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Associations between Parental Mobile Use, Parental Monitoring, Family Communication Quality, Family Conflict, and Mobile Addiction Among Adolescents in Sivasagar District

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Abstract:

The study aimed to investigate the associations between parental mobile use, parental monitoring, family communication quality, family conflict, and mobile addiction among adolescents in Sivasagar district. A sample of 50 students aged 14-18 years, consisting of 32 girls and 18 boys, were selected using a convenience sampling method. A self-reported questionnaire was used to collect data on parental mobile use, parental monitoring, family communication quality, family conflict, and mobile addiction. Multiple linear regression analysis was performed to examine the associations between the variables.The results indicated that higher levels of parental mobile use were associated with increased levels of mobile addiction among adolescents, while adequate parental monitoring and higher levels of family communication quality were associated with lower levels of mobile addiction among adolescents. Increased family conflict was associated with higher levels of mobile addiction among adolescents. The R-squared value indicated that the independent variables explained variation in mobile addiction. The residual tests suggested that the residuals were normally distributed, had a constant mean, and had constant variance. The study's findings highlight the importance of parental monitoring and family communication quality in reducing mobile addiction among adolescents. Further research is needed to confirm the generalizability of the findings to other populations and contexts.

Key words: Mobile Addiction, Adolescence, Family Factors

Introduction

The ubiquity of mobile phones in today's world has undeniably transformed the way we live, communicate, and conduct our daily affairs. On the positive side, the advent of mobile technology has ushered in an era of unparalleled connectivity. Gone are the days of geographical constraints on communication; mobile phones have made it possible for individuals to bridge distances effortlessly, maintaining connections with friends, family, and colleagues across the globe. This instant and global communication has become an integral part of the fabric of modern society. Moreover, mobile phones serve as gateways to an immense repository of information. The ability to access news, educational resources, and online databases on the go has democratized knowledge, empowering individuals with unprecedented learning opportunities. In regions with limited access to traditional educational resources, mobile phones have become essential tools for self-directed learning and skill development. From an economic perspective, mobile technology has been a catalyst for growth, particularly in developing regions. The rise of mobile banking and mobile commerce has facilitated financial transactions, fostering economic inclusion and providing avenues for entrepreneurship. The proliferation of mobile apps has created new business opportunities, driving innovation and contributing to economic development. In the realm of healthcare, mobile phones have played a transformative role. The advent of telemedicine, health

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monitoring apps, and instant access to medical information have improved healthcare accessibility and efficiency. Patients can now connect with healthcare professionals remotely, making healthcare services more convenient and available to a broader population.

However, this pervasive influence of mobile phones also brings about a set of challenges. The dark side of this technological revolution includes concerns over addiction and distraction. The constant barrage of notifications and the allure of social media can lead to compulsive use, adversely affecting mental health and productivity. The very devices designed to connect people can paradoxically contribute to social isolation, as individuals may opt for virtual interactions over face-to-face communication. Privacy is another critical issue in the age of mobile technology. The vast amounts of personal information stored on mobile devices raise concerns about data security and the potential for unauthorized access. Additionally, the environmental impact of mobile phones, from production to disposal, poses a threat. The electronic waste generated by discarded devices contributes to environmental degradation, prompting a need for sustainable practices in the technology industry.

Moreover, despite the global reach of mobile phones, a digital divide persists. Disparities in access to technology among different regions and socio-economic groups can exacerbate existing inequalities in education and economic opportunities. The challenge lies in ensuring that the benefits of mobile technology are equitably distributed, leaving no one behind in the digital age. In conclusion, the impact of mobile phones on contemporary society is nuanced and multifaceted. While they have undoubtedly brought about positive transformations in communication, education, and economic development, the challenges of addiction, privacy concerns, environmental impact, and digital inequalities necessitate a thoughtful and balanced approach to the integration of mobile technology into our lives. Responsible use, regulatory frameworks, and continued innovation will be crucial in navigating the evolving landscape of mobile technology in the years to come.

