



Original Article

Investigating the mediating role of psychological capital in the relationship between the dark tetrad personality and creativity in artists

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Abstract

Introduction: This research aims to analyze the role of psychological capital in mediating the connection of the dark tetrad personality traits with creativity among artists.

Materials and Methods: The statistical population of this descriptive-correlational study consisted all followers of the Telegram messenger channel of the Union of Artists of Khorasan Razavi province-Iran, in which 260 artists were studied. They were selected through the voluntary sampling method. Research instruments included the Torrance Creativity Questionnaire, McGee Psychological Capital Questionnaire, and Yousefi and Imanzad Scale of the personality dark tetrad traits, which provided reliable and valid findings. The research uses a path analysis plan. The data were analyzed using a descriptive and inferential statistics method, Structural Equation Modeling (SEM), SPSS software and the AMOS software.

Results: The results demonstrated a significant inverse correlation between the dark tetrad personality traits and creativity mediated by psychological capital among artists. There is also a significant inverse correlation between artists' dark tetrad personality traits and creativity. Besides, there is a deep inverse correlation between the dark tetrad personality traits and the psychological capital of artists. There is also a direct relationship between psychological capital and creativity in artists.

Conclusion: It seems that the artists with psychological capital have minor tetrad personality traits and delay immediate impulsive gratification. They endure and self-efficiently attempt to produce and create.

Keywords: Artist, Creativity, Dark tetrad personality, Psychological capital

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Introduction

Creativity is considered a valuable asset and an essential resource for humans in the present century, which is used as a powerful tool to improve the quality of life (1). Given the growth

acceleration of advanced technologies and the advancement of civil society, it seems that the existence and development of creative talents are necessary and vital for any society (2). Creativity and innovation are also a function of other

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variables. So far, several variables that affect creativity have been explained in various studies, such as intellectual abilities, knowledge, thinking styles of personality, motivation, and environment (3).

Psychological capital is a new paradigm in developed countries. Still, it is believed to play an important role in entrepreneurial practices (4,5). Moreover, as the word entrepreneurship implies, creativity is a prerequisite for psychological capital. This component is a new concept introduced by Luthans and derived from positivist psychology. People with psychological capital believe in their ability to do the right thing. They can show resilience (self-efficacy and resilience) in difficult situations, cite positive events in their efforts, and expect positive things to happen in the future (optimism and hope), which each of these characteristics can play a constructive role in increasing empowerment at various categories related to individuals (6).

The model of personality dark tetrad traits is a new formulation of maladaptive personality, which has been proposed after the model of personality dark triad traits and included the fourth variable as sadism (harassment of others) to the combination of narcissism, Machiavellianism, anti-socialism traits (7). Dark personality traits are associated with destructive behaviors and interpersonal problems. Even moderate levels of these traits can cause significant problems (8).

The first component of the tetrad dark personality traits is narcissism, which refers to the exaggerated feelings of pride, self-absorption, magnanimity, and righteousness. Narcissism interferes with different aspects of interpersonal functioning because others suffer from the narcissist's exploitative, self-centered, and grandiose tendencies. Anti-socialism is the second trait characterized by cruelty, arrogance, impulsivity, excitement, and interpersonal aggression (7).

The third component of the four dark personality traits (Machiavellianism) is a personality trait named in honor of the eminent and influential philosopher Niccolo Machiavelli. Machiavelli's philosophy- and tendencies to adapt to it- facilitate the anti-social methods of achieving the goal. These tendencies are often accompanied by greed and selfishness, which are

justified by rationality about lower expediency and goals. The fourth component is sadism, enjoying the pain of others. This phenomenon has traditionally been discussed in its most extreme forms, in the criminal and sexual contexts. For example, as in medieval France, we no longer accept torturing animals for fun. However, Pinker stated that a milder version - "soft sadism" - is evident in contemporary human societies (9).

The present study considers the definition of creativity in the psychometric approach from Torrance's point of view. He has been known as the father of modern creativity, who has developed a questionnaire to measure creativity and also defines creativity as follows:

Creativity is the process of sensing problems, issues, information gaps, missing elements, awkward things, guessing and hypothesizing about these flaws, evaluating and testing these conjectures and hypotheses, revising and retesting them, and finally transmitting the results (10).

