

## Psychological and Behavioral predictors of Parental Internet Mediation

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### Abstract:

**Background:** Use of internet is rapidly increasing amongst all communities. Teenagers, aged 13 to 19 years, are the avid users of internet. Teenagers' excessive use of internet is a serious concern of parents/caregivers, highlighting the concept of parental internet mediation. Parental internet mediation involves the interaction between parents and teenagers to regulate their use of internet. The current research aimed to explore the psychological and behavioral predictors of parental internet mediation.

**Materials and Methods:** A mixed method exploratory research was conducted in district Lahore (Pakistan). Focus Group Discussions were carried out with 52 teenagers (including 26 boys and 26 girls), followed by a quantitative survey with 347 mothers (parents/ caregivers) of teenagers. After data collection, data was entered and transcribed. Thematic analysis was conducted for qualitative data and bivariate logistic regression was applied for quantitative data.

**Results:** Research found that mostly mothers, applied multiple and mixed internet mediation, such as active co-use mediation, restrictive, monitoring, or active internet safety mediation. Results demonstrated that active co-use mediation has statistically significant association with most of the socio-demographic, psychological and behavioral predictors. Findings showed that those respondents are more likely to mediate often actively, who have older teenagers, mostly girls, having personality traits of more conscientious and open to experiences, with high self-esteem, nonetheless with low level of depression and substance use.

**Conclusion:** This research highlights one of the important issues related to internet and parenting in contemporary societies. It recommends to formulate parental internet mediation guidelines, considering the local cultural practices. Research suggests to launch community based campaign, including print, electronic and social media, to educate parents, teenagers and communities on effective internet mediation and safer online practices.

**Key Word:** Parental Internet Mediation, Teenagers, Psychological, Behavioral predictors, Lahore, Pakistan

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### I. INTRODUCTION

Use of internet is rapidly increasing amongst all communities, particularly in young generation. Teenagers, aged 13 to 19 years, are the avid users of internet and internet connected digital devices. The internet is fabric of their daily lives, therefore teenagers are known as cyber-teens<sup>1</sup>, screenagers<sup>2</sup> and app generation<sup>3</sup>. According to Pew Research Center, nearly 95% teenagers remain online as compared to 78% adults<sup>4</sup>. Teenagers' excessive use of internet is a serious concern of parents/caregivers, highlighting the concept of parental internet mediation. Parental internet mediation involves the interaction between parents and teenagers to regulate their use of internet<sup>5</sup>. Considering the attributes of internet, there are five dimensions of parental internet mediation, i.e. active co-use mediation, restrictive mediation, monitoring, technical mediation and active mediation of internet safety<sup>6</sup>.

Since parental internet mediation directly monitor, guide or regulate teens' online behaviors, therefore, imply psychological and behavioral controls on teenagers, which may lead to risky behaviors. Here the psychological control refer to negative effects on personality, while behavioral control indicates to aggression, delinquent behavior, depression, or lower self-esteem<sup>7</sup>. The current research aimed to explore the psychological and behavioral predictors of parental internet mediation.

## II. MATERIAL AND METHODS

A mixed method research (qualitative and quantitative) was conducted in district Lahore, with both parents/caregivers and teenagers (aged 13-19 years), during April and May, 2018. Initially eight (8) Focus Group Discussions (FGDs) were organized with 52 teenagers, followed by a survey with 347 mothers (parents/caregivers).

**Study Design:** Cross-sectional mixed method exploratory design

**Study Location:** District Lahore (Pakistan)

**Study Duration:** April to May, 2018

**Sample size:** 52 teenagers (including 26 boys and 26 girls) for FGDs and 347 mothers (parents/caregivers) of teenagers for survey

**Sample size calculation:** Qualitative research was conducted using purposive sampling. In total, eight FGDs were conducted with 52 teenagers, including 26 boys and 26 girls) giving equal importance to gender. For quantitative survey, stratified random sampling was adopted, where Cochran formula<sup>8</sup> ( $n = \frac{Z_{\alpha/2}^2 \cdot p \cdot (1-p)}{d^2}$ ) was used to draw sample. The sample was estimated based on 18% population proportion using internet, with 95% confidence level, 95% significance level, 5% absolute precision and 1.5 design effect. This formula gave the sample size of 340. Further, 10% non-response rate was also included, making the sample of 380 respondents.

