especially in college. This age group falls in the period of critical developmental stages of emerging adulthood (usually ages 18-25), which is a period of great exploration, identity formation, and newfound independence (Arnett, 2000; Schulenberg, Maggs, and Hurrelmann, 2001). All these contribute to the probability of a student to take part in several risky behavior which may either have positive or negative consequences.

Risk-taking behavior can be described as an inclination toward volitional actions exposing an individual to uncertainty about the consequences and having the possibility of negative results in the form of physical injuries, legal problems, or social disdain in the name of receiving a perceived reward (Zuckerman and Kuhlman, 2000; Duell and Steinberg, 2019). These activities affect the different spheres of college students, such as substance use, driving under the influence, financial issues, and academic dishonesty (Arsandaux et al., 2020; Eisenberg et al., 2013). It is vital to understand the psychological factors behind these actions to develop an effective support system and preventive interventions (Romer, 2012; Schulenberg et al., 2001).

Personality traits, which are the consistent sets of thoughts, emotions, and actions, are the root cause of the activity of the individual to engage in risk-taking (Zuckerman and Kuhlman, 2000). This

study will involve personality traits including Openness to experience, conscientiousness, extraversion, agreeableness and neuroticism as the main theoretical construct, which are based on the Five-Factor Model (FFM). Personality Traits are used as the Independent Variable in this study whereas the Dependent Variable is the Risk-Taking Behavior.

Literature Review

Empirical studies and meta-analyses have been carried out on the positive and theoretically stable relationships between broad traits (such as personality traits) and specific lower-order behavioral sources (facial expressions, body movements and speech patterns), which largely agree and implicate the FFM in risk-taking (Nicholson, Soane, Fenton-O'Creevy, and Willman, 2005).

Big Five Personality and Risk-Taking Behavior

Studies always outline Conscientiousness as the most essential element in risk behavior, which associates with a negative correlation in the engagement in harmful activities (Bogg and Roberts, 2004). Low Conscientiousness, which is based on lack of impulse control, planning, is very predictive of unhealthy behaviors defined by poor driving, excess alcohol intake, and drug use (Hong and Paunonen, 2009; Bogg and Roberts, 2004). This connection is because the trait has low deliberation and delayed gratification ability (Kerlinger and Lee, 2000). Extraversion and Openness to experience, however, generally tend to be linked with a higher risk-taking behavior (Lauriola and Levin, 2001). Social and recreational risks are commonly positively

associated with high Extraversion, which is motivated by the desire to seek excitement and the necessity to be socially stimulated (Nicholson, Soane, Fenton-O'Creevy, and Willman, 2005; Czerwonka, Gorlewicz, and Gorlewicz, 2019). On the same note, the Openness to Experience, associated with the curiosity and novelty seeking, facilitates the disposition to undertake new activities, irrespective of the risk that they are inherently involved in (Nicholson et al., 2005). The patterns of agreeableness and Neuroticism are more intricate or less predictable. There are cases of antisocial or reckless behavior that is associated with low Agreeableness because of antagonism (Hong and Paunonen, 2009). Although high Neuroticism (emotional instability) is potentially a protective factor, it may lead individuals to risky behaviors (e.g., substance abuse) as a maladaptive response to stress and anxiety (Arsandaux et al., 2020).

Dynamics among Lower Order Traits

The impact of the Big Five tends to be mediated by more specific, lower-order characteristics. Especially strong predictors of high-risk behavior are impulsivity (a major dimension of low Conscientiousness) and Sensation Seeking (a dimension of Extraversion/Openness) (Zuckerman and Kuhlman, 2000). The lack of planning, which is called impulsivity, is a direct cause of spontaneous and dangerous behavior (Whiteside and Lynam, 2001). The goals of sensation seeking which is the need to experience novel and intense things causes one to pursue these activities that are exciting despite the risks associated with them and it is evident that impulsive sensation seeking is closely interconnected

with generalized risk-taking (Zuckerman, 2006; Zuckerman and Kuhlman, 2000).

Gender Variability and Risk-Taking Differences.

It is continuously documented in the literature that gender difference is a systematic factor of risk assessment and behavior where males tend to be risk-takers more than females (Harris, 2023). Research explains this variation by the fact that males are higher in sensation seeking and impulsivity, whereas females are more risk-averse, making use of a behavior with the least adverse consequences (Slutske et al., 2005).

