Original Article

The role of personality traits and perceived parenting styles in predicting cognitive development

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Abstract

Introduction: Cognitive development continues into adulthood in which the way of thinking in a person changes from an absolute state to a relativistic state and then a dialectical state. This growth and the stages expected to be achieved can be influenced by the individual characteristics or environment is his/her life. The aim of this study was to describe the associations between personality factors and perceived parenting styles with the stages of cognitive development.

Methods: 381 students (192 females, 189 males) from Hakim Sabzevari University in Khorasan Razavi province of Iran were selected by a categorical cluster random sampling. The participants of the study filled out 3 questionnaires: Parenting style inventory 2 (PSI-II), a short form of NEO personality inventory (NEO -FFI) and social paradigm belief inventory (SPBI). The research was of a descriptive and correlational type.

Results: The results of multiple regression indicated that personality traits and perceived parenting styles could significantly predict 10% of the variance of dialectical thinking. Openness, agreeableness, and conscientiousness could positively predict dialectical thinking but neuroticism, responsiveness, and neglect predicted dialectical thinking negatively.

Conclusion: Overall the results showed that personality traits and perceived parenting styles can predict the current stage of cognitive development of a person.

Declaration of Interest: None.

Key words: Personality Traits, Parenting Styles, Cognitive development.

Introduction

Based on the work of Jean Piaget, a number of researchers have suggested a different and more mature level of cognitive development which extends beyond formal operational level and reaches its optimal level
only during adulthood (1-3). It is not unusual for adult cognitive development to be defined as a post-formal thinking, the concept of thinking which is equivalent to the relativistic-dialectical thinking. Post- formal thinking is assumed to be the highest stage of thinking in adulthood (4). The best distinction between formal and post-formal thinking is in their emphasis on stability versus change and dependence versus independence (5). A formal operational thinker, as one of his main characteristics, believes in absolute truths; however, a post-formal thinker perceives the reality much more relativistic and dialectical (6). It is believed that relativistic and dialectical thinking are more realistic in nature than the other kinds of thinking because despite all the contradictions that exist in life having these kinds of thinking helps people accept life more easily (5). The post formal stage of adulthood has the following main features (7): 1. Understanding the relativity of different formal systems through life experiences and gaining the ability to take conflicting views into account 2. Becoming aware of the inner relationships in all experiences and the inevitability of change and transformation. 3. Making choices with a commitment to a particular chain of actions.

Life is a continuous process of adaptation to internal conditions in response to external requests and the necessity of these adaptations is

due to changes occurring inside the organism and in the environment. Maintaining the health of identity under this dynamic process could be a stressful job which needs cognitive structures that cannot be found in the formal operational stage. This inability may lead to the experience of anxiety and stress in a person; particularly the kind of stress that results from a sense of hopelessness and frustration in controlling a reality which is changing. A dialectical analysis of daily situations like falling in love, separation, inter-generational disagreements with parents, etc. (situations that may be considered threatening) not only prevent formal analysis but also offers alternatives for those problematic perspectives that are destructive for the person and others (8). As Haviland and Kramer (9) analyzing Anne Frank's diary found some evidence which supports the emergence of absolute thinking in early adolescence and subsequent development of relativistic beliefs. Some studies using cross-sectional and interview design provided evidence for a progression of age-related dialectical reasoning in middle age and old age (10). Thinking states like absolute, relativistic and dialectical thinking have a different usage in solving real-life problems such as the formation and differentiation of one's identity (9) and dealing with role conflict (11). They are also associated with specific patterns of affect and affect regulation (9).

The stage of cognitive development can be affected by the person's individual characteristic or his environment.