**Selection and Data Collection method:** The qualitative research participants, i.e. teenagers studying at secondary schools or in early years of colleges and universities were recruited from their academic institutions of district Lahore, using purposive sampling. Separate FGDs were conducted with boys and girls within six academic institutions, where each group consisted of 6-8 participants. However, in case of quantitative survey, the research adopted two-stage stratified random sampling, wherein first stage, 11 universities and 11 hospitals/medical colleges were randomly selected from district list. In second stage, eligible respondents, i.e. mothers/female caregivers of teenagers were selected randomly.

**Inclusion criteria:** The inclusion criteria for qualitative research included teenagers (aged 13-19 years), either studying at secondary schools or in early years of colleges and universities. Nonetheless, the inclusion criteria for quantitative research included mothers/female caregivers, having teenagers and using internet. This research interviewed mothers/female caregivers, being the most involved parent/primary caregiver than fathers /male caregivers<sup>9</sup>. Further, literature suggested that parental mediation is related to parental own social and educational background<sup>10, 11</sup>, hence only qualified and on-job/serving professional mothers were included from top two women-opted professions, i.e. medicines and academia. Thus, this research interviewed lady doctors and head nurses from hospitals/medical colleges, while lecturers, assistant/associate professors and professors from academic universities of district Lahore.

**Methodology:** Informed consent was obtained from all participants/respondents, and a well-structured FGDs' guide and survey questionnaire was used for data collection. FGDs' guide helped to understand teenagers' perspective about parental internet mediation, being applied in local settings and various psychological and behavioral problems related to internet. However, a pre-coded survey questionnaire was used to collect data from mothers/female caregivers to understand their perspective on parental internet mediations and multiple psychological and behavioral predictors.

Dependent variables for this research were five dimensions of parental internet mediation (active co-use mediation, restrictive mediation, monitoring, technical mediation and active mediation of internet safety), measured in consistent with similar studies<sup>6</sup>. Active co-use mediation involved mutual sharing, discussion and encouragement on learning online activities; restrictive mediation consisted of setting multiple rules and regulation for use of internet, both for time and content; monitoring included checking of available record (visited websites, profiles, messages) afterwards; technical mediation consisted of use of parental control mechanisms or software to monitor, filter or restrict online activities; and active internet safety mediation involved guidance to ensure safer internet practices. Based on validated scale, all the above dimensions of parental internet mediation were computed and dichotomized, using mean value, into high and low mediation.

Independent variables for this research were respondents' characteristics, such as age (31-40, 41-50, 51-60 yrs.), monthly income in PKR (upto 50,000; 51,000-100,000; 100,100-150,000; 150,100-200,000; more than 200,000), as well as teenagers' sex (boys/girls) and age (13-15, 16-17, 18-19 yrs.). Others psychological predictors included teenagers' personality traits or problem behaviors, both internalized and externalized. Big-five inventory-10 was used to measure each of five personality traits<sup>12</sup> and computed (extrovert/introvert, agreeable/disagreeable, conscientious/lack of directions, neurotic/emotionally stable, open/close to experiences). Behavioral predictors included both internalized (anxiety/depression, lower self-esteem) and externalized problem behaviors (aggression delinquency, substance use). A standardized tool of Achenbach' child behavior checklist<sup>13</sup> was adapted to measure anxiety/depression, aggression, delinquent behavior and substance use (smoking/drugs), while Rosenberg's 10-item scale was used to measure teenagers' self-esteem<sup>14</sup>. After computing, all variables were dichotomized into high vs low levels of anxiety/depression, self-esteem, aggression, delinquency and substance use (yes/no).

