

Perceived Father Attachment and Externalizing-Internalizing Behavioral Problems among Left-behind Adolescents: A Moderated Mediation Model of Family Functioning and Mother Nurturance

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Abstract

Introduction. A father and adolescent relationship is one of the most significant and influential relationships in an adolescent's life. Father's absence due to migration and its resulting consequences have been little addressed In the academic arena of south Asian context specially in Pakistan . This study was designed to examine whether the adolescent's perception of migrant father attachment is associated with externalizing-internalizing problems and further investigated mediating and moderating process underlying this effect.

Method. A cross sectional study was conducted in which 400 left-behind adolescents, aged 13 to 18, girls (n= 174) boys, (n= 226) were recruited from different schools and colleges of two districts, Rawalpindi and Poonch Azad Kashmir. Data was completed through self-report measures.

Result. Results of the study revealed that migrant-father attachment, family functioning and mother nurturance are negatively linked to externalizing-internalizing problems. Moreover, family functioning significantly mediated the relationship between migrant-father attachment and externalizing-internalizing problems. In addition, the results revealed that mother nurturance significantly moderated the conditional indirect effects of father attachment on externalizing-internalizing problem through family functioning among left-behind adolescents. Moreover, significant mean differences were found between age and family system on externalizing-internalizing problems.

Conclusion. The study findings highlight the importance of attachment between migrant fathers and adolescents to enhance their family functioning and consequently to decrease their externalizing-internalizing problems in the absence of their father.

Keywords. *Migrant father attachment, family functioning, mother nurturance, externalizing-internalizing problems, left-behind adolescent.*



Introduction

Migration internationally for the purpose of job may be a significant way of generating earnings and offers prospects for individuals to earn considerably higher incomes, but it is also accompanied by long-term family separation (Park, & Wang, 2010). In Pakistani society, males are considered the main figure for generating income and provide every facility of life to their children. Patriarchal culture prevails in Pakistan, where males are responsible for earning, while the role of female is of nurturing and caregiver (Qadir, Khan, Medhin, & Prince, 2011), and most females are jobless, responsible for domestic tasks and in this regard are usually obedient to their husbands (Ali et al., 2011). Paternal migration is a common phenomenon in Pakistan, many adolescents live with their mothers and other extended family members in the absence of their father due to migration. Prior studies indicated that parental absence had harmful effects on the emotional and behavioral functioning of adolescents (Bryant et al., 2017). Past studies revealed that left-behind adolescents were more expected to experience mental and emotional stress (Coe, 2008). Left-behind adolescents are those who are below the age of 18 and whose parents' one or both have migrated for employment abroad (Duan & Zhou, 2005). In Pakistan, left-behind adolescents grow up in the supervision of their mothers, so the lack of paternal care may be a reason for high socio-emotional cost. Paternal migration can have both positive and negative consequences for left-behind adolescents, but the negative consequences outweigh the positive outcomes. Long-term absence of father from home may mark the challenging difficulties in the relationship with father which may result in insecure attachment organization.

Several factors have been linked with the development of mental health problems of adolescents, but the factors connected with parent-child relationship have been given the most importance in the field of Psychopathology (Masten, 2005). Left-behind adolescents' psychopathology has been mainly studied in the realm of attachment theory in prior research of family and child psychology. Due to migration, separation from parents negatively affects the parent-adolescent attachment, and may therefore result in high emotional costs for adolescents (Graham & Jordan, 2011).

Lack of communication leads to disturbing family environment which may have many detrimental emotional effects on the left-behind adolescents (Zhao et al., 2017). Insecure attachment has adverse effects on psychological health of adolescents at residence which make them vulnerable to have many behavioral problems like internalizing problems anxiety, depression, somatic problems, irritation, emotional anguish, feeling alone, anxious, and, externalizing problems like anger, and conduct problems (Gibson, McKenzie, & Stillman, 2011; Dreby, 2007).

Externalizing problems mainly comprise of aggression and conduct problems while internalizing problems consist of depression and anxiety. Fathers' relationship with their adolescents is significantly related to their externalizing and internalizing problems (Carlson, 2006). Adolescents' insecurity in attachment may lead to externalizing behavior by resentment and hostility toward fathers that reduce their influence in exercising behavioral controls over their adolescents (Patterson, Debar she, & Ramsey, 2017). Due to migration, father quality of parenting and secure attachment may be badly affected by not exercising all factors of positive parenting which is control, monitoring, and discipline, as a result, adolescents are more likely to develop externalizing problems. Heymann et al., (2009) reported that adolescents of migrant fathers are more expected to display externalizing behaviors. Findings of the previous research indicated that adolescents were better at controlling their emotions when they had well concerned parenting from fathers (Carlson, 2006). Internalizing outcomes are also assumed to stem from the negative evaluations of parents availability and accessibility that are linked with an insecure attachment (Bowlby, 1977). Research findings of Wang et al. (2011) and He et al. (2012), reported that separation from parents increases left-behind adolescents' susceptibility to mental health problems, i.e. they experience more prevalence of depression and anxiety than that of other adolescents. Ren and Treiman (2016) also suggested that left-behind adolescents' are less happy and more depressed. Therefore, it is important to examine whether externalizing internalizing problems are related to migrant father-adolescent attachment. Thus, attachment theory seems to be the relevant theoretical frame to examine the issues of left-behind adolescents in this study.

