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New Media Usage Habits and Emotional Development in Primary School Children

Nowe nawyki korzystania z mediów i rozwój emocjonalny u dzieci w szkole podstawowej

Abstract: The study, which involved 743 Italian primary school children (47.5% girls; 51.7% boys) with an average age of 8.85 years (SD = 1.104), explores the representation and habits of use of new media. It probes the presence of devices in children's bedrooms, their habits before falling asleep and when they wake up. The data highlight that the lifestyle of the subjects is characterized by a regular use of the smartphone that is also used in social spaces (restaurants, streets, parks, sea), and highlight a prevalent absence of active mediation by parents. It is observed that most children are active daily on their smartphones in a solitary way and that the rules set by their parents are present only in the minority of the sample. The PCA and Examination of Variance (ANOVA) were also performed. The results also showed that the habit of using the devices influences the results on the Scale Emotional adjustment. It is hypothesized that active mediation by parents and their presence represents a protective factor for children's emotional development and acts as a regulatory element of digital behavior. The survey also provides food for thought for teachers who could support families, stimulating them to reflect on the importance of their active presence in the relationship with children through digital activity regulation.

Keywords: new media; usage habits; parental norms; digital behavior; emotional development

Abstrakt: Badanie, w którym wzięło udział ogółem 743 włoskich uczniów szkół podstawowych (47,5% dziewcząt; 51,7% chłopców), których średni wiek wynosił 8,85 lat (SD = 1,104), badało reprezentację i zwyczaje korzystania z nowych mediów. Zbadano obecność urządzeń w pokoju dzieci, ich nawyki przed zaśnięciem i po przebudzeniu. Dane podkreślają, że styl życia badanych charakteryzuje się regularnym korzystaniem ze smartfona, z którego również korzystają (restauracje, ulice, parki, wybrzeże), oraz wskazują na powszechny brak aktywnej mediacji ze strony rodziców. Obserwuje się, że większość dzieci na co dzień korzysta ze smartfona w sposób samotny, a normy wyznaczone przez rodziców są obecne jedynie w mniejszości w próbie. Przeprowadzono analizę głównych składowych (PCA) i badanie wariancji (ANOVA). Z wyników wynika również, że nawyk korzystania z urządzeń wpływa na wymiary wyodrębnione z PCA. Przypuszcza się, że aktywna mediacja rodziców i ich obecność stanowią czynnik ochronny dla rozwoju emocjonalnego dzieci, a także pełnią funkcję elementu regulacyjnego

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zachowań cyfrowych. Badanie daje również do myślenia nauczycielom, którzy mogliby wspierać rodziny, stymulując je do refleksji nad znaczeniem ich aktywnej obecności w relacji z dziećmi, także poprzez regulację aktywności cyfrowej.

Słowa kluczowe: nowe media; nawyki użytkowania; normy rodzicielskie; zachowania cyfrowe; rozwój emocjonalny