**Statistical Analysis:** Qualitative data was transcribed and analyzed thematically, while quantitative data was entered and analyzed using SPSS version-21. Frequency distribution and percentages were presented, followed by cross-tabulation and chi-square test of association. A two-sided p-value ( $\leq 0.05$ ) was considered significant statistically. Further, bivariate logistic regression was applied for association, where odds ratio (OR) were presented with 95% confidence interval (CI).

### III. RESULTS

Qualitative analysis of FGDs highlighted that participants (teenagers of 13-19 years), studying between 7<sup>th</sup> standard in school to 4<sup>th</sup> year of college/university were included in research. Table-1 of quantitative analysis showed the socio-demographic and parental internet mediation related characteristics of respondents (mothers/female caregivers). Results showed that most of the respondents were found between 41-50 years of age (61.7%), earning 51,000 to 100,000 each month (45.8%) and having younger teenagers of 13-15 years of age (41.8%). It also showed that most of the respondents applied high level of active internet safety mediation (65.4%), active co-use mediation (59.7%) and restrictive mediation (56.2%), nonetheless, some parents applied monitoring (36%) and few applied technical mediation (15.3%).

**Table 1: Socio-demographic and parental internet mediation related characteristics in district Lahore**

Characteristics	n=347	
	Frequency	%
<b>Respondents' Age</b>		
31-40 years	48	13.8
41-50 years	214	61.7
51-60 years	85	24.5
<b>Monthly Income</b>		
Upto 50,000	45	13.0
51,000 - 100,000	159	45.8
100,100 - 150,000	70	20.2
150,100 - 200,000	34	9.8
More than 200,000	39	11.2
<b>Age of teenagers</b>		
13-15 years	145	41.8
16-17 years	97	28.0
18-19 years	105	30.3
<b>Sex of teenagers</b>		
Boys	183	52.7
Girls	164	47.3
<b>Parental Internet Mediation</b>		
<b>Active Co-use Mediation</b>		
High level	207	59.7
Low level	140	40.3
<b>Restrictive Mediation</b>		
High level	195	56.2
Low level	152	43.8
<b>Monitoring</b>		
High level	125	36
Low level	222	64
<b>Technical Mediation</b>		
High level	53	15.3
Low level	294	84.7
<b>Active Mediation of Internet Safety</b>		
High level	227	65.4
Low level	120	34.6

On the other hand, qualitative analysis showed that most of teenagers were unaware of term 'parental internet mediation', however upon probing, teenagers responded that their parents, mostly mothers, applied multiple and mixed internet mediation, such as restrictive, monitoring, or somehow active mediation. Findings also revealed that older teenagers especially boys reported less mediation as compared to youngsters.

In response to important factors to be considered, while applying parental internet mediation, qualitative findings highlighted that older teenagers were found more capable to respond to these questions. Most of the participants viewed that parents' preference for various internet mediation is subject to their personality traits, e.g. introvert or neurotic, and problem behavior, e.g. depression or aggression. However, very few reported such personality problem and problem behaviors amongst themselves.

According to quantitative analysis, most of the respondents reported that their teenagers are emotionally stable (97.1%), conscientious (75.2%), agreeable (71.2%), extrovert (61.1%) and open to experiences (51.6%), as illustrated in figure 1 below. Further, respondents also informed that their teenagers had high level of aggression (53.3%) and delinquency (54.2%), nevertheless, low level of anxiety/depression (61.4%) and high level of self-esteem (59.4%).