The father leaving country for a better employment is a process that affects not only attachment bond with person alone but also the entire family functioning. Left-behind adolescents consider the absence of migrant father, a sign of abandonment which leads to insufficient emotional attachment with parents that may result in decline in family functioning (Jia, 2018). Family function is referred to as family unity and constructive interaction, which measures the perception of all family members' contentment with the functioning of family (Shi et al., 2017). Family acts as a whole, consists of interconnected members, each one affecting and being affected by the others and every member is strongly influenced by family dynamics, associations and interactions (Francisco, Loios, & Pedro, 2016). During parental migration, it is particularly complicated for left-behind adolescents to delineate family roles and boundaries (Zhou et al., 2018). Family function may be disturbed due to parental migration. Emotional bond between father and adolescent became fragile due to the physical distance, and adolescents perceived lack of parental love and displayed deficits in family functioning (Zhao et al., 2017). Left-behind adolescents are more likely to rate family function significantly worse than non- left-behind adolescents. Some researches considered family functioning as a key to comprehend the adolescents' mental health problems (Milburn et al., 2005). Wu et al. (2017) also concluded that parental migration influenced adolescent's mental health through mediating effects of family, thus, perceived father adolescents' attachment cannot be fully understood outside the perspective of family functioning.

The role of father, mother and other significant persons in adolescents' life is mostly culturally guided (Tuli, 2012). The father's role in Pakistan is considered fundamental to maintain discipline inside the family. Living apart from adolescents tends to compromise with father's role, which may result in a worse family function, which in turn leads to externalizing-internalizing problems. Family functioning appears to be an essential mechanism relating attachment to adolescents' externalizing-internalizing problems. The mediating role of family functioning between father-adolescent attachment and externalizing-internalizing problems has not yet been studied. This study also serves to fill this gap.

In current years, the protective factors have also been given importance for left-behind adolescents. This study also investigated the role of mother nurturance as moderator. The role of mother in Pakistani culture is of great value. The first and foremost responsibility of the mother within the patriarchal family system in Pakistan is to provide care to adolescent. Mothers are typically accountable for nurturance and social-emotional support of family members (Qadir, Khan, Medhin, & Prince, 2011). The Mother's nurturance has been delineated in diverse terms including warmth, care, affection, support, and intimacy. Perception of parental nurturance is connected with physical and psychological health (Rohner & Veneziano, 2001). Negative association between increased maternal warmth and decreased adolescents' behavior problems was also reported in prior study (Stormshak, Bierman, McMahon & Lengua, 2000). Adolescents respond to the experience of being loved or unloved by their mothers. Absence of affection, nurturance, or love from the mother makes an individual more vulnerable to have problems like, aggression, low self-esteem, and emotional insecurity (Rohner & Khaleque, 2010). Adolescents who perceived their mother accessible, responsive and supportive were more likely to have low scores in aggression, delinquency, social withdrawal and had a strong tendency to be less anxious and depressed (Nunes, Faraco, Vieira, & Rubin, 2013). Formoso, Gonzales, and Aiken (2000) also found that maternal nurturance acted as a protective factor for adolescents' well-being. Due to massive migration of the paternal figure, adolescents are mostly left-behind with their mothers. Keeping in mind the position of mother as caregiver in absence of father in Pakistani culture, adolescents' perception of mother nurturance in father absent families need to be investigated. In Pakistani context, the role of maternal nurturance has not been much explored.

The notion of family care in many Asian cultures involves dynamic roles of extended family members, especially grandparents (Ochiai, 2009). A family system often serves as the foundation of all social behavior (Xie & Xia, 2011). Gorman and Braverman (2008) suggested that adolescents live with single parents have greater chances of indulging in behavioral problems. Absence of a father from a family may disturb family structure and puts the adolescents in adverse situations.

Age is an important factor to examine because children and adolescents can exhibit behavioral problems differently as they grew up in absence of fathers. Flouri (2005) reported that older adolescents tended to have lower levels of externalizing internalizing problems. Socio-demographics need to be explored to find out the differences on externalizing internalizing problems in left-behind adolescents. This study thus required to fill the gap of knowledge to get the comprehensive understanding of externalizing internalizing problems of left-behind adolescents.