Narcissism is manifested in the value of seeing oneself, mastery, right (11,12), self-promotion, and exploiting others (13). It is generally considered a pathology of self-love characterized by arrogance, self-absorption, a sense of entitlement, and a reaction to criticism. Psychologists and clinical psychiatrists define narcissism as a personality disorder characterized by arrogant or arrogant behaviors, feelings of entitlement, lack of empathy, and a tendency to abuse others. The form of narcissism studied by clinical psychologists and psychiatrists has pathological elements and is often associated with emotional instability and a tendency to experience negative emotions. In contrast, personality social psychologists often consider subclinical levels of narcissism and see it as a commonly distributed personality trait. This form of narcissism is more emotionally flexible and extroverted than the form of narcissism generally considered by clinical psychologists and psychiatrists (14).

According to the American Psychological Society Dictionary, Machiavellianism is a personality trait that ends with a calculating attitude toward human and belief relationships, albeit brutally. Machiavellians see others more or less as objects when necessary by deliberate deception, which they manipulate to achieve their

goals. The American Psychological Society dictionary defines an anti-social personality as having a chronic and pervasive tendency to ignore and violate the rights of others. These demonstrations include repeated violations of the law, exploitation of others, deception, impulsivity, aggression, carelessness for the safety of oneself and others, irresponsibility, innocence, remorse, and empathy.

According to the American Psychological Society Dictionary, sadism is extracting pleasure through cruelty and the imposition of pain, humiliation, and other forms of suffering on individuals. In Freud's classical psychoanalysis theory, sadism is attributed to the function of the death instinct and manifested in the innate aggressive tendencies expressed from the earliest stages of development. Positive psychological capital (PsyCap) is the positive psychological state of a person's development characterized by the following characteristics: having the confidence (self-efficacy) to gain and the effort necessary to succeed in challenging tasks, a cheerful (optimistic) view of the present and future success, staying steady toward goals and re-orienting to the goals (hope) for success, if necessary, when dealing with problems and adversity, and to achieve success, stay perseverance and backwardness and even beyond (resilience). This movement emerged as a branch of the positive psychological movement at the beginning of the 21st century (15). Karimi Mehr conducted a study entitled "assessing collective psychological capital: communicating leadership, organizational commitment, and creativity" in Kermanshah. The questionnaires were distributed among the samples using Cochran's formula and simple random sampling. According to the results of the research, shared leadership is broadly and positively correlated with collective psychological capital. Furthermore, shared leadership has a positive and significant correlation with organizational commitment. Furthermore, collective psychological capital has a positive relationship with organizational commitment. Finally, collective psychological capital has a positive relationship with creativity. Consequently, collective psychological capital mediates between shared leadership and organizational commitment. Collective psychological capital has a mediating role

concerning collective leadership and creativity, but collective leadership does not positively correlate with creativity. According to the above research, it can be concluded that individual psychological capital can also have a positive and significant relationship with creativity. Perhaps by increasing the psychological capital of individuals, their creativity can be increased (16).

Haroon Rashidi and Kazemian revealed that there is a relationship between the four components of psychological capital (hope, resilience, self-efficacy, and optimism) with creativity. They indicated a positive and significant correlation between the components of psychological capital with creativity. Furthermore, most hopeful people enjoy pursuing goals, experience more inner motivation, and seek creative solutions; therefore, hope leads to more creativity (17).

People with high self-efficacy believe they can do their job well when faced with challenging situations. Therefore, they use innovative ideas and methods to achieve their goals. Another psychological capital parameter is optimism. The relationship between this component and creativity was also confirmed. As optimistic people have a positive outlook on the future and experience positive emotions, such as happiness, contentment, and attachment, they are more motivated to progress to provide creative solutions. As a result, it can be said that one of the practical approaches to empowerment is the promotion of the psychological capital of people, which means that if people have a more significant share of psychological capital, they have higher motivation for progress and creativity and a higher quality of life. Also, they will be naturally healthier and more productive. Martinsen et al. showed that narcissism is associated with seven creative personality traits and five actions of creative activity. The discussed relationships were generally significant even when controlling for traits and creative potential. The strongest relationships found between creative personality traits and narcissistic components were related to the components of ambition, agreement, and motivation (18).