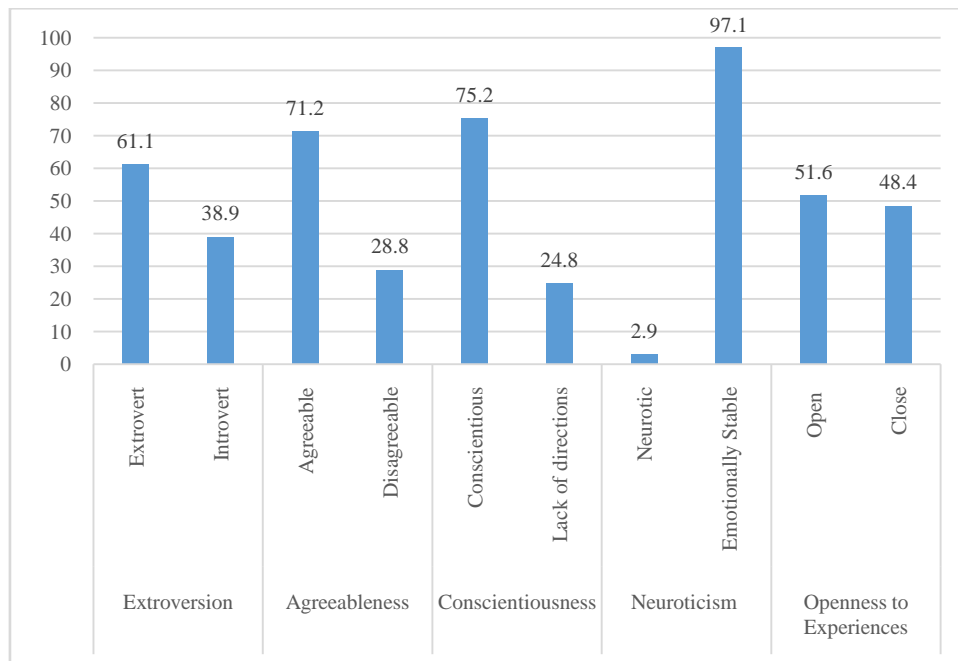


Figure-1: Parental perception about teenagers' personality traits

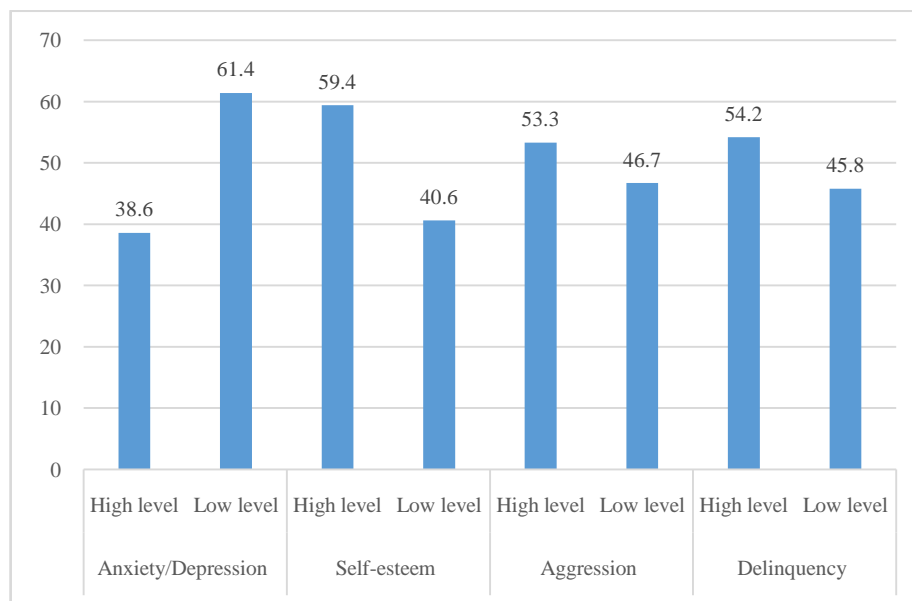


Figure-1: Parental perception about teenagers' problem behaviors

Table 2 highlights the bivariate analysis of various dimensions of parental internet mediation with socio-demographic, psychological and behavioral predictors, using chi-square. Results demonstrated that active co-use mediation has statistically significant association with most of the socio-demographic, psychological and

behavioral predictors. Findings also found strong association of active internet safety mediation with multiple predictors.