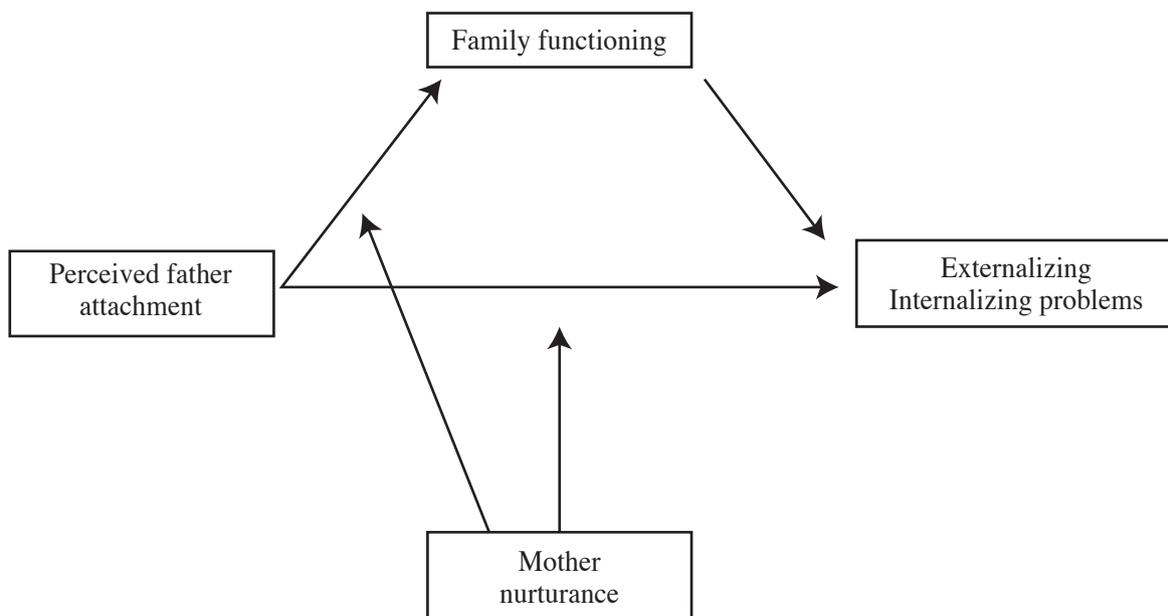
Most parent-adolescent related researches focus on mothers, and the significance of fathers' attachment with adolescents have long been ignored. Living in a family with the father away for a long period of time is a part of many adolescents' life in Pakistan. In Pakistani culture, moving abroad for a job by a family member may have complex direct and indirect effects on the left-behind adolescents. This perspective has not been explored in Pakistani population. Khalid, Qadir, Chan, and Schwannauer (2018) found a significant relationship between low parental warmth and depression symptoms among adolescents. Perceived parent-child relation was also explored in relation to adolescent aggression (Fatima & Sheikh, 2016). Studies on father attachment in relation to left-behind adolescents' externalizing internalizing problems have not been much explored.

Due to lack of literature available on externalizing-internalizing problems of left-behind adolescents particularly in Pakistan, the researcher recognizes the need to devote some attention to comprehend the migrant father adolescent relationship phenomenon and other interconnected family variables especially in Pakistani population where family relations have been given a lot of significance; this area needs to be explored so that its effects on adolescents' mental health can be addressed. This study utilized a sample of adolescents to test a moderated mediation model in which, first family functioning mediated the association between father attachment and externalizing internalizing problems; second, the direct and indirect relations between father attachment and externalizing internalizing through family functioning were moderated by mother nurturance.

Overall aims of this study was to investigate the impact of father attachment on externalizing and internalizing problems of left-behind adolescents and furthermore, to explore the mediating role of family functioning and moderating role of mother nurturance in association between father adolescent attachments, and externalizing internalizing problems in the left-behind adolescent.

1. Keeping in mind the important nature of phenomena under study, the following hypotheses were proposed:
2. Perceived father attachment, family functioning and mother nurturance are negatively related to externalizing internalizing behavioral problems among left-behind adolescents.
3. Perceived father attachment is indirectly related to externalizing problems, through its relationships with family functioning.
4. Perceived father attachment is indirectly related to internalizing problems, through its relationships with family functioning.
5. Mother nurturance moderated the mediating effect of family functioning between perceived father attachment and externalizing internalizing problems among left-behind adolescents.
6. There would be significant mean differences between two groups of adolescents on externalizing internalizing problems.
7. Left-behind adolescents from nuclear family will have more externalizing internalizing problems as compare to adolescents from joined family system.

Figure 1.Conceptual model



Method

Design

Data was collected using cross sectional research design. This was the quantitative study to test the formulated hypotheses. All the data was collected from the district of Rawalpindi and Poonch Azad Kashmir.

Sample

Due to the unregistered status of migrants in Pakistan, there is no survey available defining the proportion of left-behind adolescents in the region. The report published by the Bureau of Emigration and Overseas Employment was used to identify the areas from where a large number of people went abroad for a job. Two districts with high proportion of migrants were included. Data were collected from different schools and colleges of these two districts, Rawalpindi and Poonch. Early adolescents were included from class 8 to 10 from high schools and younger adolescents were included from intermediate level of colleges. According to the required age (13 to 18) of participants for the present study, 450 adolescents from classes (8th to 12), meeting the inclusion criteria were selected. Four criteria were made to confirm the inclusion of participants in the study: (1) participants from age 13 to 18, below age 13 might be unable to fully comprehend measures thus they were intentionally not included (2) participants with father absence more than one year (3) participants were taken care by their mothers (4) participants with no parent divorce and death.

