

# DIGITAL CAPITAL AND SAFETY IN SOCIALIZATION PROCESS. AN ITALIAN CASE STUDY

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## Abstract

The process of digital acceleration, which in the last few years of the pandemic crisis has affected formal socialization contexts such as schools and families, has led to a critical reflection on the new responsibilities and skills of the digital citizen, in order to preserve his autonomy in the management of virtual dynamics while respecting certain ethical principles at the basis of navigation. These principles underpin the implementation of a digital culture in which the use of devices is guided by a sense of responsibility and respect for otherness. The new digital skills of the citizen go beyond specific access techniques and focus mainly on conscious digital behaviour at the basis of safeguarding various forms of individual and social well-being. Through the illustration of the main results of a national survey promoted by Sapienza University of Rome in 2020, the paper intends to provide a reflection on the degree of diffusion of digital awareness among Italian adolescents and on the impact of school and family digital capital in the development and implementation of such skills.

**Keywords:** *Digital safety, social capital, digital capital, socialization, children.*

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## 1. Introduction

In social sciences, "digital capital" means both internal and intangible resources (such as digital skills) and external and material resources (such as technologies), available within a specific social space, such as school or family, used by individuals to achieve specific goals (Ragnedda, 2018; Ragnedda, Ruiu, Addeo, 2019; Cortoni, 2020).

From a microsocial perspective, digital capital recalls both the behaviors of individuals, who use different devices, and their digital skills (Paino and Renzulli, 2012; Pitzalis et al., 2016; Magaugga in De Feo, Pitzalis, 2014). In this sense, one can attribute a specific dimension of digital capital to the human capital of the actors involved, recalling their innate, cultural and cognitive characteristics (the so-called internal and fundamental capabilities of Nussbaum, 2010) that individuals mobilize when they act digitally and that contribute to define the type and level of people's digital skills. Moving on to a macrosocial perspective, digital capital expresses both the technological infrastructure and investments in digital education, to improve its production and distribution system.

To define, instead, the concept of safety, in accordance with the *European Framework for Developing and Understanding Digital Competence in Europe* (DIGCOMP) (Kluzer, Rissola, 2015), it refers to a specific area of digital competence redirecting both to the ability of citizens to protect their privacy and reputation online, threaten the individual's physical, psychological, social and emotional well-being and harm the environment. The main safety descriptors identified by the European Commission are four: 1. Protecting devices, 2. Protecting personal data and privacy, 3. Protecting health and well-being 4. Protecting the environment (Vuorikari et al., 2016; Redecker, 2017).

The reflection on these concepts has acquired, in recent years, a central role in the international sociological scientific debate especially if related to the structural and sociocultural transformations induced by the advent of the so-called "platform society" (van Dijck et Alii, 2018). This term refers to the central role played by digital platforms in directing processes of production, marketing and use of tangible and intangible assets, with inevitable effects on the dynamics of socialization, on the processes of building individual and social identities, as well as on the construction of social, communicative and participatory relations of citizens (Van Dijck, 2013). In the current infrastructure ecosystem, data represent the trading and socio-economic bargaining goods, that is all that information, generated by the actions and interactions of users in the Network, encoded and stored by the digital system through algorithms (datafication). The result is a process of commodification of culture (Canevacci, 2001) produced from below, whose surplus value is often made available to other economic subjects, with the often unaware consent of the same user (commodification).

The health emergency linked to COVID-19 has induced many changes in the management of work, relational, social, economic and, above all, educational dynamics through digital devices such as strategies to contain the pandemic and social distancing. During the lockdown, in the short term, the digital platforms have helped face the emergency becoming the main space (virtual) of interaction, socialization and communication of citizens, as well as the management of public and private functions of companies, contributing to ensure continuity in the dynamics of production and work. In the medium term, however, they have highlighted a series of limitations related to datafication and commodification. A fundamental contribution to the discussion is given by the *accountability* of the citizen who, in exercising the rights of data protection within the new system of the cultural industry, generated by the *platform society*, has introduced the issue of *digital safety* into the contemporary debate. *Digital safety* is digital competence in terms of user awareness, that the citizen, especially children, must possess to understand the datafication, personalization and commodification of information shared between institutions and citizens online (Van Dijck et alii, 2018). Hence, some research questions are these: What is the digital safety degree of minors and what is the impact of the digital capital in the maturation of digital soft skills (Cortoni, Lo Presti, 2018).