Personality traits can be taken into consideration for studying individual haracteristics. One model of personality traits is five-factor personality model which is composed of a hierarchical organization of features including five factors or fundamental dimensions of the personality. These factors are often called "Big Five" and different fields of psychology agreed on them. During the past decades, Costa and McCrae (12) and McCrae and Costa (13) introduced this model as a general framework for studying different normal personality traits in lexical researches. The five factors include: neuroticism (the tendency to experience negative emotions and psychological pressure in response to stress), extraversion (the degree of sociability, positive excitement and public activity), openness to experience (the level of curiosity, independent judgment and conservatism),conscientiousness (a person's self-control level in planning and organization), and agreeableness (altruism, empathy and cooperative intentions) (14,15). Zhang (16,17) studied the relationship between thinking styles and personality types in the theory of Holland (18,19), while some other studies investigated the relationship between Big Five personality traits and thinking styles (20-22), all of the above-mentioned studies indicated an undeniable relationship between Big Five personality traits and thinking styles. The results of a study by Zhang and Huang (20) showed that more creative and complex thinking styles (type I of thinking styles) were associated with extraversion and openness to experience, while more norm-favoring thinking styles and easier thinking styles (type II of thinking styles) had a relationship with neuroticism. Also Zhang (23), in his study on the relationship between cognitive development and thinking styles, found that people in the relativistic thinking stage tend to use type I and type III of thinking styles more than people with other styles of thinking. Considering these two studies it seems more likely that extraversion and openness to experience can predict higher levels of cognitive development, such as relativistic and dialectical thinking while neuroticism may predict lower levels of cognitive development like mechanistic and formal thinking.

In the case of environmental factors that can affect cognitive development, family and parenting styles are two influential factors. Today the most widely used category of parenting types among researchers has been introduced by Maccoby and Martin (24), based on Baumrind's work (25,26). They classified parenting styles based on two dimensions: responsiveness (warmth) and demandingness (control). Responsiveness is determined by compassion, acceptance and caring and demandingness is determined by restraint, interference, and discipline; which the interaction of these two makes four types of parenting styles: authoritative parenting style (high on both responsiveness and demandingness), authoritarian parenting style (high on

demandingness but low on responsiveness), indulgent parenting style (high on responsiveness but low on demandingness), and neglectful parenting style (low on both responsiveness and demandingness) (27). The results of a study about the relationship between perceived parenting styles and thinking styles indicated that there is a positive relationship between acceptance/involvement dimension or responsiveness and creative thinking styles (type I of thinking styles) and thinking styles that could be creative or norm-favoring (type III of thinking styles) (23). Another study, which investigated the relationship between thinking styles and cognitive development indicated that people in higher levels of cognitive development tend to use a wider range of thinking styles than those in lower levels; which means people at relativistic thinking level tend to use more Type I and Type III thinking styles (23). Common variable in these two studies was thinking style and somehow the relationship between cognitive development and perceived parenting styles can be deduced by the common variable and it can be concluded that people who feel acceptance from their parents (i.e. those whom their parents are more responsive and have authoritarian or permissive style) would be at higher levels of cognitive development such as relativistic or dialectical thinking than those who do not perceive responsiveness. According to the above-mentioned studies, and the relationship between the variables of the study, the purpose of this study was to examine the role of the big five personality traits and the factors of perceived parenting style in predicting one's cognitive development.

Methods

This study was of a descriptive and correlational type and the means of data collection were questionnaires. Statistical analyses were used to screen the data and to investigate the hypothesis of the study. Pearson correlation coefficient and multiple regressions were used to describe the association between study variables and to show if independent variables can predict the stage of cognitive development significantly. Participants of the study were 381 students of Hakim Sabzevari University in Khorasan Razavi province of Iran who were selected by applying a categorical cluster random sampling method. 192 (50.4%) of the participants were males and 189 (49.6%) were females. The age of the participants ranged from 18-43 (M= 22.21, SD= 3.37).

NEO Five Factor Inventory (NEO-FFI): The short form of NEO PI-R is the NEO Five-Factor Inventory, which has been made by Costa and McCrae (15). NEO-FFI includes 60 items, which each 12 items measure one of the 5 factors of neuroticism, extraversion, openness, agreeableness and conscientiousness and each item is evaluated on a Likert scale of 1 to 5. Short form and long form of the questionnaire showed 0.68 correlation and good internal reliability (14). Persian version of NEO-FFI showed acceptable reliability and validity and Cronbach's alphas of mentioned factors were 0.76, 0.63, 0.31, 0.48, 0.81, respectively (28).

Parenting Style Inventory II (PSI-II): Parenting Style Inventory is designed by Darling and Toyokawa (29) to measure parenting styles. Three subscales in this tool measure demandingness, responsiveness and autonomy granting. This tool includes 15 items scored on 5 points Likert scale. Cronbach's alphas for demandingness, responsiveness, and autonomy granting factors were 0.72, 0.74, 0.75 respectively (29). In a factor analysis of Persian version of the instrument, a new factor emerged instead of named "Neglect". Cronbach's alphas were 0.65 for the whole scale and for each of demandingness, responsiveness and neglect 0.75, 0.53, 0.53, respectively (30).

