10.62663/pjpprp.v1i1.158
Pakistan Journal of Professional Psychology: Research and Practice Vol. 15, No. 1, 2024

Family Functioning, Cognitive Autonomy and Psychological Adjustment In Adolescents

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The present study aimed to ascertain the relationship among family functioning, cognitive autonomy and psychological adjustment in adolescents. Correlational research design was used in the study. It was hypothesized that there would likely to be a relationship among family functioning, cognitive autonomy and psychological adjustment and that family functioning and cognitive autonomy would predict psychological adjustment in adolescents. It was also hypothesized that cognitive autonomy would likely to moderate relationship between family functioning and psychological adjustment in adolescents. The study sample consisted of 296 participants with an age range of 14-18 years, mean age of 17.29 including 159 males and 137 females, recruited by using convenient sampling strategy. Online data collection was carried out via Google forms by reaching out to the teachers of public and private institutions. The General Functioning subscale of Family Assessment Device, the Cognitive Autonomy and Self-evaluation inventory, and the Personality Assessment Questionnaire were used to determine family functioning, cognitive autonomy, and psychological adjustment, respectively, in adolescents. Pearson Product Moment Correlation, Hierarchical Regression, and Hayes Process Model were used to analyze the data. Results revealed a significant positive relationship among family functioning, cognitive autonomy and psychological adjustment. Further findings revealed that family functioning was a significant predictor of psychological adjustment in adolescents, however, cognitive autonomy was not found as a moderator in the current study. The findings will provide insight about the parents related to adjustment issues of adolescents and mental health professionals to carry out programs related to effective parenting and healthy family functioning.

Keywords: adolescent; cognitive autonomy; family functioning; psychological adjustment

Adolescence is a transition phase in which changes occur at the biological, psychological, cognitive and social level, which can possibly be a source of distress and maladjustment among adolescents and can further create challenges for families too (Casey, Duhoux, & Malter Cohen, 2010). According to the World Health Organization (WHO, 2020), adolescence is defined as a period of a transitional development which ranges between childhood and adulthood. Adolescents are individuals that fall between ages 10 and 19 years (Csikszentmihalyi, 2020). It is important for adolescents to learn autonomous skills and use them to improve their lives and become psychologically well-adjusted in their surroundings. Hence, the aim of the present study is to explore the relationship among family functioning, cognitive autonomy, and psychological adjustment in adolescents.

Family is a unique psychosocial structure in which members pursuit their goals and whole structure functions in multidirectional pattern to restore the homeostasis (Becvar & Becvar, 2009; Goldenberg, 2005). Family functioning deals with the process of interaction among family members and their way of treating one another with respect to different dimensions e.g., communication, problem solving, clear roles, traditions and flexibility (Openshaw, 2011; Winek, 2010). When there is adaptive family functioning, positive sense of well-being is promoted which leads to less psychological issues and create a sense of togetherness (Francisco, Loios & Pedro, 2015; Vliem, 2009).

The McMaster family functioning theory, proposed by Epstein, Bishop, and Levin (1978), states that the basic function of the family is to allow family members to grow on physical, psychological, social and other factors by providing them appropriate environmental conditions. This theory divides family functions into six tasks to promote the development of

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overall family and those six tasks are; communication, affective response, behavior control, roles, affective involvement and problem solving (Tsamparli, Petmeza, McCarthy, & Adamis, 2018).

Autonomy in adolescents can also be developed through their relationships within families (Mulyati & Martiastuti, 2019). Emotional and behavioral autonomy have been used as the constructs in researches in previous years, whereas cognitive autonomy has received less scholarly attention (Fischback, 2018; Beckert, 2007). Cognitive autonomy is defined as an individual's ability to have independent beliefs, attitudes and thoughts. The areas that come under this construct are; decision making, comparative validation, evaluative thinking, self-assessing, and voicing opinions (Lee, Beckert, & Goodrich, 2010; Beckert, 2007).

