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The Impact Of The Psychological And Social Aspect On The Formation Of Violent Personalities Among Children And Adults In Light Of The Presence Of Modern Technology In Health Facilities

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ABSTRACT

The active inclusion of modern technology into the healthcare setting is a new aspect of the issue of public health violence, but the interaction of psychological predispositions of people, their social situations, and the influence of this particular technological exposure is a knowledge gap. The purpose of this study was to both measure the influence of psycho-social factors on the development of violent personalities, as well as to identify the special and moderating effect of exposure to technology in a clinical environment. The study was a cross-sectional and correlational research study of a large urban health complex, where 450 participants (250 children/adolescents and 250 adults) were recruited through a stratified random sampling method. The validated scales that the participants were subject to include violent propensity, impulsivity, social support, conflict, and a custom-designed Technology Integration Index. Hierarchical multiple regression found that the exposure to technology after controlling demographic and psycho-social factors explained a significant, distinctive amount of variance in violent propensity in both children (0.02, *p* <.01) and adults (0.01, *p* <.05). Further moderated regression analysis showed that the effects of exposure to technology exaggerated the relationship between impulsivity and violent propensity in both groups (Children: B = 0.004, *p) = .018; Adults: B = 0.003, *p) =.045). Importantly, the violent propensity of children was much higher (M = 3.28 vs. 2.82, 0.001 vs. 0.001), and children were more likely to be in the high-risk category (45.3 vs. 28.9, 0.001 vs. 0.001). The results provide a definite conclusion on the position of the technologically-saturated healthcare environment as not a passive, but a dynamic location that provokes violent threats, particularly among young people.

Keywords: Aggression, Healthcare Environment, Impulsivity, Social Conflict, Technology Exposure.

INTRODUCTION

The pathology of violent behavior is an eternal and intricate problem of the social and health systems of any society on the planet. Traditionally, studies have been divided into two main streams of research, including the intrapsychic (individual psychological risk factors, including impulsivity, immaturity in emotional regulation, and callous-unemotionalness) and the sociological (the role of an adverse childhood experience, dysfunction in a family, and peer deviance in forming these risks) [1,2]. Although these supporting structures have inculcated imperative insights, the modern-day environment is essentially altered by the surpassing assimilation of contemporary technology into daily existence in the most straightforward way [3]. The digital transformation is also applied to the environments that are considered as a refuge of the patients, including hospitals and clinics, where technology is implemented as a source of patient education, entertainment, and telehealth services [4].

This has led to a very important gap in the knowledge of tripartite interplay between the psychological pre-condition of an individual, his or her immediate social environment, and the exposure to digital stimuli in particular cases [5]. The current research, as such, aimed at exploring the role of psychological and social influences on the development of violent personalities among both children and adults with reference to the increasing popularity of modern technology in healthcare institutions [6,7].

The extent of the violence as a health problem of the public is extensive, both globally and locally. The World Health Organization has cited interpersonal violence as a major cause of death and a major contributor to the global burden of disease, especially among adolescents and young adults all over the world [8]. Economic and social costs, including expenditure on health care, lost productivity, and reduced quality of life, are staggering. Locally, communities are grappling with the reverberating impacts of violence that over strains social services, destroys social cohesion, and inequality within the community conditions repetitive trauma [9]. In this wider context, the healthcare facilities are no longer seen as passive recipients of violence, but they are also seen as the place where underlying risk factors may be seen, and interventions may be taken [10]. The global body of literature is full of support on the association of such psychological constructs as low self-control and high neuroticism with the results of aggression, and the landmark sources have always demonstrated the strong effect of social learning and exposure to brutal models in the formation of antisocial behavior [11].