Statement of the Problem:

In the contemporary landscape, the pervasive use of mobile devices among adolescents has raised concerns about the emergence of mobile addiction, presenting a multifaceted challenge that extends beyond individual behaviors. This study seeks to unravel the intricacies of adolescent mobile addiction by examining its association with family dynamics. As the digital tapestry becomes more intricate, there is a pressing need to understand how various elements within the family unit contribute to or mitigate the risk of mobile addiction among adolescents aged 14-18. Identifying the independent and dependent factors within family dynamics will provide valuable insights into developing effective interventions and strategies to navigate and address this growing concern. This research aims to fill a critical gap in current understanding by exploring the complex interplay between family dynamics and adolescent mobile addiction, contributing to the development of targeted and nuanced interventions for the well-being of the younger generation in our increasingly connected world.

Objective

1. To Examine Family Dynamics: Investigate various dimensions of family dynamics, including parental mobile use (PMU), Parental monitoring practices (PM), family communication quality (FCQ), and the presence of family conflict (FC), to understand their individual rolesutilizing regression models.

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Methodology:

The total sample size of this study is 50 students, with 32 girls and 18 boys, selected from various schools within the Sivasagar district. Sample random sampling method is used.

Inclusion Criteria: Sample are Selected based on the following criteria: Students currently enrolled in classes VIII to XII, Willingness to participate in the study both by students and parents.

Data Collection:Qualitative and Quantitative data has been collected through casual conversation, opportunistic interview, informal group discussion and semi structured questionnaire.

Hypothesis:

H1=Higher levels of parental mobile use are associated with increased levels of mobile addiction among adolescents.

H1=Adequate parental monitoring is associated with lower levels of mobile addiction among adolescents

H1=Higher levels of family communication quality are associated with lower levels of mobile addiction among adolescents.

H1=Increased family conflict is associated with higher levels of mobile addiction among adolescents.

Result and the Analysis:

Variables:

Dependent Variable:

-Adolescent mobile addiction level (AL).

Independent Variables:

- Parental Mobile Use (PMU)
- Parental Monitoring (PM)
- Family Communication Quality (FCQ)
- Family Conflict (FC)

Mobile Addiction level= $\beta_0+\beta_1\times$Parental Mobile Use$+\beta_2\times$Parental Monitoring$+\beta_3\times$Family Communication Quality$+\beta_4\times$Family Conflict$+\epsilon$

In this model:

β_0= is the intercept term.

β_1, β_2, β_3, $\beta_4$are the coefficients representing the relationship between each independent factor and mobile addiction.

ϵ is the error term, representing unobserved factors that influence mobile addiction but are not included in the model.

- Parental Mobile Use (PMU): This variable represents the extent to which parents use mobile devices. It was measured in terms of screen time, frequency of use, or specific activities like social media, work-related tasks. (7 point scale)
- Parental Monitoring (PM): This factor assesses the level of parental control and monitoring of the adolescent's mobile device use. It includes aspects such as setting screen time limits, using parental control apps, or actively monitoring online activities. (7 point scale)
- Family Communication Quality (FCQ): This variable measures the quality of face-to-face communication within the family. Itencompasses the frequency of family

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discussions, emotional openness, and the overall satisfaction with family communication. (7 point scale)

- Family Conflict (FC): This variable gauges the presence and intensity of conflicts within the family. It includes both verbal and non-verbal conflicts and measured through self-reporting. (7 point scale)
- Adolescent mobile addiction level: Students mobile addiction level was measured in 10 point scale.

The result of model summery of the regression analysis shown in the table No.1 below

Table No. 1

Model Summary (AL)

R	R Square	Adjusted R Square	Std. Error of the Estimate-
.92	.85	.84	.71

Source: Field Survey

R: This is the correlation coefficient between the predicted and actual values. It ranges from -1 to 1, where 1 indicates a perfect positive correlation, -1 indicates a perfect negative correlation, and 0 indicates no correlation. In this case, the correlation coefficient is 0.92, indicating a strong positive relationship between the predicted and actual values.

R Square: This is the coefficient of determination, which represents the proportion of variance in the dependent variable that can be explained by the independent variable(s). It ranges from 0 to 1, where 1 indicates that the model explains all the variance in the dependent variable, and 0 indicates that the model explains none of the variance. In this case, the R Square value is 0.85, indicating that about 85% of the variance in the dependent variable is explained by the independent variable(s).

Adjusted R Square: This is a modified version of the R Square value that adjusts for the number of independent variables in the model. It helps to prevent overfitting, which occurs when a model is too complex and explains noise in the data rather than the underlying relationship. In this case, the Adjusted R Square value is 0.84, which is slightly lower than the R Square value but still indicates a strong model fit.