INTRODUCTION

In the last twenty years, children and adolescents have been increasingly involved in the massive use of new media. Tools such as smartphones have transformed how we are in the world and live in relationships, placing us increasingly in the presence of fast and ever-higher rhythms in which personal time, important for the processing of psychic change, is continuously under pressure. "The digital age has entered our lives with the characteristics of an evolution rather than a revolution. The concept of revolution is related to the idea of rupture, of a sudden change that is not diluted over time, while digital evolution has as its ultimate goal the relationship between human beings, conveying information primarily through images and involving the interpersonal and the intrapsychic in the same way" (Tonioni, 2013, p. 57). New media have a substantial impact on children and affect their stages of psychic development, learning, and the sphere of family relationships; the speed of technology does not correspond to that of subjectivity. Already in 2017, the importance of this aspect in terms of stimulation and awareness on the part of institutions and social policies was underlined (Canadian Paediatric Society, 2017). Direct interaction with the digital interface through touch has made using these means more pervasive, simplifying access from the first years of children's lives (Benedetto & Ingrassia, 2017). Scientific literature has long shown that the excessive use of new media during childhood leads to a fragility of the individual in the social, emotional, and cognitive spheres (Reid Chassiakos et al., 2016). The interactive mode would be a distraction and excitability factor; this would induce children who use new media to continuously move among information, content and apps, exposing them to real risks if they are not accompanied by adult supervision (Rvachew, 2016; Lovato & Waxman, 2016). The continuous interfacing leads to an inevitable transformation of the psychological development of children who are in a delicate phase of life. In the case of the 5–6 age group, research shows that subjects who use digital devices more frequently have parents with a positive view of these tools and consider them as generators of knowledge and improvement of intellectual abilities. The use that emerges is dedicated to entertainment, which is carried out, especially in outdoor environments such as restaurants. Those who use them more frequently show emotional dysregulation and sleep disorders (Cannoni et al., 2018). In Italy, the number of children under one year of age using smartphones is 20%, which increases to 80% in the 3–5 age group (Bozzola et al., 2018). As early as 2015, as an American study shows, 92% of children under one year of age have

already experienced the touch device at least once (Kabali et al., 2015). An analysis of the literature conducted in a 2014 study shows that 90% of children and adolescents who spend more time in front of the screen of digital devices have sleep disorders that manifest through the decrease in duration and delay of falling asleep times (Hale & Guam, 2015). A cross-sectional study conducted in Japan in 2018 on 12,611 primary school children, consistent with previous research (Hale & Guan, 2015; Kojima et al., 2019), highlights that screen time leads to harmful lifestyles. These include: going to sleep late on weekdays, waking up late, lack of physical activity, frequent irritability, school avoidance attitudes, poor frequency in interaction with parents. The absence of family norms also influences the time spent in front of screens. Communication with parents is a protective factor of fundamental importance for subjects' psycho-emotional and relational development. EU Kids Online, in the survey carried out between 2017 and 2019, notes that most European children prefer smartphones and use them daily for online connections at any time (Smahel et al., 2020). In Italy, 51% of children in the 9–10 age group use their smartphones daily to surf the web; 71% are at home, 4% are at school, and 5% are out and about. The data also shows that only 42% of respondents say they can verify the veracity of information online, thus highlighting the problem of misinformation. There is an increase in negative experiences felt by children who say they have been exposed to situations that upset them and produced discomfort (from 6% in 2010 to 13% in 2017) (Smahel, et al., 2020). In Italy, 73% of subjects say they occasionally discuss online activities with their parents (in Europe, 66%) (Smahel et al., 2020). In the ninth edition of the *Atlas of Children at Risk* in Italy, Save the Children, reporting ISTAT data, declares that between the pre-pandemic and post-pandemic period, there has been a significant increase in the ownership and daily use of smartphones in the 6–10 age group; in fact, it went from 18.4% in 2018–2019 to 30.2% in the post-pandemic period (2021–2022). Due to the frequent daily use, it is incontrovertibly evident that the identity of children and adolescents is shaped in the online world. Italian adolescents, compared to their European peers, have little or no digital skills (Save the Children, 2023). Due to its peculiarities, compared to fixed devices (PCs, TVs, etc.), the smartphone would predispose to addiction (Montag et al., 2019). However, in the case of children under 12 years of age, to whom the construct of addiction cannot be associated, clinically dysfunctional behaviors can be observed that could turn into internet use disorder during adolescence and early adulthood. Strategically acting preventively to deter children from overexposure to devices is considered an important step to take; this is possible if families establish specific rules on the possession and use of smartphones and nurture the interactive relationship with children (Yamada et al., 2024).