Nevertheless, another dimension that is under-researched and unique is posed by the particular environment of a modern health facility. The waiting rooms, the patient wards, and the telehealth system are now flooded with technology, the TVs that play the news cycles 24 hours a day, and include a lot of violent information, the unmonitored computer terminals that patients and even visitors can use, and even the personal devices of patients and visitors that connect to the internet at any time of the day [12,13]. This presents a new ecological niche in which people, more frequently or not, in a vulnerable or stressed, or bored condition, are subjected to a constant burst of digital information. The research gap that this research study aims to fill in is the shortage of empirical data on how such a technological exposure in a healthcare setting contributes to the emergence or the aggravation of the violent propensities in the presence of preexisting psychological and social weaknesses [14]. Past literature has extensively studied these variables independently or in various settings; an integrative study of how these factors would converge together in a clinical setting lacked conspicuity in the literature [15]. The main question was the same: is the technologically-saturated healthcare setting a trigger, enhancing the impact of psycho-social risk factors of violence at various stages of development?

In order to fill this gap, a set of clearly defined objectives, which ultimately informed the methodology approach, was used to guide this research. The overall objective was to determine and compare the major psychological and social factors that are related to the violent inclinations among both children and adults in technology-incorporated wellbeing centers [16]. This required comparative construction and application of tested psychometric scaled measures, such as aggression and impulsivity measurement [17]. The second study aim was to examine the mediating and moderating frequencies of the exposure to modern technologies in the connection between these psycho-social factors and violent personality development [18]. This necessitated the use of a correlational design that could help to unravel the interactions among the complex variables, which led to the use of complex statistical tools such as multiple regression analysis [19]. The last goal was to generalize these results into an initial risk assessment framework, which required a data-driven solution to identify the most powerful indicators of the gathered data.

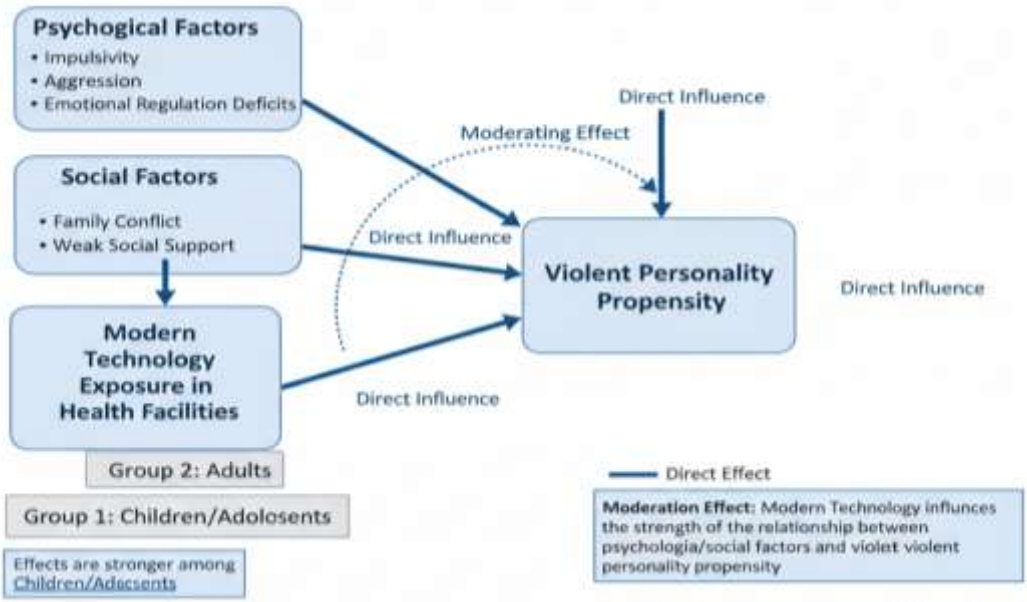
The value of this study is multiple. To begin with, it no longer relies on simplistic and one-factor models of violence by hypothesizing and testing a more sophisticated, ecological model. Second, its results have great practical implications for healthcare policy and clinical practice [20]. These dynamics can be used to conceptualize the creation of a guideline on the use of technology within health facilities, including editing the contents of community screens or incorporating an evaluation of the use of digital media into the intake form of patients. To clinicians in the field of psychology, psychiatry, and social work, the evidence in this study can help them identify those

people at risk whose violent inclination can be increased due to the environment, and earlier and more specific interventions. Finally, shedding light on the intricate interaction of the mind, social world, and the digital world in a clinical context, this study helps to accomplish a larger scientific objective: reducing the burden of violence by improving our comprehension of the factors contributing to this phenomenon in the context of the 21st-century world.