Left-behind adolescents who met either of the following criteria were excluded (1) Adolescents with father migration less than one year (ii) with any physical disease (iii) adolescents with any psychological disease before fathers’ migration (Iv) adolescents were not taken care by mothers in fathers’ absence. Out of 450, 425 participants agreed to participate in the study. 425 questionnaires were distributed among left-behind adolescents with the recovery rate of 94.1%. 25 questionnaires were excluded due to large missing values. 400 participants were included in analysis. Boys were 56% and girls were 44%, 49% were lying in the age range from 13 to 15 and 51% were between 16 to 18, 49% from nuclear family system and 51% from joined family who were living with mothers and grandparents in father absence.

Measures

Inventory of Parent and Peer Attachment (IPPA). The IPPA inventory consisted of 3 scales namely, father, mother and peer attachment, respectively. It is a self-report inventory with a five-point Likert scale, ranging from 1 (never true) to 5 (always true). The Father scale was used in this present study to assess left-behind adolescents’ perception of father attachment. The Father Scale contains 25 items related to trust, communication and alienation between father and adolescent. A full score for father attachment can be obtained by adding the score from all 25 statements. Thus, the range for the scale was 25 to 125.

Higher scores suggest adolescents' perception of higher attachment with their fathers. Thus, the potential range for the scale was 25 to 125; with elevated scores signify more positive perception of adolescents toward their attachment with their fathers. Internal reliability Cronbach alpha was 0.87 for father attachment. Cronbach alpha reported was significantly high for father 0.80.

Strength and Difficulties Questionnaire (SDQ). It is a concise mental health-screening questionnaire by Goodman, Meltzer, & Bailey (1998). SDQ comprised of 20 items that are grouped into externalizing problems and internalizing problems. These 20 items are rated on 3-point Likert scale ranging from 0 to 2. Here in this study externalizing problems were measured by adding the total score on all these items (5,2,7,20,12,15,18,21,22,25) and internalizing problems were assessed by adding all score on these items (3,6,8,11,13,14,16,19,23,24). For every query, the participant chooses one of these options: "not true", "slightly true" and "certainly true." Elevated scores on the whole scale is a sign of a high likelihood of abnormalities. The scale has high internal consistency reliability with Cronbach's alpha between 0.88 and 0.86 and test-retest reliability of 0.93. The scale is found reliable having a Cronbach alpha value of 0.90.

Self-Report Family Inventory. Family functioning inventory was originally developed by Beavers, Hampson and Hulgus, (1990). It is a self-report instrument that consisted of 36 items. It assesses an individual's perception of his/her family's functioning. It is a five- point scale for each item ranging from 1 to 5. The Summary score can be obtained for this scale by adding all items after reverse scoring of the required items. A high score indicates individuals 'perception of better family functioning. The scale has high internal consistency reliability with Cronbach's alpha between 0.84 and 0.93 and test-retest reliability of .85. Cronbach alpha was significantly high 0.91.

Parental nurturance Scale (PNS). The Parental nurturance scale (PNS) was used in this study to assess adolescents' perception of their mother nurturance. One evaluates paternal nurturance and other evaluates mother nurturance. Each form consists of 24 items. For the present study mother nurturance form was used to assess adolescent's perception of mother nurturance.

Mother nurturance consists of 25 items with five- point ranging from response 1 (strongly agree) to 5 (strongly disagree). A total score is obtained by summing up all the score from 24 items. Negative items are reversed before scoring. A higher score indicates higher perception of mother nurturance. The reported internal consistency reliability with Cronbach alpha was 0.95 and test-retest reliability was 0.92. The scale is found reliable having a Cronbach alpha value of 0.90.

Procedure

The study protocol was approved by the Institutional Research Review Board. Permission for data collection was taken in different steps. In the first step, permission was taken from the Director of federal and provincial educational institutions. After their permission, Headmasters, Headmistresses, and Principals of different schools and colleges were approached separately. The rationale of the study was expounded to the concerned authorities. After their permission required participants were separated from the other students who didn't match the criteria. The inclusion criteria were, father absent from home due to employment for more than one year, second, only father was migrated, third, no participant with parents divorced or separated. The Head of institute was requested to provide vacant class and all the participants who met inclusion criteria were instructed to gather in one class. The background and purpose of the study was briefed by the first author. Further after obtaining their informed consent, participants were provided directions to fill out the scales after understanding the statements cautiously. Enough time was given to complete the set of questionnaires. The Time taken for the completion of questionnaires was almost 45 minutes. Demographic sheet that enclosed detail related to their socio-demographic characteristics, paternal and family information included gender; age, family system, and duration of father outside the country were also attached with questionnaires.

Results

The present study was planned to find the relationship between father's attachment and externalizing internalizing problems, through its relationships with family functioning and mother's nurturance among left- behind adolescents of age 13 to 18 from different high schools and colleges of Rawalpindi and Poonch Azad Kashmir.