Psychological adjustment is defined as a process during which human beings and all other animals try to maintain a harmony and equilibrium between their own desires and obstacles by their environments (Limtrakul, Louthrenoo, Narkpongphun, Boonchooduang, & Chonchaiya, 2017). The problems arise when there is a conflict between meetings one's own need and the demand of the situation and results in maladjustment (Shorter, 2020; Inguglia, Liga, Coco & Cricchio, 2014; Anderson, Novak, & Keith, 2002). Psychological adjustment results when there will be a complete resolution of the psychosocial conflicts in which individual gets involved during his whole life (Limtrakul et al., 2017).

Self-determination theory introduced by Deci and Ryan (1985), suggests that there are three universal and basic psychological needs of humans which are important to be met for the better psychological adjustment and well-being of an individual. These three universal psychological needs which are relatedness, competence and autonomy, work together for enhanced optimal development and well-being (Deci & Ryan, 2012). The researchers have suggested that personal growth and well-being can be fostered and influenced through relationships and social interactions with others (Deci & Ryan, 2012; Riley, 2016).

Adolescents strive for autonomy and independence in this period (Hakvoort, Bos, Van & Hermanns, 2010). Autonomy in adolescents can be developed through their relationships within families (Lee & Beckert, 2012; Haase, & Silbereisen, 2011; Russell & Bakken, 2002). Studies have indicated the relationship among autonomous and positive attachments with family, adolescent's psychological adjustment and autonomy. Positive and healthy family functioning was found to be associated with better mental health of adolescents. Moreover, autonomy support accompanied with healthy family patterns were predicting healthy adjustment in adolescents (Bano, Yousaf, & Batool, 2016; Kunz & Grych, 2013; Fousiani, Petegem, Soenens, & Vansteenkiste, & Chen, 2013; Stewart et al., 2003).

The current study aimed to investigate the relationship among family functioning, cognitive autonomy and psychological adjustment in adolescents and to explore the predictive role of family functioning and cognitive autonomy on psychological adjustment in adolescents. This study also aimed to investigate the moderating effect of cognitive autonomy between family functioning and psychological adjustment in adolescents.

Method

This study was quantitative and correlational research design was used to investigate the relationship among family functioning, cognitive autonomy and psychological adjustment in adolescents. The study sample consisted of 296 participants aged 14-18 years (M = 17.29, SD = ± 0.87), including 159 males and 137 females. The sample of N=296 adolescents was calculated through G-power analysis. Participants were recruited through online data collection using Google forms considering the pandemic situation. Teachers of some public and private institutions were approached for this purpose. Teachers further approached their students online and shared Google forms with them. Adolescents of 14-18 years of age and those who were currently enrolled in educational institutions were selected for the study.

Assessment Measures

The demographic information sheet was developed in native language i.e., Urdu, to obtain information about each participant's demographics including; gender, age, education, siblings, birth order, family members, family system, home environment, and relationship with mother and father.

The General Functioning subscale of Family Assessment Device **(**Epstein et al., 1983) is a 12-items subscale of Family Assessment Device (FAD), in which half of the items reflect healthy family functioning and other half items reflect unhealthy functioning was used to assess family functioning in adolescents. The items are rated on 4-point scale of 1 (strongly agree) to 4 (strongly disagree). Six negatively worded items are to be reversed. The total average score ranges between 1.0 (best functioning) to 4.0 (worse functioning) with a cut off score of 2.0 (Epstein et al., 1983). Tsamparli et al. (2018) found Cronbach's alpha of .85 in their study and for current study it was found to be .67. The Urdu translated version of the scale was used for the study.

The Cognitive Autonomy and Self-Evaluation (CASE; Beckert, 2007) is a 27-item inventory which was used to examine levels of cognitive autonomy under five areas that include; evaluative thinking, self-assessing, comparative validation, decision making, and voicing opinions in adolescents. The tool was translated into the native language i.e., Urdu for the purpose of convenience for the adolescents. MAPI guidelines were followed to translate the scale after taking permission from the respective author. The scoring is done on a 5-point Likert scale, which ranges between 1 (never or strongly disagree) to 5 (always or strongly agree) with reverse scoring of some items. Beckert (2007) found Cronbach's alpha of .85 in one study and .76 was found for the current study.