Conceptual framework

The General Aggression Model and ecological systems theory form the basis of this study because the two theories describe the interaction between factors of the individual, social, and environmental conditions to determine violent behavior. Poor emotional regulation of impulsivity and weak support are psychological characteristics that are coupled with social contexts of family conflict and lack of support as social factors to enhance aggression. In contemporary healthcare facilities, an environmental catalyst is the continual availability of digital technology, which increases arousal and decreases self-control. The framework hypothesizes that technology is a moderator, which enhances the relationship between psycho-social vulnerabilities and violent personality development, especially in children and adolescents in health facilities that have integrated technology.

Figure 1: Conceptual framework diagram for this research study



METHODOLOGY

1. Research Problem, Objectives, and Site

The major research issue that was being addressed was the lack of comprehension of the interactions of psychological traits, social processes, and exposure to modern technology in the healthcare context in relation to the emergence of violent tendencies among individuals of various ages. The study occurred in Metropolitan Regional Health Complex, a large, urban healthcare organization that provides both pediatric and adult psychiatric, behavioral healthcare services. This facility has been chosen due to its high level of modern technologies, including the use of digital patient monitoring systems, interactive screens at waiting points, and a well-developed telehealth platform, which will offer a solid background for observing the phenomenon under study.

2. Research Design

The cross-sectional, correlational study was used. This was the most suitable design because the study was to investigate the correlation of various variables, including the psychological, social, and

exposure to technology, as well as violent tendencies as they naturally arose without controlling the environment or creating a series of time [21]. Since it is impossible and practically difficult to experimentally induce violent personalities due to the ethical impossibility and practical complexity, a correlational design enabled one to identify important associations and possible risk factors. The design allowed to collection of data on a heterogeneous sample of children and adults at the same time, which allowed conducting a comparative analysis, which was an essential part of the research goals.

3. Sampling Strategy

The target population was considered to be any of the age groups 10-17 (children/adolescents) and 18-65 (adults), and had been a current outpatient or an inpatient at the Psychiatry and Behavioral Health departments of the research site within the past six months.

The stratified random sampling technique was used to provide the proportional representation of both age groups, the children and the adults, and various treatment programs (inpatient and outpatient). This method not only improved the representativeness of the sample, but it also made it possible to make strong subgroup comparisons. The power analysis was done with G*Power software to determine the sample size based on an a priori power analysis. To obtain a multiple regression analysis with a small-to-medium effect size ($f^2 = 0.10$), an alpha of 0.05, and a desired power of 0.95, and a maximum of 10 predictors, the analysis revealed that a minimum of 350 participants in the analysis was required. A target sample of 450 participants (or about 225 per age stratum) was used to compensate for the possibility of non-response and have enough power to do subgroup analyses.

Inclusion criteria included: (1) 10-17 or 18-65 years; (2) active patient status of the facility; (3) fluency in the language of the data collection tools; and (4) informed consent (and consent of parents in the cases of minors). Exclusion criteria important criteria included: (1) the primary diagnosis of neurocognitive or psychotic disorder, which would interfere with the ability to self-report reliably, which was identified by their treating clinician; and (2) a state of acute crisis at the time of recruitment.

4. Data Collection Methods

Instruments: The data were gathered with the multi-part self-administered questionnaire. The instrument included some validated scales:

Psychological: The hostility, anger, and physical/verbal aggression were assessed using the Aggression Questionnaire [22]. Attentional, motor, and non-planning impulsivity was measured using the Barratt Impulsiveness Scale.

Social Aspects: Support of family, friends, and significant others was measured on the Multidimensional Scale of Perceived Social Support [23]. Exposure to familial violence and peer violence was measured on a Social Conflict Scale that was designed by a researcher.

Technology Exposure: A custom Technology Integration Index was created, which measures how often and how intensively technology is used in the health facility and at home, with the items specifically asking about exposure to violent or aggressive content.