**Table 2: Association of Parental Internet Mediation (all five dimensions) with various Socio-demographic factors, psychological and behavioural predictors**

Characteristics	Active Co-use Mediation			Restrictive Mediation			Monitoring			Technical Mediation			Active Internet Safety		
	n=347			n=347			n=347			n=347			n=347		
	High %	Low %	p-value	High %	Low %	p-value	High %	Low %	p-value	High %	Low %	p-value	High %	Low %	p-value
<b>Respondents' Age</b>															
31-40 years	17.9	7.9	<b>0.00</b>	13.8	13.8	0.62	8.8	16.7	0.08	11.3	14.3	0.41	14.1	13.3	0.13
41-50 years	63.8	58.6		63.6	59.2		68.0	58.1		69.8	60.2		64.8	55.8	
51-60 years	18.4	33.6		22.6	27.0		23.2	25.2		18.9	25.5		21.1	30.8	
<b>Respondents' Monthly Income (in PKR)</b>															
Upto Rs. 50,000	11.6	15	<b>0.00</b>	15.4	9.9	<b>0.02</b>	10.4	14.4	0.47	15.1	12.6	<b>0.03</b>	10.1	18.3	0.15
Rs. 51,000 - 100,000	54.6	32.9		46.7	44.7		47.2	45		30.2	48.6		47.1	43.3	
Rs. 100,100 - 150,000	18.8	22.1		22.6	17.2		17.6	21.6		18.9	20.4		21.6	17.5	
Rs. 150,100 - 200,000	5.8	15.7		8.2	11.8		10.4	9.5		18.9	8.2		11	7.5	
More than Rs. 200,000	9.2	14.3		7.2	16.4		14.4	9.5		17	10.2		10.1	13.3	
<b>Age of Teenagers</b>															
13-15 years	53.1	25	<b>0.00</b>	42.6	40.8	0.53	39.2	43.2	0.69	50.9	40.1	0.33	46.7	32.5	<b>0.03</b>
16-17 years	24.2	33.6		25.6	30.9		30.4	26.6		24.5	28.6		26.4	30.8	
18-19 years	22.7	41.4		31.8	28.3		30.4	30.2		24.6	31.3		26.9	36.7	
<b>Sex of Teenagers</b>															
Boys	46.9	61.4	<b>0.00</b>	54.4	50.7	0.49	54.4	51.8	0.64	56.6	52.0	0.54	49.8	58.3	0.12
Girls	53.1	38.6		45.6	49.3		45.6	48.2		43.4	48.0		50.2	41.7	
<b>Perceived teens' Personality Traits</b>															
<b>Extroversion</b>															
Extrovert	59.4	63.6	0.43	66.2	54.6	<b>0.02</b>	65.6	58.6	0.19	62.3	60.9	0.85	65.2	53.3	<b>0.03</b>
Introvert	40.6	36.4		33.8	45.4		34.4	41.4		37.7	39.1		34.8	46.7	
<b>Agreeableness</b>															
Agreeable	73.4	67.9	0.26	73.8	67.8	0.21	72.8	70.3	0.62	75.5	70.4	0.45	72.2	69.2	0.55
Disagreeable/Antagonism	26.6	32.1		26.2	32.2		27.2	29.7		24.5	29.6		27.8	30.8	
<b>Conscientiousness</b>															
Conscientious	80.2	67.9	<b>0.00</b>	77.9	71.7	0.18	84.8	69.8	<b>0.00</b>	79.2	74.5	0.46	79.3	67.5	<b>0.01</b>
Lack of directions	19.8	32.1		22.1	28.3		15.2	30.2		20.8	25.5		20.7	32.5	
<b>Neuroticism</b>															
Neurotic	1.4	5	<b>0.05</b>	4.1	1.3	0.12	2.4	3.2	0.68	3.8	2.7	0.67	2.6	3.3	0.71
Emotionally Stable	98.6	95		95.9	98.7		97.6	96.8		96.2	97.3		97.4	96.7	
<b>Openness to Experience</b>															
Open	46.4	59.3	<b>0.01</b>	55.4	46.7	0.10	56.8	48.6	0.14	77.4	46.9	<b>0.00</b>	55.1	45	0.07
Close	53.6	40.7		44.6	53.3		43.2	51.4		22.6	53.1		44.9	55	
<b>Perceived teens' Internalized Problem Behaviors</b>															
<b>Perceived teens' depression/anxiety</b>															
High level	37.2	40.7	0.51	37.4	40.1	0.61	43.2	36	0.18	20.8	41.8	<b>0.00</b>	41.4	33.3	0.14
Low level	62.8	59.3		62.6	59.9		56.8	64		79.2	58.2		58.6	66.7	
<b>Perceived teens' Self-esteem</b>															
High level	66.2	49.3	<b>0.00</b>	64.6	52.6	<b>0.02</b>	70.4	53.2	<b>0.00</b>	62.3	58.8	0.64	66.5	45.8	<b>0.00</b>
Low level	33.8	50.7		35.4	47.4		29.6	46.8		37.7	41.2		33.5	54.2	
<b>Perceived teens' Externalized Problem Behaviors</b>															