## 2. Research design

A useful and relevant sociological reflection can be started from some scholarly contributions showing how the learning process of a minor is influenced by at least three main determinants that differentiate scholastic success: 1. social background; 2. school variables and 3. individual aspirations and orientations (Cherkaoui, 1979). The acquisition of digital skills for young people, such as safety, is related to the incidence of social, cultural, family and school capital on the stimulation of learning and the implementation of skills of children (Coleman, 1966; Bourdieu, 1979; Gambetta, 1990; Cherkaoui, 1979).

The CENSIS report, “La digital life degli Italiani” (2021), on the digitalization of Italians confirms the directly proportional relationship that unites the sociocultural capital of the family and the school with the use of digital technologies. It is possible to assume that the fragility of the digital capital of teachers and parents could be reflected onto young people, particularly with regard to the implementation of digital soft skills, such as safety, which cannot be acquired through the use of media. Socialization agencies can make a contribution, both materially and culturally, to provide minors with stimuli to the discovery of the technological world and especially to accompany them in the exploration by directing them to a critical reading of media content and a different fruitive awareness. Specifically, the school could intervene to reduce socio-cultural inequalities by favouring compensatory and supportive pedagogies, where cultural and material resources are lacking (Cherkaoui, 1979).

Reflecting from a microsocial perspective, it is possible to observe how the influence of family and school is reflected in the component of subjective motivation, which is at the basis of media use. In fact, the lack of digital soft skills in teachers and parents often risks compromising the communicative effectiveness in the teacher/student (or child/parent) relationship, indirectly implementing demotivation, disinterest and boredom on students (Capogna et alii, 2018). The emotional involvement and the marked sensitivity towards the potential of digital media contribute to define the individual attitude, more or less proactive, when offered interactive services, influencing their perception and individual investment in terms of commitment and attention (these are further subjective variables that develop independently of the incidence of family and school, hinged in the *habitus* of Bourdieu).

In 2020, the Osservatorio Mediamonitor Minori of the University of Rome “La Sapienza” conducted a national quantitative survey on the dissemination of the competence of digital safety in a sample of 2708 Italian teenagers, from 37 upper secondary schools and their families<sup>1</sup>. Specifically, the survey focused on various social and cultural aspects by observing and analyzing, with a quantitative approach, digital and social capital:

1. the schools involved, as per ownership of technological infrastructure, digital education services and investment, with possible repercussions on teaching methodologies in teacher classes;
2. adolescents, as per daily media behaviour and digital competence, with reference to the DIGCOMP safety area.
3. families, as per impact on the development of the safety of adolescents interviewed.

The survey was carried out from March to December 2020 through the online administration of 3 questionnaires (one for each target involved). In this essay, our focus will be mainly on the impact of school digital capital in the development of the safety area of digital competence of the sample of teenagers involved in the investigation.

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<sup>1</sup>The sampling plan was factorial and typological and took two variables into account: a) the region of origin; b) the type of institution (high school or technical/vocational school).

### 3. Discussion of main outcomes

To answer the research questions posed in the first paragraph on the degree of dissemination of safety among Italian adolescents interviewed and the impact of school-related digital capital, we will start from the analysis of the digital school capital of the schools involved in the sample. The latter, in a macrosocial perspective, has been built after taking into account two main dimensions specific to schools of all levels: the technological infrastructure<sup>2</sup> and the experimental training<sup>3</sup>. Therefore, through the construction of a typological index, we found 4 types of digital school capital:

1. the schools' typically highly limited digital capital with little investment in digital education and technology skills;
2. high digital capital of schools with a strong investment in both technological and methodological-cultural dimensions;
3. infrastructural technological capital prevailing in schools with an imbalance on the infrastructural technological side;
4. experimental training capital in schools with an imbalance on the educational and experimental side.