Yu et al. have conducted a study examining the role of psychological capital in employee creativity on a sample of 468 employees from

several manufacturing companies. The findings prove that resilience mediates the relationship between optimism, hope, and creativity. They also found that psychological capital is positively and significantly related to employee creativity (19). Jonason et al. conducted a study at West Sydney University in Australia. The results showed that people with a high narcissism scale had more creativity than others, but they were assessed as less creative according to their scores on the creativity scale. Machiavellianism and anti-socialism positively and significantly correlated with harm-based creativity (20). Agarwal and Farndale have conducted a study on 505 employees. The findings on the effect of psychological capital and safety on the actualization of creativity show a significant relationship and highlight the importance of psychological mechanisms (21). The purpose of this study is to investigate the relationship between dark personality traits and creativity through psychological capital and in sub-objectives, to investigate the correlation between dark personality traits and creativity, between dark personality traits and psychological capital, and between psychological capital and creativity.

Materials and Methods

The method used in the present study was descriptive-correlational. In addition, the research uses a path analysis plan. The statistical population of the present study includes people who are members of the Khorasan Razvi Artists Union and also a member of the Telegram Channel of Khorasan Razvi Artists Union, and all of them are active in different areas of art, including designing, photography, calligraphy, music, etc. (804 people). Inclusion Criteria included activity and skill in one or more artistic areas, membership in the Khorasan Razvi Artists Union and its Telegram Channel, and personal desire to participate in this study. Exclusion criteria included lack of activity and skill in one or more artistic areas, lack of tendency to filling out the questionnaires. The participants were selected through voluntary and purposeful sampling method. According to Morgan sample size table, the sample considered in the study was 260 people. It should be noted that the sample included all artistic approaches.

Research instruments

A) Torrance Creativity Questionnaire (MPPT): It is used to measure the creativity of the statistical sample. Rezaei and Manouchehri have standardized its Persian version in different groups, and its reliability has been calculated by Cronbach's alpha method of 0.88. It measures creativity in four dimensions: fluidity, flexibility, initiative, and detail expansion. Fifteen items measure each dimension. Questions 1-15 are related to the fluid component, questions 16-30 are related to the flexibility component, questions 30-45 are related to the initial component, and questions 46-60 are related to the detail expansion component. The scoring of this test is in the form of Likert's three scales from zero to two (22).

B) Torrance Test of Creativity: In the study of Torrance et al. (1966), the predictive validity of this test was 0.62 with initiative and 0.57 with the total creativity score. Witt (1971) reported a correlation coefficient of 0.51 between creativity predictors of this test. Also, Rezaei and Manouchehri (2008) calculated the total reliability coefficient of the Torrance test as 0.871 (22).

C) Personality dark tetrad traits questionnaire of Yousefi and Imanzad (2018): The twenty-one-question questionnaire of Yousefi and Imanzad (7) was used to assess personality dark tetrad traits derived from the questionnaire of Jonason and Webster (2010) and the short impulse scale of the sadism O'Meara, Davies, and Hammond (7,23). This questionnaire examines the subject's severity of the four dark personality traits. The personality dark tetrad traits questionnaire has four parts and gives four scores for the scales: narcissism, Machiavellianism, anti-socialism, sadism, and an overall score. The score of each questionnaire scale is considered 1 to 7 based on the seven-point Likert response scale (strongly disagree= 1 to strongly agree= 7).

D) Dark Tetrad Personality Questionnaire: To measure Dark Tetrad, Yousefi and Imanzad's twenty-one-item questionnaire derived from The Dirty Dozen Scale of Jonason and Webster (2010) and the Short Sadistic Impulse Scale of O'Meara, Davies, and Hammond, were used. The results of four studies by the Jonason and Webster Scale creators showed that this scale has high and