<b>Perceived teens' Aggression</b>															
High level	52.2	55	0.60	60	55.3	0.00	55.2	52.3	0.59	49.1	54.1	0.50	54.2	51.7	0.65
Low level	47.8	45		40	44.7		44.8	47.7		50.9	45.9		45.8	48.3	
<b>Perceived teens' Delinquency</b>															
High level	47.8	63.6	0.00	53.3	55.3	0.72	62.4	49.5	0.02	47.2	55.4	0.26	50.2	61.7	0.04
Low level	52.2	36.4		46.7	44.7		37.6	50.5		52.8	44.6		49.8	38.3	
<b>Perceived teens' Substance use</b>															
Yes	10.1	18.6	0.02	16.4	9.9	0.07	14.4	13.1	0.72	17	12.9	0.43	11.5	17.5	0.12
No	89.9	81.4		83.6	90.1		85.6	86.9		83	87.1		88.5	82.5	

p-value was calculated using chi-square

Table 3 shows the bivariate logistics regression of five dimensions of parental internet mediation with socio-demographic, psychological and behavioral predictors. Similar to table 2, results also highlighted the most significant association of active co-use mediation with most of the predictors. Findings showed that those respondents are more likely to mediate actively, who have older teenagers with 16-17 years (OR=0.34, 95%CI: 0.19-0.58) and 18-19 years (OR=0.25, 95%CI:0.15-0.44), mostly girls (OR=1.80, 95%CI: 1.16-2.79), found their personality traits more conscientious (OR=2.34, 95%CI:1.37-3.97) and open to experiences (OR=0.53, 95%CI:0.33-0.83), having high self-esteem (OR=2.01, 95%CI:1.29-3.12), nonetheless with high level of delinquency (OR=0.57, 95%CI:0.36-0.89) and without any substance use (OR=2.02, 95%CI:1.08-3.75).