Social Paradigm Belief Inventory (SPBI): A Likert version of the questionnaire with 56 items consists of 4 subscales named formistic thinking, mechanistic thinking, relativistic thinking and dialectical thinking scores on a six-point Likert scale. Cronbach's alphas for mentioned factors were 0.63, 0.62, 0.83 and 0.84, respectively (8).

In a factor analysis of Persian version of the instrument, two more factors emerged, which were culture-related factors called "conservative" and "collective" thinking according to the content of their items. Cronbach's alphas for each subscale of conservative thinking, formistic thinking, collective thinking, mechanistic thinking,

relativistic thinking and dialectical thinking were 0.71, 0.55, 0.56, 0.59, 0.57, 0.54, respectively (30).

Results

to investigate the relationship between personality traits and perceived parenting styles with cognitive development levels, Pearson correlation analysis was used and results showed a significant positive relation between conservative thinking and neglect (r=0.12, p<0.05) and significant negative relations between conservative thinking with openness (r=-0.18, p<0.01) and agreeableness (r=-0.13, p<0.05). Collective thinking is associated with extraversion (r=0.16, p<0.01), agreeableness (r=0.12, p<0.05), conscientiousness (r =0.11, p<0.05) and responsiveness (r =0.12, p<0.05) positively. Formistic thinking is associated with neglect (r=0.13, p<0.05) positively and with openness (r=-0.17, p<0.01) and agreeableness (r=-0.18, p<0.01) negatively. There is a significant positive relationship between the mechanistic thinking and conscientiousness (r=0.12, p<0.05). Relativist thinking is associated with agreeableness (r=0.11, p<0.05) positively and with neuroticism (r=-0.16, p<0.01) and neglect (r=-0.13, p<0.05) negatively. Dialectical thinking is associated with openness (r=0.12, p<0.05), agreeableness (r=0.17, p<0.05), conscientiousness (r=0.16, p<0.05) and demandingness (r=0.15, p<0.05) positively and with neuroticism (r=-0.17, p<0.05) negatively.

Standard multiple regressions were employed to investigate the role of personality traits and perceived parenting styles in predicting cognitive development levels. Tables 1 to 5 indicate the results of the regression analyses.

Table 1: Regression analysis of predicting conservative thinking by personality traits and parenting styles

Variable	B	t	Sig	R	R^2
Neuroticism	0.00	0.04	NS	0.28	0.09
Extraversion	0.04	0.76	NS		
Openness	-0.18	3.66	0.0001		
Agreeableness	-0.12	2.28	0.05		
Conscientiousness	-0.05	1.00	NS		
Responsiveness	-0.14	2.463	0.05		
Neglect	0.13	2.36	0.05		
Demandingness	-0.03	0.68	NS		

Table 1 shows that personality traits and parenting styles with multiple correlation coefficients of 0.28 can predict 9% of the conservative thinking variance. With regard to the beta coefficients just openness, agreeableness and responsiveness could predict conservative thinking negatively, and neglect could predict it positively.

Table 2: Predicting collective thinking by personality traits and parenting styles

Variable	B	t	Sig	R	R^2
Neuroticism	0.07	1.29	NS	0.26	0.07
Extraversion	0.14	2.27	0.05		
Openness	-0.11	2.20	0.05		
Agreeableness	0.07	1.24	NS		
Conscientiousness	0.07	1.24	NS		
Responsiveness	0.11	2.00	0.05		
Neglect	0.06	1.13	NS		
Demandingness	-0.10	2.00	0.05		

Table 2 shows that personality traits and parenting styles with multiple correlation coefficients of 0.26 can predict 7% of the collective thinking variance. With regard to the beta coefficients just extraversion and responsiveness could predict collective thinking positively, and openness and demandingness could predict it negatively

Table 3: Predicting formistic thinking by personality traits and parenting styles

Variable	B	t	Sig	R	R^2
Neuroticism	0.07	1.28	NS		
Extraversion	0.10	1.70	NS		
Openness	-0.18	3.63	0.0001		
Agreeableness	-0.17	3.00	0.01	0.28	0.08
Conscientiousness	-0.02	0.36	NS		
Responsiveness	0.05	0.89	NS		
Neglect	0.10	1.81	NS		
Demandingness	-0.04	077	NS		

Table 3 shows that personality traits and parenting styles with multiple correlation coefficients of 0.28 can predict 8% of the formistic thinking variance. With regard to the beta coefficients, just openness and agreeableness could predict collective thinking positively.