acceptable validity. They obtained a test-retest reliability coefficient of 0.76 to 0.87 for the whole scale and subscales. In Iran, Yusefi and Piri analyzed the psychometric properties of this scale, showing a good construct scale in the Iranian sample. The test-retest coefficient of the questionnaire for the whole scale was 0.75, for Narcissism components, 0.79, for Machiavellianism 0.80, and for psychopathy was 0.66. The integral consistency of The Dirty Dozen Scale was measured using Cronbach's alpha coefficient, which was 0.77 for narcissism, 0.72 for Machiavellianism, 0.68 for psychopathy, and 0.76 for the whole scale. In order to measure the convergent validity of the Dirty Dozen Scale, 16-item Narcissistic Personality Inventory (NPI), Psychopathy Scale, a short version of the Minnesota Multiphasic Personality Inventory (MMPI), and Machiavellianism Scale (V) were used with high convergent validity. In the study by Yousefi and Imanzad, the Cronbach's alpha coefficient for the total score of the questionnaire was 0.74, and for three components was in the range of 0.68 to 0.79 (7,23).

E) McGee Psychological Capital Questionnaire (2011): To measure psychological capital in the present study, the twenty-six-question McGee (2011) questionnaire was used with four subscales of efficiency, hope, resilience, and life orientation, which measure the individual's psychological capital (24). The response scale to this questionnaire is a five-point Likert scale (strongly disagree= 1 to strongly agree= 5), and scores range from 1 to 130. McGee (2011) reported the Cronbach's alpha coefficients of 0.91, 0.86, 0.75, and 0.76 for self-efficacy, hope, optimism, and resilience, respectively, and 0.93

for the full psychological capital scale (24). In Iran, exploratory factor analysis with Varimax rotation on twenty-six questions of this questionnaire obtained the same four factors introduced by McGee and Cronbach's alpha, including self-efficacy, hope, resilience, and life orientation, with the values of 0.88, 0.86, 0.83, and 0.83, respectively (25).

Procedure

The method was such that after coordination with the board of directors of the Khorasan Razavi Artists Union and obtaining their consent, a questionnaire related to the research was given to the director of the Telegram channel of the union, and a questionnaire was requested to be completed in a message with a link in the message. This message was placed on the group channel ten times at intervals of one week, and when the statistical sample reached the quorum, the responses were collected and evaluated. The data were analyzed through SPSS statistical software to determine the correlation coefficients. In addition, AMOS, an analytical and statistical software, was also used to analyze the path and model of structural equations.

Results

In the present study, 260 people aged 29-47 years participated; 60% (157) were women, and 40% (103) were men. The average age of participants was 36.36 years, and the highest percentage of participants (47.3%) had a bachelor's degree.

This study examined the relationships of 3 scales with 12 subscales. Descriptive results related to the mean, standard deviation, minimum, and maximum score of the subjects on these variables were shown in Tables 1-3. The average score of the artists' psychological capital scale was 121.6, and the minimum and maximum scores were 61 and 156, respectively.

Table 1. Descriptive results of the psychological capital

Psychological Capital Scale	Standard deviation	Mean	Maximum	Minimum
Self-efficacy	4.7	34.8	42	20
Hope	5.8	33.4	42	14
Resilience	4.8	27.4	36	11
Optimism	5.3	26.0	36	11
The total score on the psychological capital scale	17.9	121.6	156	61

Table 2. Descriptive results of the personality dark tetrad traits scale

Personality dark tetrad traits scale	Standard deviation	Mean	Maximum	Minimum
Machiavellianism	4.5	8.3	28	4
Antisocial	4.4	12.1	28	4
Narcissism	4.9	21.3	28	4
Sadism	6.1	13.9	40	8
Total score of dark personality traits	13.6	55.6	98	24

*The average score of the artists' creativity scale is 0.82, and the lowest and highest scores are 31 and 112, respectively.

Table 3. Descriptive results of the creativity scale

Creativity scale	Minimum	Maximum	Mean	Standard deviation
Fluid	6	30	20.7	4.2
Flexibility	5	29	20.2	4.7
Initiative	6	30	19.5	4.5
Expansion	9	30	21.6	3.9
Total scale of creativity	31	112	82.0	13.8

Pearson correlation coefficients were calculated to provide a clear picture of the relationship between the variables. Table 4 shows the analysis

results performed in the correlation matrix of the research variables.