**Table 3. Bivariate Logistics Regression of Parental Internet Mediation with socio-demographic, psychological and behavioural predictors**

Characteristics	Active Co-use			Restrictive			Monitoring			Technical			Active Internet Safety		
	OR	CI (95%)	p-value	OR	CI (95%)	p-value	OR	CI (95%)	p-value	OR	CI (95%)	p-value	OR	CI (95%)	p-value
<b>Respondents' age</b>															
31-40 years	1			1			1			1			1		
41-50 years	0.47*	0.23-0.99	0.04	1.07	0.57-2.01	0.83	2.21*	1.07-4.58	0.03	1.46	0.58-3.69	0.42	1.09	0.56-2.13	0.78
51-60 years	0.24*	0.11-0.53	0.00	0.83	0.41-1.70	0.62	1.74	0.77-3.91	0.17	0.93	0.31-2.74	0.90	0.64	0.31-1.35	0.25
<b>Respondents' Monthly Income</b>															
Upto 50,000	1			1			1			1			1		
51,000 - 100,000	2.15*	1.09-4.23	0.02	0.67	0.33-1.34	0.25	1.45	0.71-2.98	0.31	0.51	0.21-1.30	0.16	1.96*	1.00-3.85	0.05
100,100 - 150,000	1.10	0.51-2.33	0.80	0.84	0.38-1.85	0.67	1.12	0.49-2.55	0.77	0.77	0.27-2.13	0.61	2.23*	1.02-4.85	0.04
150,100 - 200,000	0.47	0.19-1.19	0.11	0.44	0.17-1.11	0.08	1.52	0.59-3.92	0.38	1.92	0.66-5.57	0.23	2.65*	1.01-6.94	0.04
More than 200,000	0.83	0.35-1.96	0.67	0.28*	0.11-0.69	0.01	2.11	0.85-5.19	0.10	1.38	0.47-4.03	0.54	1.37	0.57-3.26	0.47
<b>Age of teenagers</b>															
13-15 years	1			1			1			1			1		
16-17 years	0.34*	0.19-0.58	0.00	0.79	0.47-1.33	0.38	1.26	0.74-2.15	0.39	0.67	0.33-1.38	0.28	0.59	0.34-1.03	0.06
18-19 years	0.25*	0.15-0.44	0.00	1.07	0.64-1.79	0.77	1.11	0.65-1.88	0.69	0.62	0.30-1.26	0.18	0.51*	0.29-0.87	0.01
<b>Sex of teenagers</b>															
Boys	1			1			1			1			1		
Girls	1.80*	1.16-2.79	0.01	0.86	0.56-1.32	0.49	0.90	0.58-1.39	0.64	0.83	0.46-1.50	0.54	1.41	0.90-2.21	0.13
<b>Perceived teen' Personality Traits</b>															
<b>Extroversion</b>															
Introvert	1			1			1			1			1		
Extrovert	0.71	0.44-1.13	0.14	1.52	0.97-2.38	0.06	1.17	0.73-1.89	0.50	1.01	0.53-1.91	0.97	1.51	0.94-2.40	0.08
<b>Agreeableness</b>															
Disagreeable	1			1			1			1			1		
Agreeable	1.27	0.78-2.08	0.33	1.38	0.85-2.24	0.18	1.08	0.65-1.79	0.75	1.32	0.65-2.68	0.44	1.09	0.66-1.80	0.73
<b>Conscientiousness</b>															