Regression analysis of predicting mechanistic thinking by personality traits and parenting styles showed that personality traits and parenting styles couldn't predict mechanistic thinking significantly.

Table 4: Regression analysis of predicting relativistic thinking by personality traits and parenting styles

Variable	B	t	Sig	R	R^2
Neuroticism	-0.15	2.65	0.01		
Extraversion	-0.02	0.38	NS		
Openness	0.03	0.74	NS		
Agreeableness	0.06	1.13	NS	0.24	0.06
Conscientiousness	0.05	1.01	NS		
Responsiveness	0.17	2.92	0.01		
Neglect	-0.11	1.99	0.05		
Demandingness	0.07	0.07	NS		

Table 4 shows that personality traits and parenting styles with multiple correlation coefficients of 0.24 can predict 6% of the relativistic thinking variance. With regard to the beta coefficients, just neuroticism and neglect could predict relativistic thinking negatively, and responsiveness could predict it positively.

Table 5: Regression analysis of predicting dialectical thinking by personality traits and parenting styles

Variable	B	t	Sig	R	R^2
Neuroticism	-0.16	2.81	0.01		
Extraversion	-0.07	1.18	NS		
Openness	0.13	2.67	0.01		
Agreeableness	0.11	2.05	0.05	0.31	0.10
Conscientiousness	0.11	2.04	0.05		
Responsiveness	0.16	2.91	0.01		
Neglect	-0.12	2.27	0.05		
Demandingness	-0.02	0.48	NS		

Table 5 shows that personality traits and parenting styles with multiple correlation coefficients of 0.31 can predict 10% of the dialectical thinking variance. With regard to the beta coefficients just openness and agreeableness, conscientiousness and responsiveness could predict dialectical thinking positively, and neuroticism and neglect could predict it negatively.

Conclusion

The results of the study indicated that openness and agreeableness could predict conservative thinking negatively and neglect and responsiveness could predict it positively. The prediction of conservative thinking, which due to the content of its items is like formistic thinking, by openness is consistent with Zhang and Hung's (17) and Zhang's (23) findings

which reveal that people with higher levels of openness are higher in their levels of cognitive development, such as relativistic and dialectical thinking. Therefore, people with lower levels of openness think more conservatively because they have no willing for new experiences and they believe in special principles. With regard to the prediction of conservative thinking by agreeableness it should be pointed out that this result is probably because of the lack of agreeableness trait in the person, which means that the person avoids having relations with different people and that makes the person more isolated and as a result, it brings about rigid and absolute beliefs in him/her. Positive prediction of conservative thinking by neglect with items which measure the inattention of parents towards their children and conversely the negative prediction of conservative thinking by responsiveness, are consistent with the findings of Fan and Zhang (27) and Zhang (23) in which they reported that people who perceived more acceptance and attention from their parents are in higher levels of cognitive development, like relativistic or dialectic thinking.

The results also indicate that the collective thinking was predicted by extraversion and responsiveness positively and by openness and demandingness negatively. Positive prediction of collective thinking by extraversion is consistent with the definition of extraversion, being socially active and having public activities (Costa and McCrae, 14,15), which means extrovert people have social interest and tend to be in contact with other people, so they have more collective spirit for being able to act and cooperate with others and for keeping these social connections they tend to think more collectivistic instead of individualistic. To explain the prediction of collective thinking by responsiveness it can be said that people who perceived more attention from their parents and find their parents more responsive, learn to respond to other people accordingly; hence, they are less self-centered and more collectivistic. Negative prediction of collective thinking by openness can be explained in this way that people who are less open to experiences have absolute beliefs and considering that collective thinking is a composition of absolute and relativistic thinking this result seems reasonable. Negative prediction of collective thinking by demandingness means that people, who perceive more demand from their parents with respect to the high expectation of other people from them, avoid social connections because they think making connections may face them with so many expectations.