Sample consisted of 400 left-behind adolescents (56%) boys and (44%) girls. Data obtained were analyzed in IBM SPSS; version 23. Descriptive statistics, i.e. mean, standard deviation and reliability of all four scales, were computed. Pearson Product Moment correlation was applied to determine the association among the study variables. Process macro was used to find the mediating role of family functioning between father adolescent attachments and externalizing internalizing problems. Moderated mediation effect was analyzed by using Model 8 in Process Macro. Moderated mediation was measured using 5000 bootstrap samples for the percentile bootstrap confidence intervals (CI).

Table 1
Bivariate Correlations Means, and Standard Deviations (N=400)

Scale	1	2	3	4	5	M	SD
1. FA	0.61**	-0.32**	-0.27**	0.39**	78.94	12.46
2. FF		- 0.45**	-0.42**	0.44**	105.20	24.69
3. EXTBP			0.57**	-0.20**	9.71	3.56
4 INTBP				-0.22**	9.58	3.33
5 MN					82.81	17.95

Note. FA= Father Attachment, FF= Family Functioning EXT= Externalizing Behavioral Problem, INT = Internalizing Behavioral Problem, MN= Mother nurturance, ** $p < 0.01$.

Table 1 shows a significant negative correlation between migrant father attachment and externalizing-internalizing problems and significant positive correlation to family functioning and mother nurturance. Statistical analysis also suggests that family functioning is negatively related to externalizing and internalizing problems as low family functioning is a risk factor of behavioral problems of adolescents. Mother nurturance is negatively correlated with externalizing and internalizing problems.

Table 2
The mediating role of family functioning between perceived father attachment and internalizing problems among left behind adolescents (N=400).

Variables	Internalizing problems			
	Model 1		Model 2	
	B	B	95% CI LL	95% CI UL
Constant	15.25**	15.81**	13.90	17.73
FA	-.07**	-.005	-.03	.02
FF		-0.05**	-.07	-.04
R ²	.07	0.17		
Δ R ²		.01		
F	30.91	43.24		

Note, FA= Father Attachment, FF, Family Functioning, ** $p < 0.01$, *** $P < .001$.

Result in the Table 2 shows the acceptance of the hypothesis which states that family functioning mediates the association of father adolescent attachments and internalizing behavioral problems among left-behind adolescents. Direct impact of father attachment on left- behind adolescents' internalizing problems became non-significant after controlling for the effect of family functioning ($B = -.01$, 95%, $CI = -.03, .02$). Furthermore, the results indicate that family functioning significantly mediates the relationship between father adolescent attachment and internalizing problem ($B = -.06$, 95%, $CI = -.08, -.04$). This mediated mode explains 01% of the variance in the domain of internalizing problems.

Table 3

The mediating role of family functioning between father attachment and externalizing problems among left-behind adolescents (N=400)

Variables	Externalizing problems			
	Model 1		Model 2	
	B	B	95% CI	
		LL	UL	
Constant	16.88**	17.48**	15.4	19.5
FA	-.09**	-.02	-.05	.01
FF		-.05**	-0.07	-.04
R ²	0.31	0.20		
Δ R ²		0.11		
F	44.69	51.27		

Note: FA= Father Attachment, FF= Family Functioning, **P < .00.

In the Table 3, the result of mediation analysis shows that family functioning mediates the association between perceived father attachments and adolescents' externalizing problems. Results indicate that total effect of father attachment on externalizing problem is significant as described in Model 1. Direct impact of father attachment on left-behind adolescent's externalizing problems become non-significant after controlling for the effect of family functioning ($B = -.01$, 95% CI= $-.03, .02$). Furthermore, the results show that family functioning significantly mediates the relationship between father adolescent attachment and left-behind adolescents' externalizing problem ($B = -.07$, 95%, CI= $-.09, -.04$). This mediated model explains 11% of the variance in the domain of externalizing problems.

Table 4

Conditional indirect effect of father attachment on externalizing problems through family functioning moderated by mother nurturance among left-behind adolescents (N=400)

Predictor	Moderator MN	Mediator			Dependent		
		B	FF		B	EXBP	
			95% CL			95%CL	
			LL	UL		LL	UL
Constant		-85.51**	-66.95	104.07	20.67**	17.20	24.14
Gender		-1.01	-4.82	2.78	-0.28	-0.93	-0.35
Age		8.75**	3.37	14.12	-1.10*	-1.89	-.04
Edu		-2.12	-6.97	2.71	-0.42	-1.24	0.39
Family system		-4.16*	-8.01	-0.31	-.03	-.69	0.61
No of sibling		-2.20	-6.02	1.60	-1.13**	-1.78	-0.48
Year father absence		0.99	-1.66	3.66	-.05	-.50	0.39
Area		8.12**	2.57	13.68	-0.39	-1.34	0.55
Cfsm		0.71	-3.13	4.56	-0.12	-.77	0.52
FA		1.01**	0.85	1.17	-.02	-.05	-.01
MN		0.34**	0.18	0.49	.01	-.01	.04
FF					-.05**	-.07	-.04
FA*MN		.01**	.00	.02	-.00*	-.00	-.00
Conditional indirect	Low				-.04	-.06	-.02
	Medium				-.05	-.07	-.03
	High				-.06	-.09	-.04
R ²		0.45			0.25		
F		29.60**			10.80**		
ΔR ²					.02		

Note: Edu = Education, Cfsm= Communicate with father on social media, FA= Father Attachment, EXBP= Externalizing Behavioral Problem, FF= Family Functioning, MN= Mother Nurturance, *p < .05, **p < 0.01.