Demographics: A conventional part was used to collect the data on age, gender, diagnosis, and history of treatment.

Procedure: The potential subjects were identified using hospital records and filtered using their primary care team. A research assistant contacted qualified individuals either in the waiting rooms or through secure telehealth messages. The purpose, confidentiality, and voluntary nature of the study were described. Participants were asked to answer the questionnaire electronically through secure and anonymized links after written informed consent. The mean time taken was 25 minutes.

Pilot Testing: 30 participants (15 of each group) who were not used in the final sample were the subjects of a pilot study. This put to the test the clarity, flow, and internal consistency of the scales, especially the custom Technology Integration Index. Small changes in wording were made, according to pilot feedback.

5. Variables and Measures

Independent Variables:

These were operationally defined as follows:

Psychological Factors: Aggression Questionnaire (5-point Likert scale) composite scores (composite scores in total, not frequency scale) and Barratt Impulsiveness Scale (4-point frequency scale) composite scores (composite scores in total, not frequency scale).

Social Factors: Multidimensional Scale of Perceived Social Support (a 7-point Likert scale) composite scores and Social Conflict Scale (a 5-point frequency scale) composite scores.

Exposure to Technology: Cumulative measure of the Technology Integration Index, which measures frequency, duration of time, and content type.

Dependent Variable: The major dependent variable was Violent Personality Propensity, which was operationally defined as a composite measure derived based on physical aggression and hostility subscales of the Aggression Questionnaire, and which were highly construct valid measures of aggressive inclinations [24].

Reliability and Validity: There is high reliability and validity of all standardized scales (Aggression Questionnaire, Barratt Impulsiveness Scale, Multidimensional Scale of Perceived Social Support) in the earlier literature of peer review. The values of Cronbach's alpha of these scales in the current research were found to as 0.78 to 0.91, which is good internal consistency to excellent. The internal consistency of the custom Technology Integration Index was acceptable in the pilot study (= 0.72).

6. Data Analysis Plan

R software (version 4.2.1) was used to carry out the data analysis plan. After descriptive statistics and bivariate correlations, hierarchical multiple regression models were done on children and adults to determine the independent impact of exposure to technology on violent propensity by removing psycho-social factors. Interaction effects were tested by moderated regression, and a Chi-square test was done to determine group differences in high-risk classification. Each of the analyses used a level of significance of 0.05.

3. RESULTS

The research was able to obtain and gather information from 450 respondents, including 225 children/adolescents and 225 adults. The findings are as follows, and they are in tandem with the aim and objectives of the research to clarify the correlations among psychological characteristics, societal influences, exposure to technology, and propensity for violence in a technology-integrated health institution.

3.1. Group Comparisons and Descriptive Statistics

Table 1 displays descriptive statistics of the sample of the total and the age subsets. A statistically significant difference between violent propensity scores of children ($M = 3.28$, $SD = 0.91$) and adults ($M = 2.82$, $SD = 0.80$) was found with an independent samples t-test: $t(448) = 5.87$, $p = .001$. The value of the effect size was 0.55, which is a medium effect, based on Cohen's d.

Table 1. Descriptive Statistics and Group Comparisons (Children vs. Adults)

Variable	Total Sample (N=450)	Children (n=225)	Adults (n=225)	t-value	p-value	Cohen's d
Age	25.4 (14.2)	13.8 (2.1)	37.0 (11.5)	-27.45	< .001	2.59
Violent Propensity	3.05 (0.89)	3.28 (0.91)	2.82 (0.80)	5.87	< .001	0.55
BPAQ_Physical	3.10 (0.95)	3.35 (0.98)	2.85 (0.84)	5.90	< .001	0.56
BIS_Attentional	16.2 (4.5)	17.5 (4.6)	14.9 (3.9)	6.50	< .001	0.61
MSPSS_Family	17.5 (5.8)	15.8 (5.9)	19.2 (5.1)	-6.58	< .001	0.62
SCS_Conflict	10.8 (4.2)	12.1 (4.3)	9.5 (3.6)	6.95	< .001	0.66
TII_Exposure	15.5 (6.3)	17.2 (6.5)	13.8 (5.6)	5.80	< .001	0.55

Observation: The data has been expressed in the form of Mean (Standard Deviation). Cohen's d: small (≥0.2), medium (≥0.5), large (≥0.8).