Results also showed a significant negative prediction of formistic thinking by openness and agreeableness which is consistent with the findings of Zhang and Huang (17) and Zhang (23) in which openness predict higher levels of cognitive development because openness is defined by accepting new ideas and experiences, so when someone is low in openness he/she will evaluate ideas and experiences in a rigid manner which makes him/her think in a formistic way. In the case of negative prediction of formistic thinking by agreeableness, like conservative thinking, people with low agreeableness, because of their lack of connection with different ideas, gain inflexible beliefs.

Positive prediction of relativistic thinking by responsiveness and negative prediction of relativistic thinking by neglect are consistent with Fan and Zhang's (27) and Zhang's (23) findings in which they maintained that people who perceived more acceptance and attention from their parents were in higher levels of cognitive development like relativistic and dialectical thinking. The relativistic thinking was also predicted by neuroticism negatively which this result is consistent with Zhan and Hung's (17) and Zhang's (23) findings in which they reported that neuroticism predicted lower levels of cognitive development like formistic thinking.

The dialectical thinking was predicted by openness, agreeableness, conscientiousness and responsiveness positively and by neuroticism and neglect negatively. Negative prediction of dialectical thinking by neuroticism is consistent with the results of Zhan and Hung (17) and Zhang (23) in which they found that neuroticism predicted lower levels of cognitive development. Also, positive prediction of dialectical thinking by openness is consistent with results of Zhan and Hung (17) and Zhang (23) in which higher levels of cognitive development such as dialectical thinking was found to be associated with openness. Positive prediction of dialectical

thinking by agreeableness can be interpreted in this way: Considering that agreeableness is known by empathy and altruism, agreeableness can help reducing the person's prejudice in accepting people with different beliefs; in addition, people with high agreeableness let their conservative guards down by accepting other people and that results in facing them with various beliefs. Consequently, the person realizes that not only contradiction is not a bad thing but also it is an essential part of all phenomena, which even cause growth, and development of dialectical thinking in the person. In the case of positive prediction of dialectical thinking by conscientiousness, it can be said that people with high conscientiousness who are goal-orientated and purposeful accept contradictions to reach their goals. They may even think of those contradictions as some valuable tools that can help them achieve their goals. Also, negative prediction of dialectical thinking by neglect and its positive prediction by responsiveness is consistent with the works of Zhang (27) and Zhang (23) in which they reported inattention and lack of acceptance and warmth perception from parents are associated with lower levels of cognitive development and vice versa.

Overall, the results indicate that extraversion, openness, agreeableness, conscientiousness and perception of acceptance and warmth and in other words responsiveness of the parents can cause cognitive development and achievement of higher levels of cognitive development such as relativistic and dialectical thinking in adulthood. In contrast, being low in aforementioned features results in achievement of lower cognitive development levels and remaining at those low levels, like absolute thinking. Results also showed that neuroticism and perception of neglect from parents result in lower levels of cognitive development and remaining at those lower levels, like absolute thinking. According to the results, to increase cognitive development people's personality traits should be taken into account, and it should be tried to nurture positive personality traits like extraversion, openness, agreeableness and conscientiousness in children and emphasize on them and also behave children with warmth and acceptance and be more responsive to their needs to provide them a psychological environment in which they can think and express themselves freely. This environment in which children are encountered with different ideas and are encouraged to accept those different ideas helps them increase their cognitive development. Higher levels of cognitive development such as relativistic and dialectical thinking as mentioned in the literature make people immune from challenging with many internal and external contradictions and help them face with unpleasant feeling and events not avoiding them. Easily accepting other people's feelings, events, beliefs, and statements that are neither positive nor negative brings people a peaceful mind and a better quality of life. There was also some limitation, which means that generalization of the results should be with cautious. One limitation was about sample, which was only students, and the numbers were low. The other limitation was about self-report measures, which can bias the results. The other limitation was method being cross-sectional while when development is involved it is better to use a longitudinal method.