Schools with a high digital capital certainly employ technologies as a support for the smooth running of the school's activities. Specifically, the most widely available media for almost all subjects are IWB, tablets and PCs.

But how do these infrastructural investments, together with the educational investments of the school, contribute to changing the routine activities of its main actors? Starting from the international framework of DigCompEdu<sup>4</sup> (2017) on digital competences for educators, as a useful tool for reading and analyzing the process of translation of the two dimensions of digital capital in school educational practices of teachers, one can say that schools with high digital capital integrate these technologies for the improvement of some educational activities such as: the implementation of communication and exchange of experiences and materials between colleagues in the perspective of technological innovation with greater continuity than schools with other types of digital capital (teaching and learning area); for individual professional updating (professional engagement area); for updating and implementing materials and resources already available and present in the school context (digital resources area); for classroom teaching innovation with students (teaching and learning area), for the implementation of the interaction between students even outside the school context (professional engagement area), for the investment on the implementation of the digital skills of their students (facilitating learners' digital competence area) and finally to respond to specific issues (e.g. SLD) and differentiate student learning processes (empowering learners area).

In contrast, schools with unbalanced digital capital towards digital teacher training and experimentation seem to invest the most frequently acquired know-how in innovative strategies to manage collaboration between student workgroups (teaching and learning area); in the search for digital resources to be used for one's own lesson, taking into account the educational objectives (digital resources area); in the design of tests and in the management of the data of student evaluations (e.g. through summary databases) and in the elaboration of judgements starting from predefined specific evaluation headings (assessment area). Finally, schools with a digital capital focused on the technological dimension of infrastructure seem to prefer activities oriented to external communication with families, other schools and students (professional engagement area); the exchange of materials and experiences between colleagues (teaching and learning area); as well as in the updating of resources already available and present in the school context (digital resources area).

Secondly, to understand the level of safety among adolescents, we have created 4 indices corresponding to each descriptor:

1. the device's protection index, which takes into account the variables of their habit of protecting their devices through access codes and antivirus systems, emphasizing the ways and the frequency with which they update the password, as well as the degree of password sharing with friends and relatives.
2. the data and privacy protection index, obtained by investigating both the way in which the terms and conditions of use are accepted, the degree of sharing of personal data and the type of activity carried out.

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<sup>2</sup>In order to define the infrastructural technological dimension of the digital capital of schools, the following information was taken into account: the n. of laboratories present in the facility, the n. of workstations in the laboratory and the type of Internet connection.

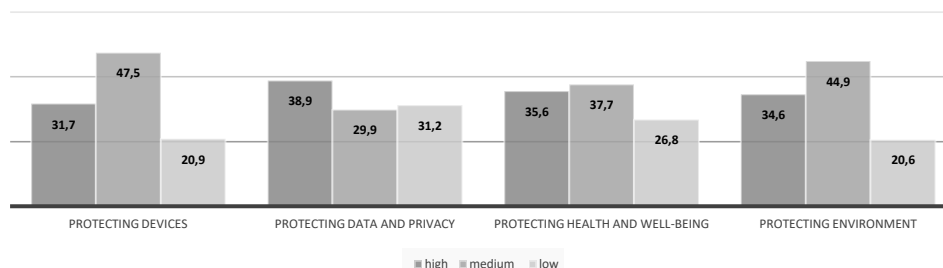
<sup>3</sup>In order to define the experimental training dimension of digital capital, a typological index has been constructed, as a result of the combination of two indices, one linked to training on digitalisation, and one related to projects of digital experimentation.

<sup>4</sup>DIGCOMPEDU summarizes the professional life of teachers into 6 main areas of competence: 1. Professional engagement; 2. Digital resources; 3. Teaching and learning; 4. assessment; 5. Empowering learners; 6. Facilitating learner's digital competence.

3. the individual health and well-being protection index derived from specific physical, social, emotional or cognitive reactions encountered during or after the use of the media.