Rationale of the Study

The literature on personality traits in the world is extensive; it is still essential to conduct a systematic study of the entire range of the Big Five personality traits. Moreover, literature has highlighted the need to find the association of major personality traits with risk-taking behavior among college students within the local cultural and developmental framework. The effects of the negative risk events, i.e., academic failure, health-related issues, and legal problems, are considerable. This is why it is crucial to come up with empirical information that will help them realize which personality profiles are the most vulnerable to come up with localized and interventions target specific needs and to inform the strategies of institutional support. The study will help to present this evidence, which will serve the purpose of making the educational setting safer and more accommodating.

Objectives of the study

The primary objectives of this research were:

- To find out the relationship between the Big Five personality traits and risk-taking behavior among college students.
- To investigate potential gender differences in risk-taking behavior and across the five personality traits among college students.

Hypotheses:

Based on the findings of past research studies, the below mentioned hypotheses were tested:

H1: There is likely to be a relationship between Big Five personality traits and risk-taking behavior.

H2: Male college students will exhibit significantly higher risk-taking behavior than female students.

H3: There will be significant gender differences in Big Five personality traits.

Methodology

Nature of Research and Design

This research employed a quantitative, cross-sectional correlational design. This methodology was selected to quantify the relationships between the specified variables named personality traits and risk-taking behavior.

Participants and Sampling

Table 1

Gender and age of participants (N=200)

Variable	Category	n	%
Gender	Male	86	42.8
	Female	114	56.7
Age (years)	18–25	200	100

Note. n = number of participants; % = percentage of participants

The selected group of individuals for this study were college students aged 18–25 years from both government and private institutions. A non-probability purposive sampling technique was employed to select participants who fulfilled the specified age and educational criteria. The study aimed for a target sample size of N=200. While the aim was for an equal gender split, the final sample consisted of N=200 participants, with n=86 males (42.8%) and n=114 females (56.7%) in the final analysis set. This study included students of virtual universities (implied college-level equivalent) of both male and female genders, whereas excluded students below the age of 20, or those with a diagnosed psychological disorder or unwillingness to provide informed consent.

Instruments

Two self-report scales constituted the primary data collection instruments:

Scale I: Ten-Item Personality Inventory (TIPI)

The TIPI was developed by Gosling, Rentfrow and Swann (2003). It is a brief, 10-item measure of the Five-Factor Model

(FFM) personality dimensions. It assesses Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience using two items per dimension. The items were rated by the participants on a 7-point Likert scale with 1 meaning Disagree strongly and 7 meaning Agree strongly.

Scale II: Risk-Taking Behavior Scale (RT-18)

Risk-Taking Questionnaire (RT-18) is a 18-item self-report measure designed by de Haan et al. (2011) to determine individual risk-taking behavior. The scale is used to determine the tendency to perform risky behavior within different areas of everyday life. It is made to measure the frequency and intensity of risk taking tendencies but not the specific behaviours.

The RT-18 has two major subscales named Risk-Taking Behavior (RTB) - indicates the level of frequency on risk-taking behavior like driving at high speed, using drugs, and gambling among other potentially dangerous behaviors; and Risk Assessment (RA) - represents cognitive and emotional elements of risk assessment, including risk attitude, thrill-seeking, and risk outcomes. The sum of the item scores can be added to obtain a total risk taking score with higher scores relating to a higher level of risk taking behavior or risk taking propensity

Procedure and Ethical Considerations.

The administered method of data collection was online through a Google Form. Debriefing was done to the participants about the study purpose, and they gave informed consent electronically before taking part. Anonymity and confidentiality

of all participants were strictly controlled by the ethical procedures, and all respondents were advised of their right to withdraw during any point. The scales authors/publishers were contacted where they were required to give formal permission.

Data Analysis

The appropriate statistical software (SPSS) was applied to analyze the data. The following analyses were planned and executed:

- **Descriptive Analysis:** Calculated mean scores (M), standard deviations (SD), and internal reliability (Cronbach's alpha).
- **Pearson Product-Moment Correlation:** Used to find out the linear relationship between the Big Five personality traits and the total RT-18 score (H1).
- **Independent Sample t-Test:** Employed to analyze mean score differences between male and female students for all traits and the total RT-18 score (H2 and H3).