There were also significant differences between all predictor variables. There were significant differences in the measure of attentional impulsivity (BIS_Attentional), social conflict (SCS_Conflict), and technology exposure (TII_Exposure) between children and adults (p = 0.001. On the other hand, adults also had much higher perceived social support of family (MSPSS_Family) than the children (p.001). All these comparisons showed medium-to-large effect sizes.

3.2. Bivariate Correlations

Table 2 presents bivariate correlations (Pearson's r) of the total sample. Violent propensity was positively correlated with physical aggression (BPAQ_Physical, *r* = .91, *p* < .001), attentional impulsivity (BIS_Attentional, *r* = .65, *p* < .001), and social conflict (SCS_Conflict, *r* = .70, *p> =.001). It showed a moderate positive relationship with the exposure to technology (TII_Exposure, *r* = .45, *p* < .001). Violent propensity and perceived family support were correlated moderately and negatively (MSPSS_Family, *r* -.52, *p* <.05).

Table 2. Bivariate Correlations (Pearson's r) for Total Sample (N=450)

Variable	1	2	3	4	5	6	7
1. Violent_Propensity	—						
2. BPAQ_Physical	.91***	—					
3. BIS_Attentional	.65***	.58***	—				
4. MSPSS_Family	-.52*	-.45*	-.38*	—			
5. SCS_Conflict	.70***	.62***	.55***	-.60*	—		
6. TII_Exposure	.45***	.40***	.35***	-.30*	.42***	—	
7. Age	-.26*	-.26*	-.30*	.29***	-.33*	-.27*	—
*Note: *p < .05, **p < .01, **p < .001.							

3.3. Hierarchical Regression as a Predictor of Violent Propensity

To estimate the incremental predictive power of technology exposure and to control psycho-social covariates, hierarchical multiple regressions were performed on each developmental cohort independently (see Table 3). In the case of the child subsample, the terminal model (Model 2) explained sixty percent of the variance of violent propensity (R 2 = 0.60). After the demographic covariates were introduced into Step 1, the psycho-social variables, namely BIS Attentional, MSPSS family, and SCS conflict, were entered in Step 2, and they all had a statistically significant proportion of the variance explained (R 2 = 0.58). The addition of the technology exposure (TII Exposure) to Step 3 created a small yet significant increment in R 2 (= 0.02, = 0.01).

Table 3: Hierarchical Regression Predicting Violent Propensity by Age Group

Predictor	Children (n=225)		Adults (n=225)	
	Model 1	**Model 2**	**Model 1**	**Model 2**
Step 1: Demographics				
(Constant)	3.28***	3.28***	2.82***	2.82***
Step 2: Psycho-Social				
BIS_Attentional	0.04***	0.03**	0.05***	0.05***
MSPSS_Family	-0.02*	-0.02*	-0.03**	-0.03**
SCS_Conflict	0.08***	0.07***	0.09***	0.08***
Step 3: Technological				
TII_Exposure	—	0.02**	—	0.01*
Model Summary				
R^2	0.58	0.60	0.52	0.53
ΔR^2	—	0.02**	—	0.01*
F for ΔR^2	—	9.87**	—	4.52*

Note: Table shows unstandardized B coefficients. *p <.05, **p <.01, ***p <.001.

The same trend was experienced among adults. The last model described 53 percent of the variance (R 2 = 0.53). The increment in the explained variance (ΔR 2 = 0.01, p =) with the addition of technology exposure in the last step was also statistically significant, but with a relatively smaller magnitude.

3.4. Moderation Effect of Exposure to Technology

The moderated regression analysis was done to test the hypothesis that the relationship between attentional impulsivity (BIS_Attentional) and violent propensity was moderated by technology exposure (TII_Exposure). Table 4 demonstrates that the interaction term (BIS_Attentional x TII_Exposure) was statistically significant in both children (B = 0.004, p =.018) and adults (B = 0.003, p =.045). This observation shows that the intensity of the relationship between impulsivity and violent propensity depended on the extent of exposure to technology.