OBJECTIVES AND ASSUMPTIONS

The work explores the representation, experience and habits of primary school children, with respect to new media use and focuses on: ownership and usage habits of smartphones and tablets, presence of devices in the bedroom, activities carried out by children before falling asleep and upon waking up in the presence and/or absence of a parent, use of devices outside the home, active mediation by parents through accompaniment to the web and established rules on the use of devices. Important aspects of personality such as Emotional Instability, Energy, Friendliness, Conscientiousness (Barbaranelli et al., 1998) were also examined in the survey. It is believed that parental holding, in the growth phase, and the related into the digital world, through active mediation, represents an important protective factor for the child for emotional regulation. It is also hypothesized that the lifestyle of the family, the parenting ability aimed at directing, the mentalization of emotions act as a predictive element to contrast dysfunctional behaviors in minors.

METHOD

Participants

A sample of 743 children (47.5% F; 51.7% M) from primary school ($N = 252$; 33.9% from second grade; $N = 250$; 33.6% fourth grade; $N = 242$; 32.4% fifth grade) with a mean age of 8.85 years ($SD = 1.104$).

Tools

A specially constructed questionnaire consisting of 35 closed-ended questions has been prepared that explores the following dimensions: socio-personal background, new media including the use, personal ownership of the devices and the main activities carried out in the web the lifestyle characterized by habits and rules of use set by parents. Another dimension explored is the emotional experiences associated with their use and the quality of their relationship with their parents. In order to investigate children's emotional experiences, curious and energetic attitude towards the environment, relational skills and attitude to responsibility, a scale has been constructed referring for some items respectively to the Italian adaptations of the BFQ-C – Big Five Questionnaire Children tests, self-assessment questionnaire (Barbaranelli et al., 1998) and the BFQ – Big Five Questionnaire (Barbaranelli et al., 1998) and the BFQ – Big Five Questionnaire (Caprara et al., 1993). In particular, for some items, reference was made to Emotional Instability, Energy, Conscientiousness, and Friendliness; In order to assess the emotions and behaviors adopted by children in typical situations of daily life, the Behaviors and

Emotional Experiences scale was constructed consisting of the following dimensions: Irritability (Cronbach's alpha – α = .993), Vitality (Cronbach's alpha – α = .715), Relational Competence (Cronbach's alpha – α = .963), Responsibility (Cronbach's alpha – α = .656).

Procedure and Statistical Analysis

The research, approved by the University Ethics Committee of the University of Urbino, was carried out through online administration in the 2022–2023 school year. The study reports some descriptive analyses and examines the principal components extracted with PCA, related to the scales of children's emotional experiences. Univariate analysis of variance (ANOVA) was also performed to assess the differences between some independent variables and the means on the scales constructed from PCA.

RESULTS

Descriptive analysis

Most children report owning a smartphone and a personal tablet (*N* = 460; 61.9%) and indicate the presence of the devices in their bedroom (*N* = 485; 66.3%). Most of them use it daily and solitary (*N* = 471; 60.4%), while the minority report being in the company of their parents (*N* = 178; 35.4%) and few indicate being in the presence of friends (*N* = 89; 124%). What emerges is the prevailing habit on the part of the sample to use it outside the home – streets, squares, parks, seaside, and restaurants (*N* = 674; 87.7%). Similar trends can also be observed for the tablet (daily and solitary use *N* = 446; 60%; in the company of parents *N* = 213; 28.6%; in the presence of friends *N* = 84; 11.3%). Few say they do not use their parents' mobile phones (*N* = 276; 47.1%). Children are more likely to hold their smartphones in their hands most of the times (*N* = 539; 73%) than those who put them in backpacks (*N* = 199; 27%). Video games are used by almost all of the sample (*N* = 662; 89.1%), and more than half play online (*N* = 416; 56%). Some children play video games in bed before falling asleep (*N* = 294; 39%), and others doze off in front of the TV (*N* = 313; 42.1%). Before going to sleep, few (*N* = 111; 14.9%) use the active presence of parents, characterized by stories (fairy tales/talk about the day spent) before going into sleep. Nearly three quarter of the sample say they wake up at night (*N* = 551; 74.2) and are afraid during night awakenings (*N* = 664; 87.3%). More than half of the sample calls their parents (*N* = 437; 58.8 %), others say they get up to go to their parent's bed (*N* = 264; 35.5%). Very few people try to fall asleep thinking about pleasant things (*N* = 42; 5.7%). When children wake up in the morning, the same percentage of children use their smartphones and watch videos on their tablets (*N* = 422; 56.8%). Most of those who use their favorite smartphone apps show happiness and need to continue playing games uninterruptedly (*N* = 404; 54.4%). Only a few subjects state that their parents