Results

Descriptive and inferential analyses were performed on the final sample of 200 college students (N=200).

Table 2

Mean, Standard Deviation, Minimum and Maximum value of Ten Item Personality Inventory and Risk-Taking Questionnaire (N=200)

Variables	M	SD	Min	Max
TIPI (Total)	35.3	9.3	16	70
RT-18 (Total)	45.9	11.4	19	82

Note. M = Mean, SD = Standard Deviation, Min = minimum, Max = maximum.

Table 2 summarizes the central tendencies and dispersion of the two key measures. The Ten-Item Personality Inventory (TIPI) scores range from 16 to 70, with a mean of 35.3 (SD = 9.3), indicating moderate variability around a middle-range average. The RT-18 risk-taking scores span 19 to 82, averaging 45.9 (SD = 11.4), suggesting a broader spread of risk attitudes within the sample.

Table 3

Reliability Score of Ten Item Personality Inventory and Risk-Taking Questionnaire (N=200)

Scales	K	α
Extraversion (TIPI)	2	.42
Agreeableness (TIPI)	2	.53
Conscientiousness (TIPI)	2	.66
Neuroticism (TIPI)	2	.59
Openness to Experience (TIPI)	2	.67
RT-18 (Risk-Taking)	18	.80

Note. K = number of items, α = Cronbach alpha reliability

Reliability analysis (Table 3) showed variation in the internal consistency of the scales. The RT-18 (Risk-Taking) scale demonstrated good internal reliability ($\alpha = .801$), indicating consistent measurement of risk-taking behavior. In contrast, the TIPI subscales showed lower and variable reliability, as expected due to their two-item structure. Among them, Conscientiousness ($\alpha = .66$) and Openness to Experience ($\alpha = .67$) showed acceptable reliability levels, while Extraversion ($\alpha = .42$), demonstrated weaker internal consistency. These results suggest that while the RT-18 scale is a

reliable measure of risk-taking behavior, the TIPI provides a brief but less internally consistent measure of the Big Five traits.

The TIPI is not very reliable but is extensively used in studies since it is a very brief instrument that is time-efficient and minimizes fatigue in participants particularly when dealing with massive samples of students. It helps the researchers to evaluate all the Big Five traits and at the same time does not make the questionnaire very lengthy. The TIPI was used in this study as it offers a fast and convenient

method of assessing the personality in classroom-based data collection as the long scale might not be applicable. Therefore,

despite its lesser reliability, the TIPI can be used in this study because it is efficient, and it has been applied successfully in related research in Psychology.

Table 4

Relationship between Ten Item Personality Inventory and Risk-Taking (N=200)

Variables	1	2	3	4	5	6	M	SD
1. Extraversion (TIPI)	1	.084	-.088*	.193**	.059	.25**	7.82	2.4
2. Agreeableness		1	.030	.138	.077	-.025	7.39	2.6
3. Conscientiousness			1	-.034	.021	-.31**	8.03	2.5
4. Neuroticism				1	.156*	-.070	6.78	2.7
5. Openness to Exp					1	.18*	7.39	2.6
6. RT-18 (Risk-Taking)						1	45.9	11.4

The results of Table 4 confirmed significant associations between RT-18 and three personality traits: Conscientiousness showed a strong significant negative correlation with RT-18 ($r = -.31$, $p < .01$). Extraversion showed a moderate, statistically significant positive association ($r = .25$, $p < .01$). Openness to Experience exhibited a significantly positive

relationship ($r = .18$, $p < .05$). The traits of Agreeableness ($r = -.025$, $p > .05$) and Neuroticism ($r = -.070$, $p > .05$) were not significantly associated with risk-taking behavior.

Hypotheses 2 and 3 were tested using an Independent Sample t-test.