The Personality Assessment Questionnaire (PAQ; Rohner & Khaleque, 2005) is a 42-item self-report questionnaire which was used to measure psychological adjustment in adolescents with respect to seven personality dispositions; negative worldview, dependency, self-adequacy hostility/aggression, dependency, self-esteem, emotional stability and emotional responsiveness. It is measured on a 4-point Likert-like scale where, 4 = almost always true; 3= sometimes true; 2 = rarely true; and 1= almost never true. By summing the scores of seven subscales and with the reverse scoring of some items, an overall profile of an individual's psychological adjustment is achieved. The lowest possible score is 42 (depicts excellent psychological adjustment), and the highest possible score is 168 (shows serious psychological maladjustment). This scale has found to have a high reliability in previous researches, as reported Cronbach alpha value of 0.86 (Rohner & Khaleque, 2005). Cronbach's alpha of PAQ was found to be 0.83 and was found to be a reliable measure for the sample of the present research. The Urdu translated version of the scale was used for the study.

Results

Table 1
Descriptive Statistics and Reliabilities of Study Variables (N=296)

Variables	*k*	*M*	*SD*	α	Range	
					Potential	Actual
GFS	12	2.33	0.39	0.66	1-4	1.25-3.33
CASE	27	86.5	10	0.74	27-135	51-114
EV	8	26.5	5.8	0.85	8-40	8-40
VO	5	15.9	2.98	0.54	5-25	7-24
DM	6	20.6	4.0	0.80	6-30	6-29
SA	3	9.4	2.4	0.79	3-15	3-15
CV	5	13.9	3.0	0.56	5-25	6-25
PAQ	42	104.0	13.9	0.83	42-168	63-146
HOS	6	15.3	3.8	0.73	6-24	6-24
DEP	6	16.6	2.8	0.50	6-24	9-24
NSE	6	13.7	3.0	0.54	6-24	6-23
NSA	6	13.2	3.0	0.54	6-24	6-21
EI	6	16.7	3.0	0.57	6-24	6-24
EU	6	15	3.0	0.50	6-24	7-24
NWV	6	13.2	3.3	0.63	6-24	6-23

Note. GFS= General Functioning subscale of FAD; CASE = Cognitive Autonomy and Self-Evaluation inventory; EV = Evaluative Thinking; VO = Voicing Opinions; DM = Decision Making; SA = Self-Assessing; CV = Comparative Validation; PAQ = Personality Assessment Questionnaire; HOS = Hostility; DEP = Dependency; NSE = Negative Self-Esteem; NSA = Negative Self-Adequacy; EI = Emotional instability; EU = Emotional unresponsive; NWV = Negative Worldview.

The Cronbach alpha values of all the questionnaires showed good internal consistency. The Cronbach alpha values of subscales voicing opinions, dependency and emotional unresponsive were .54, .50 and .50 respectively, which were found to be in acceptable ranges for the study

Table 2

Pearson Product Moment Correlation Coefficients Among Demographics, Family Functioning, Cognitive Autonomy and Psychological Adjustment (N=296)