Table 4. Matrix of correlation coefficients of research variables

		1	2	3	4	5	6	7	8	9	10	11	12
1	Self-efficacy	1											
2	Hope	0.76**	1										
3	Resilience	0.65**	0.75**	1									
4	Optimism	0.58**	0.67**	0.58**	1								
5	Machiavellianism	-	-	-	-	1							
6	Anti-socialism	-	-	-0.17*	-0.22*	0.25**	1						
7	Narcissism	-	-	-	-	0.33**	0.19*	1					
8	Sadism	-	-	-	-	0.30**	0.37**	0.21*	1				
9	Fluid	0.45**	0.38**	0.35**	0.48*	-	-	-	-	1			
10	Flexibility	0.46**	0.41**	0.36**	0.44*	-	-	-	-0.18*	0.52**	1		
11	Initiative	0.28**	0.45**	0.33**	0.38*	-	-0.18*	-	-	0.72**	0.69**	1	
12	Expansion	0.34**	0.39**	0.25**	0.52*	-	-0.21*	-	-	0.63**	0.58**	0.68**	1

** Correlation is significant at the level of 0.01 ($P < 0.01$) * Correlation is significant at the level of 0.05 ($P < 0.05$)

Structural Equation Modeling

The structural equation model is one of the best and most variable analysis methods. Multivariate analysis is a quantitative analysis method based on its work and the analysis of several variables, which explain the relationship between independent and dependent variables in this model. The structural basis of the structural equation model is a mixture of two analyzes: confirmatory factor analysis and path analysis.

Confirmatory factor analysis

In the structural equation model, on the one hand, the degree of conformity of the research data and the conceptual model of the research will be examined to see if it has a suitable fit. On the other hand, the significance of the relationships in

this fitted model will be tested. In other words, confirmatory factor analysis indicates whether the markers chosen for the current structure or variable represent it or not and reports how accurately the chosen markers represent or fit the latent variable.

Path analysis

Therefore, structural equation modeling is necessary as this study has two independent and one mediator variables, and their effect should be examined on the dependent variable.

It should be noted that the model was prepared by AMOS statistical software. According to their relationships, Amos software, independent and dependent variables were fed into the theoretical analysis model.

Table 5. Path analysis results

Path	Beta	P
Dark personality traits -> Psychological capital	-0.41	0.011
Psychological Capital -> Creativity	0.47	0.011
Dark personality traits -> creativity	-0.32	0.011
Dark personality traits -> Psychological capital -> Creativity	-0.29	0.011

As shown in Table 2, the effect of personality dark tetrad traits on the creativity of artists mediated by psychological capital is -0.29, which has a significant inverse effect due to the significance level of less than 0.05. Therefore, it can be said that there is a significant relationship between personality dark tetrad traits and the creativity of artists with the mediation of psychological capital.

As shown in Table 5, the effect of personality dark tetrad traits on the creativity of artists is -0.32, which has a significant inverse effect due to the significance level of less than 0.05. Therefore, it can be said that there is a significant relationship between personality dark tetrad traits and the creativity of artists.

As shown in Table 5, the effect of personality dark tetrad traits on the psychological capital of artists is -0.41, which has a significant inverse effect due to the significance level of less than 0.05. Therefore, it can be said that there is a significant relationship between personality dark tetrad traits and the psychological capital of artists.

As shown in Table 5, the effect of psychological capital on the creativity of artists is 0.47, which has a positive and significant effect due to the level of significance less than 0.05. Therefore, it can be said that there is a significant relationship between psychological capital and artists' creativity.

Discussion

Based on the results, there is a significant relationship between personality dark tetrad traits and the creativity of artists with the mediation of psychological capital. The results of this research align with the research of (16,17,19,21).

Studies about creativity have often focused on the relationship between this variable with five personality traits (neuroticism, extraversion, openness, agreeableness, and conscientiousness). So far, the relationship between creativity and dark traits through psychological capital has not been considered. This little attention caused little research to be available in the field of the effect of two factors on creativity, and the possibility of comparison with similar research is limited. However, despite the limited access to research similar to this, in terms of theoretical orientation that the results of this study are in relative alignment with the following studies.