Table 5

Independent Sample t-test to Compare Men and Women (N=200)

Variables	Men	Women	t	p	95% CI	95% CI	Cohen's
	(n=100)	(n=100)			(LL)	(UL)	d
	M (SD)	M (SD)					

Extraversion (TIPI)	7.8 (2.3)	7.8 (2.4)	0.06	.955	-0.66	0.70	0.00
Agreeableness	7.1 (2.8)	8.0 (2.5)	2.45	.016	0.18	1.62	0.35
Conscientiousness	8.0 (2.3)	8.0 (2.6)	-0.23	.819	-0.79	0.62	0.00
Neuroticism	6.8 (3.3)	7.9 (2.3)	2.18	.031	0.10	2.20	0.31
Openness to Exp	7.3 (2.5)	7.4 (2.6)	0.41	.682	-0.58	0.89	-0.04
RT-18 (Risk-Taking)	46.9 (12.3)	42.5 (10.8)	2.73	.007	1.21	7.59	0.39

Note. M = mean, SD = standard deviation, LL = lower limit, UL = upper limit.

Table 4.4 presents the independent samples t-test results comparing men and women on five personality traits assessed through the Ten-Item Personality Inventory (TIPI) and on overall risk-taking behavior (RT-18). Significant gender differences were observed in Agreeableness, Neuroticism, and Risk-Taking. Women scored significantly higher in Agreeableness ($p = .016$) and Neuroticism ($p = .031$), suggesting greater empathy and emotional sensitivity among females. Men scored significantly higher in Risk-Taking ($p = .007$), indicating a higher tendency to engage in behaviors involving uncertainty.

Discussion

This study was carried out to test the correlation between the Big Five personality variables and the risk-taking behavior among a group of college students. The correlational analysis has offered good partial support to Hypothesis 1 (H1) which proves that dispositional traits are, in fact, predictive of risk-taking. Likewise, Hypothesis 2 and Hypothesis 3 were in line with the results, which showed that there was a large disparity in gender when it came to risks-taking and

personality characteristics. Men rated higher on risk-taking, whereas women rated highly on agreeableness and neuroticism. The results match the findings of previous studies implying that men are more likely to adopt risk-related behaviors (Byrnes, Miller, and Schafer, 1999), and women are more likely to be more empathetic, cooperative, and expressive (Costa, Terracciano, and McCrae, 2001; Schmitt et al., 2008). Therefore, our current study agrees with the existing literature that serves to support the fact that gender differences still manifest in each of the two personality domains as well as behavioral tendencies (Nicholson et al., 2005; Zuckerman, 2006).

Conscientiousness: The Primary Regulatory Mechanism

The strongest result is the correlations with Conscientiousness ($r = -.31$), which supports the meta-analytic results that low Conscientiousness is the focal personality risk factor of several maladaptive consequences (Bogg and Roberts, 2004; Kerlinger and Lee, 2000). The lack of self-discipline and impulse control, which is the basis of Low Conscientiousness, directly

predicts impulsive, non-planful behavior of the high-risk behavior (Whiteside and Lynam, 2001; Duell and Steinberg, 2019). Lack of this trait by students means that students lack the ability to wait and so they will be susceptible to instant gratification connected with dangerous behaviors.

Extraversion and Openness: The Motivational Drivers

The significant correlations with Extraversion ($r = .25$) and Openness to Experience ($r = .18$) affirm that two motivational drivers play a significant role in risk-taking; these are the need to experience stimulation and need to seek novelty (Nicholson et al., 2005).

- **Extraversion**'s link is primarily through its **excitement-seeking** facet. Highly extraverted students are drawn to social and recreational environments that provide high sensory input and reward, increasing their exposure to social and health risks (Czerwonka, Gorlewicz, & Gorlewicz, 2019).
- **Openness to Experience** is correlated through **intellectual curiosity and adventurousness** (Lauriola & Levin, 2001). This trait reflects a psychological willingness to challenge the familiar and engage with the uncertain, contributing to a broader acceptance of risk.

The study suggests that risk-taking is a product of a combined personality profile: an individual who is Low in self-regulation (Conscientiousness) but High in motivational drive (Extraversion and Openness) will exhibit the highest

propensity for risk-taking behavior (Passos, Sarda, & Silva, 2015; Nicholson et al., 2005).