	1	*2*	*3*	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	*M*	*SD*
1. RWF	-	.59**	.64**	-.26**	.14*	.10	.20**	.02	.21**	-.13	-.06	.07	-.10	-.03	.00	-.05	-.22**	.01	4.29	.89
2. RWM	-	-	.57**	-.24**	.15**	.07	.20**	.04	.23**	-.09	-.18**	-.03	-.03	-.14*	-.12*	-.08	-.30**	-.10	4.5	.68
3. HE	-	-	-	-.36**	.15**	.08	.24**	.03	.27**	-.16**	-.15**	-.02	-.08	-.11*	-.08	-.07	-.28**	-.04	4.07	.96
4. GF	-	-	-	-	-.23**	-.15**	-.24**	-.08	-.12*	-.02	.44**	.34**	.01	.30**	.34**	.18**	.37**	.37**	2.33	.39
5. CASE	-	-	-	-	-	.82**	.59**	.72**[*]	.63**	-.34**	-.19**	-.10	.12*	-.28**	-.34**	.04	-.06	-.22**	86.5	10
6. ET	-	-	-	-	-	-	.34**	.46**	.32**	-.39**	.04	-.00	.22**	-.02	-.08	.20**	.04	-.13*	26.5	5.8
7. VO	-	-	-	-	-	-	-	.25**	.28**[*]	-.23**	-.29**	-.07	.05	-.33**	-.38**	-.05	-.23**	-.27**	15.9	2.9
8. DM	-	-	-	-	-	-	-	-	.66**	-.59**	-.16**	-.07	.09	-.33**	-.31**	.00	.00	-.10	20.6	4
9. SA	-	-	-	-	-	-	-	-	-	-.47**	-.17**	.02	-.04	-.34**	-.34**	-.00	-.05	-.04	9.4	2.4
10. CV	-	-	-	-	-	-	-	-	-	-	-.08	-.17**	-.16**	.14*	.11*	-.20**	-.02	-.04	13.9	3.0
11. PAQ	-	-	-	-	-	-	-	-	-	-	-	.72**	.35**	.72**	.65**	.67**	.57**	.66**	104.4	13.9
12. HOS	-	-	-	-	-	-	-	-	-	-	-	-	.23**	.33**	.31**	.56**	.18**	.41**	15.3	3.8
13. DEP	-	-	-	-	-	-	-	-	-	-	-	-	-	.10	.03	.31**	.07	-.12*	16.6	2.8
14. NSE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.61**	.30**	.36**	.47**	13.7	3.0
15. NSA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.16**	.30**	.47**	13.2	3.0
16. EINST	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.3**	.29**	16.7	3.0
17. EUR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.30**	15	3.0
18. NWV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.2	3.3

Note. ED = Education; LE = Last Exam % ; RWF = Relationship with father; RWM = Relationship with Mother; HE = Home Environment; GF = General Functioning Subscale; CASE = Cognitive and Self Evaluation; ET = Evaluative Thinking; VO = Voicing Opinions; DM = Decision Making; SA = Self Assessing; CV = Comparative Validation; PAQ = Personality Assessment Questionnaire; HOS = Hostility; DEP = Dependency; NSE = Negative Self Esteem; NSA= Negative Self Adequacy; EINST = Emotional Instability; EUR = Emotional Unresponsive; NWV = Negative Worldview.

*p<.05. **p<.01. ***.p<.001.

Pearson Product Moment Correlation was carried out to study correlations among demographic variables and study variables. Significant positive associations were found among family functioning, cognitive autonomy and psychological adjustment. Evaluative thinking, decision-making and self-assessing were found to be negatively associated with dependency, negative self-esteem, emotional instability and negative self-adequacy. Relationship with father, mother and home environment were found to be positively associated with family functioning, cognitive autonomy and psychological adjustment (see Table 2).

Table 3
Hierarchical Regression Analysis showing Predictors of Psychological Adjustment (N = 296)

	Psychological Adjustment	
Predictors	ΔR^2	β
Step 1	.047*	
Relationship with father		.13
Relationship with mother		-.18
Home environment		-.13
Step 2	.17***	
Family Functioning		.44***
Step 3	.01	
Cognitive Autonomy		-.09
Total R^2	.223***	

*p <.05. **p <.01. ***p <.001.