Table 4 shows the conditional indirect effect of perceived father attachment and externalizing problems through family functioning in the presence of the moderator, mother nurturance. The result shows that after controlling for the effect of the variables including gender, age, education, no of siblings, family system, no of year father living outside country, area, and connected with father on social media, the mother nurturance has a significant positive effect on family functioning ($B = 0.34$, $**p < .001$) and there is significant negative effect of family functioning ($B = -.05$, $**p < .001$) on externalizing problems. The result shows that mother nurturance moderates the relationship between the father-adolescent attachment and family functioning with significant positive interaction ($B = .01$, $**p < 0.01$). The result also shows that mother nurturance moderates the relationship between the father-adolescent attachment and externalizing problems with significant negative interaction ($B = -.001$, $*p < 0.05$). Moreover, Bootstrapped confidence interval (CI, 95%) shows that the conditional indirect effect of father-adolescent attachment mediates through family functioning are significant at three level of moderator low, medium and high. It indicates that when mother nurturance, is low, ($-.04$, $CI = -.06, -.02$) medium, ($-.05$, $CI = -.07, -.03$) and high, ($-.06$, $CI = -.09, -.04$), the externalizing problems of left behind adolescents are significantly decreased.

Table 5

Conditional indirect effect of father attachment on internalizing behavior problems through family functioning moderated by mother nurturance among left-behind adolescents (N=400)

Predictor	Moderator MN	Mediator			Dependent		
		B	FF		B	INBP	
			95% CL	LL		UL	95%CL
Constant		-85.51**	66.95	-18.04	18.05**	14.75	21.35
Gender		-1.01	-4.82	3.97	-.07**	-0.62	0.60
Age		8.75**	3.37	14.9	-0.76*	-1.64	0.11
Edu		-2.12	-6.97	2.71	-.05	-0.84	0.72
Family system		-5.16**	-8.97	-0.32	0.10	-0.52	0.72
No of sibling		-2.20	-6.02	1.60	-0.68*	-1.30	-.07
Year father absence		0.99*	-1.66	3.66	-0.51*	-0.94	-0.08
Area		8.12**	2.57	13.68	-0.30	-1.20	0.60
Cfsm		0.71	-3.13	4.56	0.38	-0.23	1.00
FA		1.01**	0.85	1.17	-.01	-.03	-.02
MN		0.30**	0.18	0.49	-.02*	-.02	0.20
FF					-.04**	-.06	-.03
FA*MN		.01**	.03	.02	-.002*	-.00	-.00
Conditional indirect	Low				-0.38	-.05	-.02
	Medium				-0.49	-.06	-.03
	High				-.06	-.08	-.04
R ²		0.22			0.45		
F		9.37***			29.60**		
ΔR ²					.08		

Note: Edu= Education, Cfsm = Communicate with father on social media, FA= Father Attachment, INBP= Internalizing Behavioral Problem, FF= Family Functioning, MN= Mother Nurturance, * $p < .05$, ** $p < 0.01$.

Table 6

Mean, Standard Deviations and t-values for Age differences on externalizing internalizing problems among left-behind adolescent (N=400)

Scale	Early adolescents (n= 196)		Late adolescents (n= 204)		t	p	95%CI		Cohen's d
	M	S.D	M	S.D			LL	UL	
INP	10.27	2.99	8.92	3.50	4.14	.00	0.71	1.99	0.41

Note: EXP= Externalizing Problems, INP= Internalizing Problems

Table 6 shows the mean differences between two age groups on externalizing and internalizing problems. The early adolescents ($M = 10.49$ $SD = 3.08$) have higher externalizing problems and internalizing problems ($M = 10.27$ $SD = 2.99$) as compared to late adolescents' externalizing problems ($M = 8.96$ $SD = 3.82$) and internalizing problems ($M = 8.92$, $SD = 3.50$).

Table 7

Mean, Standard Deviations and *t*-values for family system differences on externalizing and internalizing problems among left-behind adolescent (N=400)

Scale	Joined (n= 197)		Nuclear (n= 203)		<i>t</i>	<i>p</i>	Cohen's <i>d</i>		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			95%CI		
							<i>LL</i>	<i>UL</i>	
EXP	9.34	3.41	10.07	3.67	-2.06	.01	-1.43	-.03	0.20
INP	9.17	3.21	9.98	3.40	-2.4	.03	-1.46	-.16	0.24

Note: EXP= Externalizing Problems, INP= Internalizing Problems

The finding in the Table 7 suggests that there is significant difference between adolescents living in joined family system and adolescents in nuclear family system. Adolescents living in nuclear family system have a high score on externalizing problems ($M= 9.34, SD = 10.07$) and internalizing problems ($M= 9.17, SD =7.40$) as compared to adolescents living in joined family system ($M =10.07, SD = 13.67$), $M =9.98, SD =3.40$).