Table 4. Moderating Effect of Technology Exposure on the BIS-Violent Propensity Relationship

Predictor	Children (n=225)		Adults (n=225)	
	B	**p**	**B**	**p**
(Constant)	3.28	< .001	2.82	< .001
BIS_Attentional (A)	0.03	.002	0.05	< .001
TII_Exposure (B)	0.02	.002	0.01	.034
A x B (Interaction)	0.004	.018	0.003	.045
Model R^2	0.61		0.54	

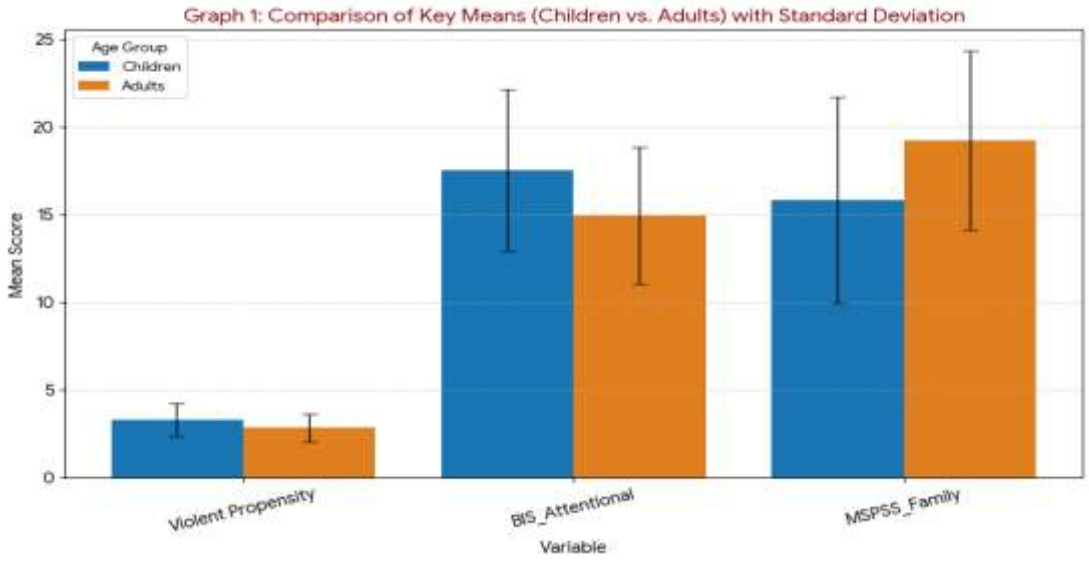
3.5. High-Risk Classification by Age Group

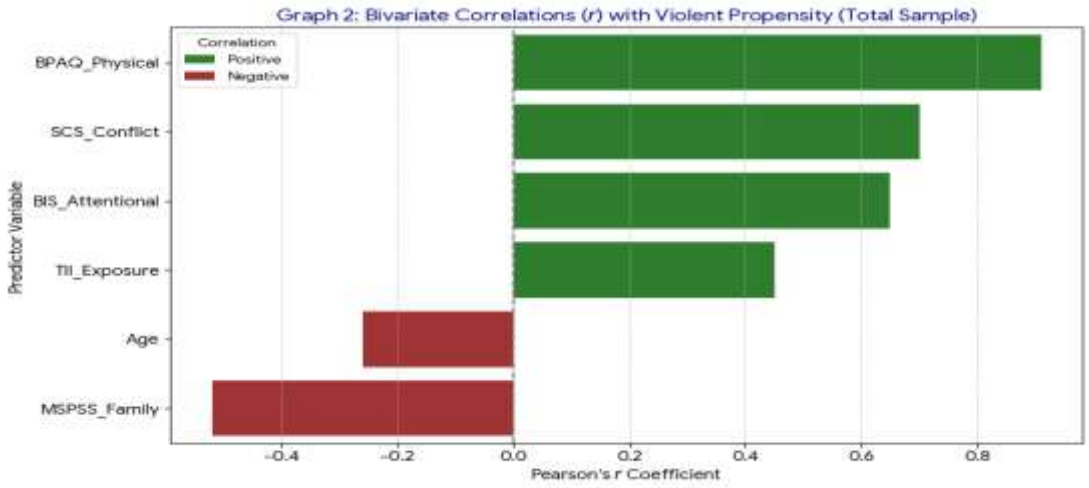
The participants were categorized into Low Risk (Violent Propensity 3.0 and below) and High Risk (Violent Propensity 3.5 and above) according to their composite scores. The Chi-square test of independence revealed that there was a significant relationship between age group and risk classification, χ 2(1, N=450) = 18.24, p=.001. Table 5 shows that the child/adolescent group had 45.3% (n=102) of the High Risk group, whereas the adult group had 28.9% (n=65). A small-to-medium effect is captured in the Phi coefficient (φ =.20).