Hierarchical Regression was carried out to explore significant predictors of psychological adjustment. Model 1 explained 4.7% of the variance in psychological adjustment as F (3, 292) = 4.8, p <.05, and indicated that relationship with father, mother and home environment were significant predictors of psychological adjustment in adolescents. In model 2, family functioning was added and it explained 17% variance in psychological adjustment as F (1, 291) = 20.7, p <.001, which showed that family functioning was significantly predicting psychological adjustment in adolescents. In model 3, cognitive autonomy was added and it explained 0.9% variance in psychological adjustment as F (1, 290) = 17.33, and was not found as a predictor of psychological adjustment. Overall model accounted for 22%, p <.001, variance in psychological adjustment (see Table 3)

Table 4
Hierarchical Regression Analysis showing Predictors of Hostility (N = 296)

	Hostility	
Predictors	ΔR^2	β
Step 1	.02	
Relationship with father		.19*
Relationship with mother		-.08
Home environment		-.10
Step 2	.12***	
Family Functioning		.38***
Step 3	.00	
Cognitive Autonomy		-.03
Total R^2	.13***	

*p <.05. **p <.01. ***p <.001.

Table 4 showed Hierarchical Regression carried out with the subscale of psychological adjustment i.e. hostility. Overall model explained 13% variance in hostility (p<.001).

Table 5
Hierarchical Regression Analysis showing Predictors of Worldview (N = 296)

	Worldview	
Predictors	ΔR^2	β
Step 1	.02	
Relationship with father		.14
Relationship with mother		-.17*
Home environment		-.03
Step 2	.15***	
Family Functioning		.41***
Step 3	.02**	
Cognitive Autonomy		-.15**
Total R^2	.19***	

*p <.05. **p <.01. ***p <.001.

Table 5 showed that overall model explained 19% variance in Worldview subscale of psychological adjustment (p<.001). Family functioning was found to be a significant predictor of worldview in adolescents.

Table 6
Moderation Analysis Examining the Interaction Effect of Family Functioning and Cognitive Autonomy on Psychological Adjustment (N=296*)*

Variables	Psychological Adjustment		
	B	SE	95% CI
Constant	104.96***	.754	[102.71, 105.6]
Family Functioning	15.11***	2.25	[10.68, 19.5]
Cognitive Autonomy	-.13	.078	[-.285, .022]
Family functioning × Cognitive autonomy	.169	.250	[-.32, .660]
R^2	.211		
F	18.35		

Note. CI = confidence interval; SE = standard error.
*p <.05; **p <.01; ***p <.001

In order to explore moderation effect of cognitive autonomy, Hayes Process Model was carried out. Table 6 showed that family functioning was found to be a significant predictor of psychological adjustment in adolescents but the interaction effects of family functioning and cognitive autonomy on psychological adjustment turned out to be insignificant. Hence, cognitive autonomy did not moderate the relationship between family functioning and psychological adjustment in adolescents (see Table 6).

Discussion

The present study aimed to explore the relationship among family functioning, cognitive autonomy and psychological adjustment and also to examine the predictive role of family functioning and cognitive autonomy on psychological adjustment in adolescents. Hypothesis 1 stated that there was likely to be a relationship among family functioning, cognitive autonomy and psychological adjustment in adolescents. Our findings indicated that healthy and positive family functioning account for better autonomy and psychological adjustment in adolescents, however, unhealthy family functioning was found to be associated with psychological maladjustments (hostility, emotional unresponsive, negative self-esteem, negative worldview & negative self-adequacy). Results were consistent with the existing literature (Shorter & Elledge, 2020; Mulyati & Martiastuti, 2018; Yasien et al., 2017; Reyes & Ohannessian, 2016; Hare et al., 2014). Similar findings were found in other researches as well which indicated that unhealthy family functioning was associated with adolescent's psychological maladjustment (low self-esteem and self-efficacy) (Lang, 2018; Sbicigo & Dell'Aglio, 2012; Cacioppo et al., 2012; Dwairy & Achoui, 2010). In addition, findings revealed that high cognitive autonomy was associated with better psychological adjustment (better self-esteem, world view, & self-adequacy), and existing literature supported our results. Previous studies have shown positive associations between the indices of autonomy (e.g. decision making, voicing opinions) and higher levels of self-esteem (adolescent's psychological adjustment) throughout adolescence (Alonso-Stuyck et al., 2017; Nie et al., 2014; Sher-Censor et al., 2011; Milyavskaya & Koestner, 2010; Stewart et al., 2003).