The lack of significant correlation for Agreeableness and Neuroticism contradicts some literature that links low Agreeableness to antisocial behavior and high Neuroticism to risk via maladaptive coping (Hong & Paunonen, 2009; Arsandaux et al., 2020). The failure to detect these associations is likely a result of the relatively lower reliability of the TIPI measure. The low alpha values are also reported and anticipated in past studies (Gosling et al., 2003). The same tendency was evident in the current research (e.g., Extraversion $\alpha = .42$; Agreeableness alpha = .53). Two-item scales that are short may have moderate reliability though they do measure generalized personality inclinations. But these low alpha values suggest that there is the possibility of measurement error in the personality scores which can undermine correlations and increase the difficulty of identifying group differences.

To interpret the results with a high caution, it is noteworthy that inter-item correlations can be a more pertinent measure of two item scales than that of Cronbach (Eisinga et al., 2013). The research in the future must consider the use of a longer and more robust personality measure, e.g., the BFI-44 (John and Srivastava, 1999) or the Mini-IPIP (Donnellan et al., 2006), to enhance accuracy.

Moreover, the research was based on self-report techniques, which can be predicted by the social desirability bias, and the cross-sectional design does not allow drawing

conclusions about the causality. These methodological shortcomings must be remembered in the way the general strength and the generalizability of the findings shall be interpreted.

Unfavorable Outcomes and Implications to Practice.

The validated personality type is essential to prevent the negative consequences of risk-taking, that is, school failure, physical injuries, psychological disorders, and lawsuits (Romer, 2012). According to the research and the literature at large, the following strategic measures should be taken concerning intervention:

Target Self-Regulation: Conscientiousness has a negative role that should be remedied through the introduction of the programs aimed at the enhancement of executive functioning skills and self-regulation (e.g., planning, goal setting) (Bogg and Roberts, 2004; Hampson et al., 2017).

Channel Sensation-Seeking: In students with high Extraversion and Openness, the prevention should be focused on directing their desire to seek the new and exciting to the positive risk-taking (e.g., taking up positions of leadership, doing difficult academic projects).

Screening and Counseling: College counseling services should shift to personality-based intervention plans (identifying high-risk profiles (Low C, High E, High O) and proactively offering personalized support, including enhancing emotional regulation self-efficacy of impulse control (Passos et al., 2015).

Strengths and Limitations

The main strengths of the study include the objective of the developmentally critical group (N=200) of emerging adults and the criterion measure (RT-18) which is highly reliable.

The limitation of low internal consistency values of TIPI subscales reported in the study is the most significant limitation of the study, as it is presented in the results table. Since each TIPI personality trait is assessed using a limited number of two items.

Recommendations For Future Research

The research needs to focus on better getting across the errors that were experienced here in the future:

Instrument upgrades: Psychometrically sound and full-spectrum instruments (e.g., NEO-PI-3 or IPIP-NEO) are to be used to guarantee high reliability and to be able to perform facet-level analysis (e.g., Excitement-Seeking).

Longitudinal and Mediational Designs: It would be advisable that the researchers adopt a longitudinal design that will enable the researcher to determine the progress of the personality-risk relationship over time and to establish that the low Conscientiousness is in a cause-and-effect relationship with risk-taking behaviors. The mediational analysis must be formal including Scale Measures of Impulsivity and Emotion Regulation as a way of fully explaining how personality can result in behavior risk (Passos, Sarda, and Silva, 2015).

Cross-Cultural validation: Future research ought to provide similar correlation and comparative studies of various local

cultural settings to identify whether the inhibition of gender differences is a localized phenomenon or a wider trend across some regions.

Conclusion

The current paper covers the association between the Big Five personality factors and risk-taking behavior in college students and the potential gender variations. The results indicated that there was a negative correlation between Conscientiousness and risk-taking, i.e. students who were better organized and self-disciplined were less likely to take risks. Conversely, the two factors, Extraversion and Openness to experience, showed positive correlation to risk-taking, so that outgoing and curious

Students are likely to want to get excited and have new experiences even if it involves the risk. There were also notable differences between men and women in respect of risk-taking- men were more risk-takers, whereas women were more agreeable and neurotic due to their higher emotional sensitivity and empathy. These findings make it clear that personality is an important factor in determining the behavioral choices of students. The results imply that the programs in the university must be centered on improving self-regulation and offering safe and positive ways of seeking sensation to aid in curbing the negative risk-taking behaviors in young adults.

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