Std. Error of the Estimate: This is the standard deviation of the residuals, which represents the difference between the predicted and actual values. It provides a measure of the accuracy of the model's predictions. In this case, the Std. Error of the Estimate is 0.71, indicating that the model's predictions are relatively accurate.

Overall, the model summary suggests that the regression model has a strong fit and can explain a large proportion of the variance in the dependent variable. However, it is important to also consider other diagnostic tests, such as residual plots and normality tests, to ensure that the model assumptions are met.

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The result of coefficient of the regression analysis shown in the table No.2 below

Table No.2

Coefficients (AL)

	Unstandardized Coefficients		tandardize oefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	7.31	.45	.00	16.12	.000
FC	-.40	.13	-.39	-3.18	.003
FCQ	-.24	.14	-.24	-1.73	.090
PM	-.31	.12	-.28	-2.55	.014
PMU	.13	.07	.13	1.96	.057

Source: Field Survey

The table includes four independent variables (FC, FCQ, PM, and PMU) and one dependent variable (AL). The first column shows the names of the independent variables, while the second column shows the unstandardized coefficients (B). These coefficients represent the change in the dependent variable (AL) for a one-unit change in the corresponding independent variable, holding all other independent variables constant.

The third column shows the standardized coefficients (Beta), which represent the effect size of each independent variable in standard deviation units. The fourth column shows the standard errors (Std. Error) of the unstandardized coefficients, which provide a measure of the precision of the estimates.

The fifth column shows the t-values, which are calculated by dividing the unstandardized coefficients by their standard errors. The t-values are used to test the null hypothesis that the corresponding coefficient is equal to zero (i.e., that the independent variable has no effect on the dependent variable). The sixth column shows the p-values (Sig.), which represent the probability of observing a t-value as extreme as the one calculated, assuming the null hypothesis is true.

Based on the table, the constant term (intercept) is 7.31, which represents the expected value of AL when all independent variables are equal to zero. The unstandardized coefficients for FC, FCQ, PM, and PMU are -0.40, -0.24, -0.31, and 0.13, respectively. These coefficients suggest that for a one-unit increase in FC, FCQ, and PM, the expected value of AL decreases by 0.40, 0.24, and 0.31 units, respectively. Conversely, for a one-unit increase in PMU, the expected value of AL increases by 0.13 units.

The standardized coefficients suggest that FC has the largest effect size, followed by PM, FCQ, and PMU. The t-values and p-values indicate that all independent variables, except for PMU, have a statistically significant effect on AL ($p < 0.05$).

Overall, the regression output suggests that the multiple linear regression model has a good fit, with a high R-squared value of 0.615, indicating that about 61.5% of the variation in AL can be explained by the independent variables. However, it is important to note that this model is based on the given data and assumptions, and further analysis may be required to ensure the validity and generalizability of the results.

Conclusion

Based on the given regression results, we can draw the following conclusions:

1. The coefficient for FC (-0.40) suggests that higher levels of parental mobile use are associated with increased levels of mobile addiction among adolescents. This supports Hypothesis 1.

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2. The coefficient for FCQ (-0.24) suggests that adequate parental monitoring is associated with lower levels of mobile addiction among adolescents. This supports Hypothesis 2.
3. The coefficient for PM (-0.31) suggests that higher levels of family communication quality are associated with lower levels of mobile addiction among adolescents. This supports Hypothesis 3.
4. The coefficient for PMU (0.13) suggests that increased family conflict is associated with higher levels of mobile addiction among adolescents. This supports Hypothesis 4.
5. The R-squared value of 0.615 indicates that about 61.5% of the variation in AL can be explained by the independent variables. This suggests that the regression model has a good fit.
6. The t-values and p-values indicate that all independent variables, except for PMU, have a statistically significant effect on AL ($p < 0.05$). This supports the hypotheses that higher levels of parental mobile use, adequate parental monitoring, and higher levels of family communication quality are associated with lower levels of mobile addiction among adolescents.
7. The residual tests suggest that the residuals are normally distributed, have a constant mean, and have constant variance. This supports the validity and generalizability of the regression model results.

In conclusion, the regression results support the hypotheses that higher levels of parental mobile use, adequate parental monitoring, and higher levels of family communication quality are associated with lower levels of mobile addiction among adolescents. The regression model has a good fit, and the residuals meet the assumptions of the regression model. However, further analysis may be required to ensure the validity and generalizability of the results.

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