Hypothesis 2 stated that family functioning and cognitive autonomy were likely to predict psychological adjustment in adolescents. It was found that family functioning, relationship with parents, and home environment significantly predicted psychological adjustment in adolescents. Previous literature supported our findings in which researches investigated the predictive role of family functioning and home environment on the adjustment of adolescents and resultantly, secure

attachment representations with family and parents explained unique variance in the indicators of adjustment of adolescents (Bano et al., 2016; Cui et al., 2014; Johnson et al., 2010; Scott et al., 2011; Street et al., 2008; Sagrestano et al. 2003). Cognitive autonomy was not found predicting psychological adjustment in adolescents. The previous literature has indicated that individualistic cultures are more acceptable of adolescent's autonomy than collectivistic cultures (Lee et al., 2010; Smetana et al., 2004). Our country is collectivistic in nature, hence autonomy granting here is not much appreciated in our society and culture. Adolescent's autonomy and decision making largely depend on their family and autonomy granting by parents. Therefore, majorly elder's expectations determine youth decisions and behaviors as indicated by previous literature (Tsakpinoglou, 2017; Pavlova et al., 2011; Yeh & Yang, 2006; Smetana, Campione-Barr et al., 2004).

The third hypothesis postulated that cognitive autonomy was likely to moderate the relationship between psychological adjustment and family functioning in adolescents. The findings of current study revealed that cognitive autonomy did not moderate the relationship between family functioning and psychological adjustment in adolescents. The construct of cognitive autonomy is a new construct and has not been investigated as widely as the other dimensions of autonomy (e.g. behavioral and emotional autonomy), probably because cognitive autonomy is a less observable construct, hence it is difficult to measure comparatively (Lee & Beckert, 2012). In a few studies, the moderation effect of autonomy was found to be proved, in which adolescent's autonomy was moderating the relationship between adolescent-parent relationship and psychological adjustment (Bynum & Kotchick, 2006). However, the construct of autonomy was used instead of cognitive autonomy and those studies were taken place in West. Overall, cognitive autonomy is an under-researched construct with respect to adolescent's psychosocial development that is important aspect to study. Most studies have been conducted primarily in western cultures (Pavlova et al., 2011; Lee et al., 2010). Hence the autonomous ability of an adolescents clearly and carefully needs to be reexamined.

Conclusion

It can be concluded from the present study findings that when an adolescent experiences autonomy granting and healthy family environment, it enhances one's self-esteem, self-adequacy, emotional responsiveness and overall psychological adjustment. Moreover, unhealthy family relationships and communication contribute to adjustment issues in adolescents with respect to negative world view and emotional instability. While on exploring, other contributing factors can also be found which interferes with adolescent's healthy adjustment.

Implications

The clinical implications of the present research are that it can provide an addition in the knowledge of cognitive autonomy with respect to family functioning and psychological adjustment, which has not studied before. Further, it can provide an insight to the parents related to adjustment issues of adolescents and the consequences of unhealthy family patterns that can impede their psychological adjustment. Moreover, it can provide guide to mental health professionals for the effective implementation of programs related to positive parenting and healthy family environment which is eventually aimed at the prevention and treatment of adjustment issues. One of the limitations found in study were that due to the pandemic conditions, participants were not approached in person and online data collection through Google forms was carried out. Participants of this population (adolescents) might engage in self-report bias that can produce direct effect on results. The sample ranged in between 14-18 years and also the range was

not equally distributed as participants were approached through convenient sampling. For future purposes, it should be ensured that any external factors do not affect the data collection and eventually the results. Moreover, population of early to mid twenties can be considered which might result in different outcomes especially for assessing cognitive autonomy.

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