Discussion

The present study was carried out to examine the impact of migrant father attachment, on externalizing internalizing problems including the mediating role of family functioning and moderating role of mother nurturance in left-behind adolescents. An important objective of the study was to investigate the association of father attachment and left-behind the adolescent's externalizing internalizing behavioral problems, through its relationships with family functioning in the context of a traditionally collectivistic culture like Pakistan, where family relations have been given much importance.

Finding of the study indicated a negative relationship between the migrant father's attachment, and externalizing internalizing problems, thus supported the first hypothesis. These findings are in line with previous research findings (Gibson et al., 2011; Dreby, 2007) that insecure attachment has negative effects on psychological well-being of left-behind adolescents which results in many emotional and behavioral problems like symptoms of anxiety, depression, somatic problems, aggression, and emotional distress. Finding also showed significant negative relationship between family functioning and behavioral problems which were in line with prior studies (Berge, Wall, Larson, Loth, & Neumark, 2013). Poor family functioning may cause a stressful and less structured family environment, increases the chance of risky outcomes for adolescents. Findings also indicated a negative relationship between mother nurturance and externalizing-internalizing problems of adolescents.

Our results are in line with the findings of Stormshak, Bierman, McMahon & Lengua, (2000) who also reported negative association between increased maternal warmth and decreased behavior problems.

One of the main objectives of the study was to test the mediating role of family functioning. Finding of the present study revealed that family functioning fully mediated the association between father attachment and adolescents' externalizing internalizing problems, suggesting that father attachment could influence externalizing internalizing problems directly and indirectly (via family functioning) thus confirming hypothesis. Insecure father adolescent attachment adversely affects family functioning by deteriorating interaction between family members which in turn leads to negative effects on mental health of adolescents. Same finding was also reported by Rawatlal, Kliever, & Pillay, (2015) that the attachment relationship had an influence on different dimensions of family functioning i.e., communication, unity, disagreement and support. Insecure attachment can amplify adolescents' vulnerability to emotional distress, since the individual may become more susceptible in stressful situation such as family conflict. Similarly, Whisman, and McClelland, (2005) indicated that parental separation resulted in lack of affection between adolescents and parents, which hindered in positive family functioning and contributed for the development of behavioral problems. Family functioning was found to be negatively related to adolescents', internalizing and externalizing problems (Joh et al., 2013).

Due to migration, disrupted father adolescent attachment bond leads toward poor family functioning and decreases positive interaction in family which in turn, has relation with mental health problems. The weak bond between adolescents and parents adversely affects other dimensions, including mental well-being and dealing with other people. Berge et al., (2013) also found that poor family functioning may increase the chance of risky outcomes for adolescents.

An important objective of the study was to test the conditional indirect effect of mother nurturance on externalizing-internalizing problems through family functioning at different level of a moderator (mother nurturance). To better comprehend the role of mother nurturance in left-behind adolescent's externalizing-internalizing problems, we evaluated whether adolescents' perception of mother nurturance moderated the pathways through which migrant-father attachment was related to externalizing-internalizing problems directly as well as indirectly via family functioning. Moderated mediation model was created by integrating father attachment, family functioning, mother nurturance and adolescents' externalizing-internalizing problems. The analysis was done after controlling for the relevant covariant (age, gender, and family system, no of years father working outside the country, area, connected with father on social media). The conditional indirect effect of father attachment on externalizing behavior through family functioning was significant at high level of mother nurturance. Adolescents with low mother nurturance were susceptible to have mental health problems when subjected to insecure attachment, whereas adolescents with high level of mother nurturance were comparatively resistant to the mental health problems. The result showed that mother nurturance emerged as a significant moderator between father attachment and internalizing-externalizing problems through family function, and similarly finding was reported by Mejia et al., (2006) that nurturing mothering formed an environment within a family system that offered opportunities for high family functioning. Moreover, Updegraff et al. (2009) found that the mother expressed greater warmth and acceptance toward adolescents than fathers did and adolescents reacted to the experience of being cherished or unloved by their mothers. Adolescents in absence of affection, nurturance, support, or care, experienced more externalizing-internalizing problems (Rohner & Khaleque, 2010).

But adolescents with a warm, accessible and supportive mother experienced low scores in violent behavior, delinquency, and social withdrawal and are less anxious and depressed (Nunes, Faraco, Vieira, & Rubin, 2013). Thus, findings supported the view that mother's role became more significant in family functioning in father absence. Present findings indicated that higher mother nurturance was associated with lower risk of externalizing-internalizing problems; therefore, this study speculated that the level of mother nurturance acted as a protective factor against the development of externalizing-internalizing problems.