set rules (N = 173; 23%) and restrictive rules on the use of smartphones (N = 173; 23%) without leaving free access to them

PCA

From the PCA of the Emotional Experiences scale, 4 latent dimensions were extracted: *Irritability*, *Vitality*, *Relational Competence*, and *Responsibility*. The items on the scale comprise the first component, which concerns emotional states such as irritability, anger, loneliness, sadness, sleep disorders, and concentration. The *Vitality* dimension focuses on being active and vital through openness to movement, activities, and play. Finally, *Relational Competence* refers to the ability to act in a relationship through openness and empathy towards others, etc.

ANOVA

In order to detect the existence of statistically significant differences between gender and the latent dimensions, the analysis of variance–univariate ANOVA was carried out. The results showed a significant effect on Irritability F = (7.004), $p < .008$; girls were more irritable (M = 1.8891 vs. M = 1.7344) than boys. The same analysis was conducted to verify significant differences related to the place where the smartphone is kept and dimensions. Holding it in your hand compared to keeping it in your backpack (where you usually keep your smartphone) have an effect on: *Vitality* F = (17.594), $p < .0$, *Relational Competence* F = (7.663), $p < .006$ and Responsibility F = (7.601), $p < .006$. Nocturnal awakening also affects Vitality F = (16.596), $p < .0$, *Relational Competence* F = (20.024), $p < .0$ and *Responsibility* F = (31.264), $p < .0$, and fear during nocturnal awakening influences the same variables with the same values. The smartphone and tablet used when waking up in the morning affect *Irritability* F = (2630.227), $p < .0$, *Vitality* F = (9.124.), $p < .003$, and *Responsibility* F = (8.610), $p < .003$. The presence of norms on the part of parents to regulate the use of smartphones affects *Relational Competence* F = (15.165), $p < .0$, and also the norm about time limitation in the use of the digital devices affects the same dimension F = (15.226), $p < .0$.

DISCUSSION

The latent dimensions extracted through the PCA method, found in the *Emotional Experiences* scale, show a different way of approaching internal states and the environment. The *Irritability* component includes the responses of children whose self-evaluations are characterized by states of emotional disturbance in which tension, lousy

mood, worry, and a tendency to clash with others emerge. These include having little patience, losing one's temper over low-profile things, getting nervous quickly, being in a bad mood, etc. The accentuated emotional instability and tension experienced both in relationships with others and in doing things highlights a low level of well-being and sleep disorders that highlight unstable emotional experiences. The responses that show the tendency to *Vitality* in energetic activity are based on a dynamic way of opening up to exploring the environment. Children are characterized, in this case, by curiosity and creativity. The answers in question express the tendency to use one's resources actively. These include, for example, the ability to derive pleasure from activities and movement, open up to new experiences, invent new games, etc. The characteristics of *Relational Competence* highlight the ability to grasp emotional states and the needs of others and to assist peers in difficult situations, such as helping a companion in difficulty, behaving with kindness even towards those who are unpleasant, etc. Finally, *Responsibility* focuses on respecting the commitments and objectives of the tasks, such as playing only after finishing homework, focusing on what is being done.