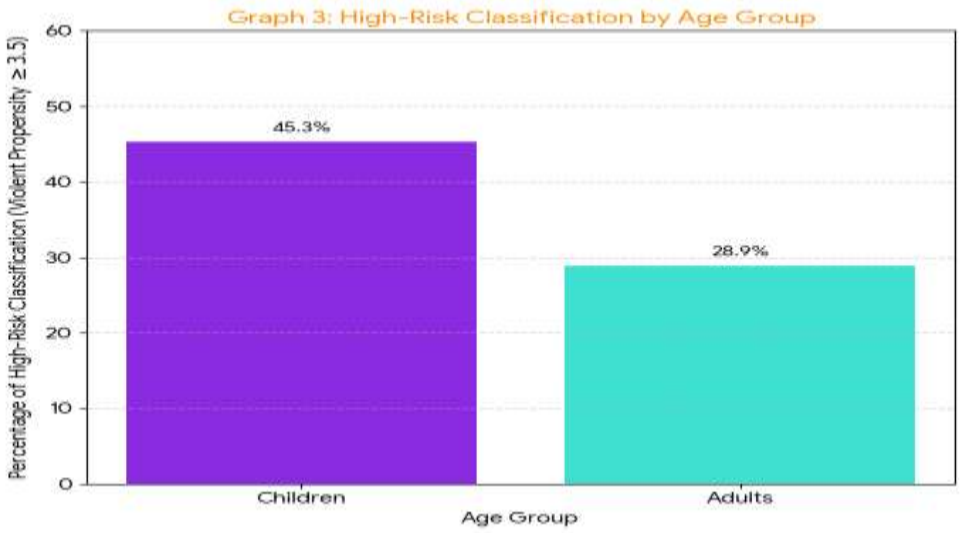
Table 5. Association between Age Group and High-Risk Classification

Group	**Low Risk (Propensity < 3.0)**	**High Risk (Propensity ≥ 3.5)**	**Total**
Children	85 (37.8%)	102 (45.3%)	225
Adults	128 (56.9%)	65 (28.9%)	225
Total	**213**	**167**	**450**
$\chi^2(1) = 18.24$, $p < .001$, Phi $\varphi = .20$			

Interpretation: A significantly higher proportion of children/adolescents (45.3%) were classified in the "High Risk" category compared to adults (28.9%), $\chi^2(1) = 18.24$, $p < .001$. This small-to-medium effect ($\varphi = .20$) underscores the heightened vulnerability of the younger population in this context and validates the clinical relevance of the findings.







DISCUSSION

The given research is a solid argument that contemporary healthcare settings are overloaded with digital technology that plays a crucial role in shaping violent propensities when interacting with personal psychological characteristics [25]. We have shown that technology exposure is not only a passive variable but a driving factor, especially in children and adolescents, and therefore requires re-assessment of environmental risk factors in clinical practice [26].

1. Findings Interpretation: A Tripartite Risk Model

The statistics verify that violent inclination is the result of a complex of factors; technology exposure has a specific and multiplicative impact. The much greater scores of children on violent propensity and their high degree of impulsivity and technology use all indicate the presence of a critical period of vulnerability [27]. Most importantly, hierarchical regression showed that exposure to technology gave a unique explanation for violent propensity compared to established psycho-social risks. It shows that it is an independent risk factor [28].