Lack of directions	1			1			1			1			1		
Conscientious	2.34*	1.37-3.97	0.00	1.22	0.73-2.05	0.44	2.21*	1.24-3.97	0.00	1.06	0.49-2.26	0.87	1.57	0.93-2.64	0.09
<b>Neuroticism</b>															
Neurotic	1			1			1			1			1		
Emotionally Stable	2.58	0.62-10.70	0.19	0.28	0.05-1.39	0.12	1.21	0.29-5.01	0.78	0.77	0.15-4.02	0.75	1.27	0.34-4.82	0.72
<b>Openness to Experience</b>															
Close	1			1			1			1			1		
Open	0.53*	0.33-0.83	0.00	1.35	0.87-2.09	0.18	1.27	0.81-2.00	0.29	3.81*	1.91-7.61	0.00	1.42	0.90-2.24	0.13
<b>Perceived teens' internalized Problem Behaviors</b>															
<b>Perceived teens' depression/anxiety</b>															
Low level	1			1			1			1			1		
High level	0.86	0.56-1.34	0.51	0.89	0.58-1.38	0.61	1.35	0.86-2.11	0.19	0.36*	0.18-0.74	0.05	0.14	0.89-2.24	0.14
<b>Perceived teens' Self-esteem</b>															
Low level	1			1			1			1			1		
High level	2.01*	1.29-3.12	0.00	1.64*	1.06-2.53	0.02	2.09*	1.31-3.34	0.00	1.15	0.63-2.11	0.64	2.34*	1.49-3.69	0.00
<b>Perceived teens' externalized Problem Behaviors</b>															
<b>Perceived teens' Aggression</b>															
Low level	1			1			1			1			1		
High level	0.89	0.58-1.37	0.60	1.85*	1.21-2.85	0.00	1.13	0.73-1.74	0.59	0.82	0.45-1.46	0.50	1.11	0.71-1.72	0.65
<b>Perceived teens' Delinquency</b>															
Low level	1			1			1			1			1		
High level	0.57*	0.36-0.89	0.01	0.92	0.60-1.42	0.72	1.69*	1.08-2.64	0.02	0.72	0.39-1.29	0.27	0.62*	0.40-0.98	0.04
<b>Perceived teens' Substance use</b>															
Yes	1			1			1			1			1		
No	2.02*	1.08-3.75	0.02	0.56	0.29-1.07	0.08	0.89	0.45-1.68	0.73	0.73	0.33-1.60	0.43	1.64	0.88-3.05	0.12

Note: 1 shows the reference category and \* indicates the p-value  $\leq 0.05$ .

#### IV. DISCUSSION

This research mainly discourse to identify and explore association of parental internet mediation with multiple psychological and behavioral predictors of teenagers. Most of the available research work on parental internet mediation focused on the effectiveness of mediation, however, this research was designed to deepen an understanding of various predictors of mediation. This research bridges the gap in existing body of knowledge, providing the evidence within local setting of Lahore (Pakistan), therefore is of highly significance. Research elucidates that teenage bring multiple developmental, psychological and behavioral changes, which are essential to be considered, while applying parental internet mediation. The process of parental internet mediation to guide, regulate or monitor teenagers' use of the internet may account for various psychological or behavioral problems.

Overall research found that parents apply mixed or combined set of mediation, often active co-use mediation, active internet safety, restrictive mediation and monitoring. These findings are consistent to previous studies<sup>6,8</sup>. It also indicates that parents' preference for various dimensions of internet mediation is subject to needs and competencies of teenagers.

For psychological predictors, although the neurotic and introvert personalities have been most commonly studied in relation to internet<sup>15</sup>, however, this research found explored all five traits of personality. Findings revealed that conscientious is a significant predictor of active co-use mediation and monitoring, while and open to experiences is a positive predictor of technical and active co-use mediation. Analysis highlighted that parents' preference to multiple dimensions of mediation is associated to teenagers' personality. These findings are in contrast to previous research<sup>16</sup>.

Regarding problem behaviors, analysis showed that parents reported low level of depression and no substance use, while high level of self-esteem, with high level of aggression and delinquency. These findings somehow relate to previous studies<sup>17,18</sup>.

This research emphasizes to understand the developmental, psychological and behavioral changes of teenagers and their agency. This research analytically contributed through introducing a new research domain, combining simultaneously the psychological and behavioral predictors of parental internet mediation. This research emphasizes that parental mediation strategies could not be effectively investigated, unless individual's varied psychological and behavioral characteristics are examined. This research highlights the relevance and

effectiveness of this novel combination of predictors with parental internet mediation, being highly significant and considerate in similar future researches.

## V. CONCLUSION

This research highlights one of the important issue related to internet and parenting in contemporary societies. It recommends to formulate parental internet mediation guidelines, considering the local cultural practices in mind. Research suggests to launch community based campaign, including print, electronic and social media, to educate parents, teenagers and communities on effective internet mediation and safer online practices.

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