From the analysis of the ANOVA, it is clear that the need, reported by the respondents, to always have the smartphone with them can be ascertained by the place where it is kept (I usually hold it in my hand). This behavior affects *Relational Competence* (M = 2.541 vs. M = 1.6961) and *Responsibility* (M = 2.833 vs. M = 2.995). Due to its portability and constant audiovisual stimulation, the smartphone would develop the habit in the subjects of frequent monitoring it. *Responsibility* is also affected by the effect of absorbing attention to the detriment of the relationship with the other and the ability to focus on tasks and objectives. Subjects who claim to hold it in their hands show, in fact, a lower *Relational Competence* and a tendency to be less responsible. The emergence of the latter factor could prove critical as it could affect academic performance. The active mediation, on the part of parents, in establishing the rules governing access to the use of the smartphone affects *Relational Competence*, which in this dimension shows higher average responses in subjects whose caregivers set the rules of use (M = 2.8353 vs. M = 2.5265) and regulate the time spent on the device (M = 2.8353 vs. M = 2.5265). The absence of family norms also influences the time spent in front of screens (Hale & Guan, 2015; Kojima et al., 2019). The normative aspect and communication with parents represent a protective factor of fundamental importance for subjects' psycho-emotional and relational development. If the environmental context in which children live supports them it actively participates in the mediation of all activities. In that case, it helps them self-regulate their behavior concerning the use of new media (Sameroff, 2010). The smartphones and tablets used when waking up in the morning affect *Irritability*, *Vitality*, and *Responsibility*. Children who wake up and dwell on their smartphones and tablets have higher tension (M = 2.4246 vs. M = 1.0000), lower *Vitality* (M = 1.4976 vs. M = 1.6262), and *Responsibility* (M = 2.8104 vs. M = 2.9657). Those who say they wake up at night and say they are afraid while waking up have lower average values in the dimension of *Vitality*

(*M* = 1.5027 vs. *M* = 1.6979), *Relational Competence* (*M* = 2.5100 vs. *M* = 2.8516). As already stated, most of the sample claims to play video games and watch TV when in bed before falling asleep. The literature agrees that habitual exposure to bedtime devices is linked to decreased sleep duration, late falling asleep (Hale & Guam, 2015), and increased fatigue (Hisler et al., 2020; Li et al., 2007). It is noted that in the sample, few children are with their parents before falling asleep and are not exposed to the devices. In this case, the parental presence manifests through the relationship mediated by the narratives or the reciprocal story of the day spent. The literature shows how much the psycho-emotional development of children is influenced by the quality of their relationship with their parents. The active presence of caregivers is a protective factor against developing dysfunctional lifestyles, promoting healthy affective development.

CONCLUSIONS

The survey explores primary school children's representations of new media use, habits, and lifestyles. The data highlights the frequent and continuous use of devices. These are present in children's rooms and influence their daily lives. The study shows that subjects also use them outside the home (restaurants, streets, parks, seaside) and that they hold the smartphone predominantly in their hands. The research contributes to enriching the literature on the use of new media in primary school children and shows the importance of establishing norms for regulating digital behavior. These are believed to be a containment for the emotional development and structuring of children's identity. They are also necessary to organize their daily lives even before falling asleep. The work highlights that caregivers' accompaniment to the digital world is insufficient. It is considered that a good quality relationship with caregivers in the life cycle provides children with the necessary tools for self-regulation of emotions and digital behavior. A lifestyle devoid of norms in which habits of using digital media are not accompanied by active mediation and parental support could affect the well-being of children by leading to the formation of sleep disorders and fragility in Relational Competence. Even the morning use of devices when waking up implies a higher Irritability and a lower level of Vitality and Responsibility.

In order to act preventively, these aspects should be placed at the center of the interest of parents and schools. It is necessary to sensitize teachers to help families reflect on the restriction of using devices before falling asleep, stimulating them to an active mediation through the limits set by the rules on children's digital behavior. It is also essential to stimulate the alternation of activities by encouraging physical activity first and then virtual activity (Tisseron, 2016). A good quality relationship with caregivers in the life cycle is believed to provide children with the necessary tools to self-regulate emotions and digital behavior.

The transversal nature of the research represents the main limitations of this work.

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