4. the environmental protection index on how technologies are disposed of and the characteristics considered important during the purchase and use of a device.

Graph.1. Safety indexes of Italian students involved in the survey (val.%).



When analysing the data, the lower values of safety are mainly manifested in data and privacy protection and the protection of individual well-being. Specifically, 31.2% of students seem to have a low data and privacy protection index. This figure is more widespread among students who come from families with a low cultural capital and are professional institute seniors in the regions of southern Italy. While 26.8% of students have a low awareness of individual well-being. They also have a low family cultural capital and attend the first classes of technical professional institutes in the North Italy. Compared to the other two digital safety descriptors, only about 21% of respondents have a low safety level: as per device protection, such students have a low family cultural capital and are high school freshmen in the North Italy; in the second case on environmental protection, students with a low level of safety possess a medium-high cultural capital and are professional institute freshmen in the North Italy. We cross-referenced the data of the school digital capital with the safety indices of the students, in order to verify the impact of schools on the development of this *digital soft skill*. The low index on data and privacy protection, together with that on device protection, are more widespread in schools with limited digital capital, or in those schools with a little investment in digital education and infrastructure.

On the other hand, schools with digital capital directed towards training and experimentation seem to be positively making an impact especially on the development of a high safety with respect to environmental protection and the protection of the individual well-being of students (cf. table 1).

Table 1. The influence of digital capital on student safety.

Safety indices for students		Digital capital of school				Total
		Highly limited digital capital	Predominantly infrastructural technological capital	Predominantly experimental training capital	High digital capital	
Protecting the environment	high	33,9%	34,3%	38,2%	29,7%	35%
	medium	44,4%	44,8%	46,1%	45,4%	45,2%
	low	21,7%	21%	15,7%	24,9%	19,9%
total		100%	100%	100%	100%	100%
Protecting personal data and privacy	low	35,7%	32,5%	25,9%	28,1%	30,9%
	medium	29,3%	31,9%	29,3%	29,3%	30,1%
	high	35%	35,5%	44,8%	42,6%	38,9%
total		100%	100%	100%	100%	100%
Protecting devices	high	30,2%	31,8%	33,3%	32,1%	31,9%
	medium	48,4%	46,3%	47,9%	47,8%	47,5%
	low	21,4%	21,9%	18,8%	20,1%	20,6%
total		100%	100%	100%	100%	100%
Protecting health and well-being	high	34,1%	34,4%	39,5%	30,5%	35,5%
	medium	39,8%	38,6%	36,1%	37,3%	38,1%
	low	26,2%	27%	24,4,8%	32,1%	26,4%
total		100%	100%	100%	100%	100%

## 4. Conclusion

After the analysis of the research data, two main theoretical considerations emerge in response to the research questions illustrated in the first paragraph of this essay.

The first one concerns the digital capital of schools: schools with a high digital capital and with strong investments in training and experimentation in the digital field, are more oriented towards the inclusion of technologies both in the school and in teaching and learning practices in terms of methodological innovation. Also, the implementation of resources for improving teaching performance and stimulating student learning generates the inclusion of Digital Education, not only instrumentally but also methodologically. The exclusive investment on the technological dimension of digital capital, without a focus on the cultural capital of digital resources, is functional only to improve communication processes towards the external context, as well as updating resources for school management. This information is reflected in the development of the safety of school actors, including students. In particular, schools with low investments in digital capital contribute less to the development of safety, especially relating to data, privacy and device protection. The results of the research also show how the educational component linked to the literacy of school actors in the field of digital capital in schools is a fundamental aspect to invest in the future for the implementation of these skills in students.

This investment process becomes strategic and compensatory especially knowing that a low safety index is often linked to a family context with an equally low socio-cultural capital as well as, mainly, the attendance of technical professional institutes. For this reason, the competence of digital safety is considered a *digital soft skill* or a competence that cannot be learned by citizens through media experience, but through a path of digital literacy in educational contexts such as school; this aspect, however, is still poorly structured in the Italian government system towards secondary schools.

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