In a study by Karimi-Mehr on 365 employees of the Kermanshah governorate, 192 questionnaires were distributed among them. Carson's questionnaire was used to measure shared leadership and organizational commitment, the modified questionnaire of Mayer et al. to measure Collective Psychological Capital, and Zhou and George's scale to measure creativity. The results showed that psychological capital have a positive and significant relationship with creativity (16).

Qhomashi et al., in a study on 384 adolescents of 613220 adolescents in Isfahan through Luthans's psychological capital questionnaire, found that an increase in psychological capital components and strengthening the mental spirit of individuals can reduce the social problem of crime in society (26).

Haroon-Rashidi and Kazemian-Moghadam studied female schoolmasters of Dezful schools and demonstrated that high psychological capital increases the manager's creativity in an organization. Therefore, if the context of creativeness is provided, the process of organization performance will improve, and the less psychological capital of managers in this interaction, the less creativity among managers (17). In a study by Einipour and Aghaei on all managers of Amin Police Academy, they concluded that the style of jihad management based on psychological capital is transformational and causes organization

creativity and innovative behavior that become identified with evident characteristics of presenting an idea for solving problems in an organization, flexibility, spirituality, and passing traditional and tedious bureaucracy (27).

Agrawal and Farndale showed that psychological capital and safety have a positive and significant relationship with creativity. The statistical population of this study was employees of a large pharmaceutical company (13180 people), 562 of whom were selected by random cluster sampling, and 505 answered all questions. In addition, a questionnaire measuring the efficiency of the working system by Takeuchi's HRM21, Lepak and Snell's Human Resource Architecture Model, and Bauer's questionnaire of creativity were used (21).

Iraji Rad and Malekzadeh assessed 640 undergraduate and postgraduate students of Samangan University in 2016-2017, 240 of them were selected by Cochran formula. Data were collected by questionnaires of Luthans' Psychological Capital, Hermans' Achievement Motivation, and Abedi's Creativity (a summary of Torrance Creativity Questionnaire). They concluded that universities could increase achievement motivation and creativity by raising students' psychological capital (28).

Kowalski et al. studied three hundred fifty-nine volunteers in Canada and concluded that the Big Five Traits significantly negatively correlated with the dark tetrad personality (29).

Sepahvand et al. assessed 196 employees of the Telecommunication Company of Lorestan. Data were collected using standard questionnaires of Intrinsic Motivation by Choi et al., Luthans's Psychological Capital, and Abedi's creativity and analyzed using Structural Equation Modeling (AMOS) and SPSS software. They indicated that at a 95% confidence level, intrinsic motivation and psychological capital positively and significantly affect employees' creativity. On the other hand, psychological capital plays a role in moderating the effect of intrinsic motivation on employees' creativity (30).

Hosseini and Dashtinejad in a study conducted on 364 students (215 girls and 149 boys) of Persian Gulf University demonstrated that creativity can be considered a syndrome or set influenced by the role of personality and motivational/cognitive indicators (31).

Furnham et al. assessed two hundred seven students of London of different nationalities using Batey's BCIB Creative Achievement, Costa and McCrae's NEO, the Obsessive-Compulsive Inventory-Revised (OCI-R), and Ames et al.'s Narcissism NPI-16, found that extroversion and openness positively correlate with creativity and a positive correlation with narcissism only in self-reporting (32). The lack of research on the reasoned and scientific effects of dark personality traits and psychological capital on creativity in Iran and the world was one limitation that caused the current study results to contrast with other research. Limitations of study resources due to the closure of libraries (during the Corona era), the limitation of digital books, and restrictions on new foreign articles that were not free and open access were also severe limitations of this research. It is suggested that by creating the needed conditions, necessary exercises, training, and making aware of being implemented in official and safe centers to blur the dark traits of personality in people, these characteristics are highlighted and influential, as well as raising psychological capital. It should also be pursued and continued through skill training in self-knowledge and raising psychological capital to increase creativity and psychological capital in

people. Because of the position of creative concepts in the collective unconscious, investigating the relationship between research components and gender (femininity-masculinity) can lead to significant results.

Conclusion

The findings of the relationship between the dark tetrad personality and the creativity with the role of psychological capital revealed that the dark tetrad personality with the role of psychological capital has a converse and significant relationship with creativity. It means that the dark tetrad personality among people is related to the less their psychological capital and decreased their creativity rate.

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