Our hypothesis related to variation on externalizing-internalizing problems in different age groups is approved i.e. those who are younger have more behavioral problems than older ones (Table 6). These findings are in line with the finding of the previous studies that behavior problems emerge during early adolescence but decrease again in late adolescence. Flouri, (2005) also reported that older adolescents seemed to have lower level of externalizing internalizing problems. Fu and Law, (2018) indicated that the skill to create positive meaning from parental migration improved with age. So it might be a reason that the older adolescents may have lower externalizing-internalizing problems. Results also showed significant differences on externalizing and internalizing problems among left-behind adolescents of two different family systems (nuclear and joined). Adolescents from nuclear families have more behavioral problems as compared to adolescents from joined families. Dufour et al. (2008) suggested that the adolescents in nuclear family headed by mother, appeared to have more emotional problems. Paternal absence may lead directly to decreased concern, motivation and supervision. Mother alone cannot always compensate for the vacant space created by migrant father. Often this empty space can be better filled by extended family i.e. including mother, grandparent or uncle and aunt. Rubin, Coplan, and Bowker, (2009) suggested that effective psychosocial support from extended family members may help adolescents to cope with father absence.

Implications

This study is one of the very few preliminary researches, addressing externalizing-internalizing problems of left-behind adolescents in Pakistan and carries significant implications in the context of father migration.

In specific, this study points out the enduring negative effects of left-behind experiences, which are often ignored in family and academic studies, policies and interventions. Identifying protective factors can offer significant insights for the development of interventions aiming at the well-being of adolescents in migrant families. The mother nurturance and extended family system are found to be protective factors. It is imperative to inform parents in left-behind families to create a family environment that is more amenable for adolescents to cope with their fathers' migration. It is important that teachers, and other family members who interact with adolescents, are well equipped to recognize those left-behind adolescents who are suffering from behavioral problems owing to father absence and are also sentient of services offered to improve the well-being of these adolescents. Creation of mutual networks can act as a protective factor to minimize negative effects following father migration. The findings of this study are valuable for Pakistan and other countries experiencing a larger number of left-behind adolescents. These findings highlight the importance to plan interventions for adolescents' externalizing-internalizing problems, particularly considering the role of family functioning and mother nurturance in absence of father. It is apparent that strategies for decreasing the negative impact of father absence are needed. Our results strongly recommend planning intervention programs aimed at monitoring left-behind adolescents' mental health and supporting relationships with both parents, in order to prevent the development of externalizing-internalizing problems in adolescents.

Limitations

First, data were collected with self-report measures. Therefore, the results revealed how the left-behind adolescents' perceived their attachment with migrant fathers. Thus, the findings of this study should be interpreted in the context of this limitation. In future studies, in addition to self-report measures, various assessment techniques, such as parents' reports, and teachers' reports are required. Second, despite efforts to select the representative sample, data was collected only from two districts of Pakistan which reduced the generalizability of the findings to left-behind adolescents in other areas of Pakistan. Additional studies in future with larger and more diverse sample should be conducted. Third, due to cross-sectional study, causal pathways cannot be illustrated.

In future research, qualitative studies are recommended to examine the in-depth effects of aforementioned variables. Fourth, due to the unavailability of migrant fathers and mostly uneducated mothers, data could not be collected from parents, thus all the data were collected from adolescents. It is recommended to get information from both parents and adolescents in future studies. The fifth limitation is that the current study was conducted in schools and colleges, and this study did not include adolescents who drop out of school. Although some studies in western culture found that parental migration could lead to school drop-out (McKenzie & Rapport, 2011). Future studies including a diverse sample of adolescents are still needed. Moreover, this study only focused on the left-behind adolescent; however, including non-left behind adolescents in the study, more interesting conclusions can be drawn. Likewise particular indicators of attachment dynamics and adolescents' mental health in various family contexts should be assessed by including more socio-demographics i.e., duration of father's migration, reunion, frequency of communication, and home visits.

Conclusion

The current study examined the mediating and moderating role of family functioning and mother nurturance in the relationship between father attachment and externalizing-internalizing problems among left-behind adolescents. Study findings indicated that father-attachment had a negative relation with externalizing-internalizing problems which suggested that low migrant father attachment puts adolescents at risk for the development of externalizing-internalizing problems, largely through their effects on dysfunctional families. Mediation and moderated mediation analysis had also been undertaken in this study. Mediation analysis revealed the mediating role of family functioning in the relationship of father-attachment and externalizing-internalizing problems. The moderating mediation analysis showed that mother nurturance moderated the indirect effect of father-attachment on externalizing-internalizing problems through family functioning. On the whole, the present study contributes to family science by examining the respective influence of father attachment on left-behind adolescents' externalizing-internalizing problems. In sum, researchers and mental health professionals should consider underlying mechanisms of the association between migrant father attachment and left-behind adolescents' externalizing-internalizing

problems and devise effective intervention plans to prevent the development of externalizing–internalizing problems in left- behind adolescents.

Ethical Considerations

Ethical approval of the study obtained from departmental committee. All participants participated after written informed consent.

Conflict of Interest

None

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None

Authors' Contributions

ZS completed the study and the article under supervision of TA. TA helped ZS to refine the conceptual model of the study and finalize the article.

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