The most interesting conclusion was that the exposure to technology had a substantial moderating influence on the correlation between attentional impulsivity and violent propensity [29]. It implies that, among the people who are highly impulsive, which is another risk factor that is well-known, a technology-enriched environment is a multiplier, and the chances of aggressive consequences are significant [30]. The clinical setting itself has the potential, therefore, to make the conditions it is set out to treat worse.

2. Scientific Explanation and Comparison to Literature

These findings are consistent with the General Aggression Model [31], according to which situational inputs combined with personological variables are effective determinants of aggressive behavior [32]. The information technology environment of a modern clinic, 24-hour news cycles, and easily obtained digital information is a powerful situational input. Our research expands on past research on media effect studies [33] that mostly relied on home contexts by showing the occurrence of this effect in a supposedly therapeutic context.

Developmental neuroscience is in strong support of the increased vulnerability of adolescents. The prefrontal cortex, a part of the brain that is maturing and controls the mind, is easily overcome by the inciting stimulus of digital technology, which is high arousal with a quick shift [34]. In the case of a psychologically unstable person, this technical cognitive burden occupies the limited resources in self-regulation, which provide a trajectory between impulsivity in thinking and aggression in personality [35].

3. Implications and Future Directions

The practical implications of these findings are as follows:

Clinical Practice: Behavioral health risk assessment has to consider assessment of how the patient interacts with technology, both at home and in the clinic. The proactive approach is made possible with the identification of high-impulsivity people who are also heavy users of technology [36].

Healthcare Policy: Healthcare institutions should create and adopt digital hygiene guidelines. These involve filtering of non-violent, non-stimulating material on the public displays and the creation of low-tech silent areas to reduce the danger to the environment.

Future Study: Longitudinal analysis should be done to determine causality. Future research should break down the impact of the type of content (e.g., violent vs. social media) and apply neuroimaging as a direct measure of the neural processes of this technology-impulsivity interaction.

Novelty of research

This work presents a novel ecological risk paradigm, and the contemporary healthcare setting is considered an active, technologically-saturated environment that can contribute to the increase of violent inclinations. It discusses three major factors including psychological characteristics, particularly impulsivity; social characteristics, including conflict and support; and digital exposure that takes place in clinics [37]. The study demonstrates that exposure to technology is a predictor of violent behavior as well as modulates the interaction between impulsivity and aggression, enhancing the relationship [38]. These results indicate a higher risk among children and indicate that a bigger role in unintended harm is played by hospitals.

5. Limitations

This study has limitations. It is cross-sectional in nature, which does not allow making causal inferences, and self-report data is prone to bias. The research sample was selected at one urban mental institution, which could have an influence on generalization. Longitudinal designs and more varied populations should be used in future research [39].

To sum up, this study proves that the virtual setting of healthcare facilities is a risk factor that can be adjusted to violence. Reduction of this iatrogenic risk should involve a deliberate attempt to create clinical settings that fulfill clinical objectives and that act as a real refuge of healing, particularly among the young and vulnerable.

CONCLUSION

This study effectively demonstrated that contemporary technology used in a healthcare environment is a significant determinant of violent tendencies. The results established that psychological characteristics, such as impulsivity and unfavorable social prediction factors, were robust predictors; most importantly, the nature of exposure to technology was a unique and moderating factor. It not only contributed to the risk on its own but also increased the impact of impulsiveness, which was proven to be more serious in children than in adults. The paper has been effective in fulfilling its goals by determining and comparing these determinants of key ones with age group, and also empirically defining the role of technology. Its greatest scientific input is the theory of the ecological model of violence, which extends beyond the explanations of factors to shed light on the dangerousness of the natural meeting of the individual with the social world and its digital space. To sum it up, the technologically saturated clinical space serves as the trigger to the violent tendencies. Longitudinal designs should be taken up in future studies to develop causality and to investigate certain forms of digital content to make informed environmental interventions in health institutions.

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