References

1. Riegel KF. Dialectic operations: The final period of cognitive development. Hum Dev. 1973;16(5):346-70.
2. Meacham JA. A dialectical approach to moral judgment and self-esteem. Hum Dev. 1975 18(3):159-70.
3. Basseches M. Dialectical schemata. Hum Dev. 1980;23(6):400-21.
4. Kallio E. Integrative thinking is the key: An evaluation of current research into the development of adult thinking. Theor Psychol. 2011 Dec;21(6):785-801.
5. Kramer DA. Post-formal operations? A need for further conceptualization. Hum Dev. 1983;26(2):91-105.
6. Leadbeater B. The resolution of relativism in adult thinking: Subjective, objective, or conceptual? Hum Dev. 1986;29(5):291-300.
7. Commons ML, Richards FA, Kuhn D. Systematic and meta systematic reasoning: A case for levels of reasoning beyond Piaget's stage of formal operations. Child Dev. 1982:1058-69.

8. Kramer DA, Kahlbaugh PE, Goldston RB. A measure of paradigm beliefs about the social world. J Gerontol. 1992;47(3): 180-9.
9. Haviland JM, Kramer DA. Affect-cognition relationships in adolescent diaries: The case of Anne Frank. Hum Dev. 1991;34(3):143-59.
10. Kramer DA, Melchior, J., & Levine, C. B. Age-relevance of content material on relativistic and dialectical reasoning. 17th Annual Symposium of the Jean Piaget Society; Philadelphia, 1987.
11. Kramer DA, Melchior J. Gender, role conflict, and the development of relativistic and dialectical thinking. Sex Roles. 1990;23(9-10):553-75.
12. Costa PT, McCrae RR. The NEO personality inventory. Psychol Assess Res. 1985.
13. McCrae RR, Costa Jr PT. Conceptions and correlates of openness to experience. In R. Hogan, J. Johnson, & S. Briggs (Eds), Handbook of personality psychology (pp. 825-847). San Diego, CA: Academic Press: 1997.
14. Costa PT, McCrae RR. NEO-PI/FFI manual supplement for use with the NEO Personality Inventory and the NEO Five-Factor Inventory. Psychol Assess Res; 1989.
15. Costa PT, Mac Crae RR. Neo Personality Inventory-Revised (NEO PI-R). Odessa, FL: Psychol Assess Res; 1992.
16. Zhang LF. Thinking styles and personality types revisited. Pers Indiv Differ. 2001;31(6):883-94.
17. Zhang LF, Huang J. Thinking styles and the five-factor model of personality. Eur J Pers. 2001;15(6):465-76.
18. Holland JL. Making vocational choices: A theory of careers. Prentice Hall; 1973.
19. Holland JL. Making vocational choices: A theory of vocational personalities and work environments. Psychol Assess Res; 1997.
20. Zhang L, Huang J. Thinking styles and the five-factor model of personality. Eur J Pers. 2001;15(6):465-76.
21. Zhang L-f. Measuring thinking styles in addition to measuring personality traits? Pers Indiv Differ. 2002;33(3):445-58.
22. Zhang L-F. Thinking styles and the big five personality traits. Educ Psychol. 2002;22(1):17-31.
23. Zhang L-F. Thinking styles and cognitive development. J Genet Psychol. 2002;163(2):179-95.
24. Maccoby EE, Martin JA. Socialization in the context of the family: Parent-child interaction. Handbook of child psychology: formerly Carmichael's Manual of child psychology/Paul H. Mussen, editor. 1983.
25. Baumrind D. Effects of authoritative parental control on child behavior. Child Dev. 1966 Dec 1:887-907.
26. Baumrind D. Current patterns of parental authority. Dev Psychol. 1971;4(1p2):1.
27. Fan J, Zhang LF. The role of perceived parenting styles in thinking styles. Learn Indiv Differ. 2014; 32:204-11.
28. NILFOROOSHAN P, AHMADI SA, FATEHIZADEH M, ABEDI MR, GHASEMI V. Studying the hierarchical structure of personality using the NEO-Five Factor Inventory. Q J *Psychol* Stud, 7 (4):107-130. (Persian)
29. Darling N, Toyokawa T. Construction, and validation of the parenting style inventory II (PSI-II). Revised Edition, from http://inside .bard.edu/academic/special pro/darling/lab/psiii.pdf.
30. Mehrad Sadr, M. Interactional model of personality factors and perceived parenting style in predicting emotion regulation mediating by cognitive development. Thesis, Azarbaijan Shahid Madani University, Tabriz, Iran. 2015. (Persian).