THE CONSTRUCTION OF CULTURAL CAPITAL TWO DIGITAL NEONATIVES: GENERATION Z, DIGITALIZATION AND SCHOOL PERFORMANCE

A CONSTRUÇÃO DO CAPITAL CULTURAL DOS NEONATIVOS DIGITAIS: GERAÇÃO Z, DIGITALIZAÇÃO E DESEMPENHO ESCOLAR

LA CONSTRUCCIÓN DE CAPITAL CULTURAL DOS NEONATIVOS DIGITALES: GENERACIÓN Z, DIGITALIZACIÓN Y DESEMPEÑO ESCOLAR

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ABSTRACT: This work addresses the construction of the cultural capital of digital neonates. In the last twenty years, the intensification of the digitalization process of life has reduced the legitimacy of the cultural capital transmitted by parents and endorsed by schools. However, fragments of the most distinctive cultural capital, incorporated in first and second childhood, are used by digital neonates to achieve good school performance. Digital newborns who belong to families with higher income and education build a domestic technological infrastructure responsible for the advent of informational-digital-technological capital, useful for obtaining a good performance in exams such as ENEM. These two factors – the appropriation of fragments of cultural capital originating from family and school and the incorporation of new informational-digital-technological capital – translate into cognitive skills that are decisive for the good academic performance of this generation, especially those who belong to families with higher income and education.

KEYWORDS: Digital neonates. Generation. Cultural capital. Digitization. School performance.

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RESUMO: *Este trabalho aborda a construção do capital cultural dos neonativos digitais. Nos últimos vinte anos, a intensificação do processo de digitalização da vida reduziu a legitimidade do capital cultural transmitido pelos pais e chancelado pela escola. No entanto, fragmentos do capital cultural mais distintivo, incorporados na primeira e segunda infância, são utilizados por essa geração para obter um bom desempenho escolar. Os neonativos digitais que pertencem a famílias com maior renda e escolaridade constroem uma infraestrutura tecnológica doméstica responsável pelo advento do capital informacional-digital-tecnológico, útil para a obtenção de um bom desempenho em exames como o ENEM. Esses dois fatores – a apropriação de fragmentos do capital cultural oriundo da família e da escola e a incorporação de um novo capital informacional-digital-tecnológico – se traduzem em competências cognitivas decisivas para o bom desempenho escolar dessa geração, especialmente aqueles que pertencem às famílias que dispõem de maior renda e escolaridade.*

PALAVRAS-CHAVE: *Neonativos digitais. Geração. Capital cultural. Digitalização. Desempenho escolar.*

RESUMEN: *Este trabajo aborda la construcción del capital cultural de los neonatos digitales. En los últimos veinte años, la intensificación del proceso de digitalización de la vida ha reducido la legitimidad del capital cultural transmitido por los padres y avalado por las escuelas. Sin embargo, los neonatos digitales utilizan fragmentos del capital cultural más distintivo, incorporados en la primera y segunda infancia, para lograr un buen rendimiento escolar. Los recién nacidos digitales que pertenecen a familias con mayores ingresos y educación construyen una infraestructura tecnológica doméstica responsable del advenimiento del capital informacional-digital-tecnológico, útil para obtener un buen desempeño en exámenes como el ENEM. Estos dos factores –la apropiación de fragmentos de capital cultural provenientes de la familia y la escuela y la incorporación de nuevo capital informacional-digital-tecnológico– se traducen en habilidades cognitivas decisivas para el buen rendimiento académico de esta generación, especialmente de aquellas que pertenecen a familias con mayores ingresos y educación.*

PALABRAS CLAVE: *Neonatos digitales. Generación. Capital cultural. Digitalización. Rendimiento escolar.*

Introduction

This paper focuses on the construction of *cultural capital* (Bourdieu, 2002) among *digital neonatives* who belong to Generation Z. Chronologically, Generation Z comprises individuals born between 1996 and 2010. Thus, both 15-year-old teenagers and 29-year-old young adults fall into this generational group. Generation Z includes the so-called *digital neonatives* (Palfrey; Gasser, 2011) whose primary and

secondary socialization has been profoundly shaped by the use of internet-connected digital devices. The term "*digital neonatives*," however, refers specifically to the younger segment of Generation Z – those born between 2005 and 2010.

This methodological choice is grounded in the fact that this particular age group – currently between 15 and 20 years old – is, especially in Brazil, the demographic that most frequently accesses and uses the internet on a daily basis. Their hyperconnectivity is mainly driven by the daily consumption of streaming services, particularly among families with higher income levels, greater educational attainment, and parents in more prestigious professions. Given that their cultural consumption diverges from the legitimized canon of *cultural capital* accumulated by their parents and endorsed by schools, it becomes crucial to understand how this younger segment of Generation Z constructs its *cultural capital* – and, above all, how this capital is mobilized in relation to educational success, especially when it comes to the National High School Exam (ENEM).

This empirical object demands engagement with three simultaneous processes: (1) the broader sociological framework of Generation Z, including the *digitalization* of life (Lupton, 2015) and hyperconnectivity; (2) the digital audiovisual consumption habits of *digital neonatives* and the construction of their *cultural capital*; and (3) the impact and utilization of this capital in relation to the ENEM exam. The first process, explored in the opening section, deals with the wide-reaching digitalization of life, which shapes the sense of belonging and agency for Generation Z and, more specifically, its younger subgroup – the *digital neonatives* – particularly within the Brazilian context. This process has created the "conditions of possibility" (Bourdieu, 2012) for the gradual construction of a kind of *informational-digital-technological* capital, made possible through the financing and use of domestic technological infrastructure. The second process (discussed in the second section) calls for a renewed examination of the relationships between *cultural capital*, family, and school.

As Nogueira and Costa (2020) note, in the face of profound social, cultural, educational, and technological transformations over the last two decades in Brazil and worldwide, is it still possible to assert that possessing cultural capital remains a significant – if not decisive – factor in educational success? According to the authors, "the most prestigious and distinctive cultural practices are now less profitable and less easily transmitted than in the past, and parental economic investments have increasingly become a driving force behind their children's academic success" (Nogueira; Costa, 2020, our translation). On one hand, the cultural capital accumulated by the parents of digital natives – and, to some extent, by the school itself – has struggled to be transmitted and legitimized in the lives of this younger segment of Generation Z. On the other hand, when faced with the challenge of the ENEM exam – particularly the essay component – this same partially incorporated

cultural capital proves to be highly useful and even decisive for achieving a strong performance.

As shown by Barbosa et al. (2011), the *cultural capital* inherited from family and developed through the interplay between home and school has been crucial for success on the ENEM exam. But how is the *cultural capital* accumulated through the intense digital audiovisual consumption of series, films, music, games, and other media – rarely legitimized by family or school – used to perform well on the ENEM? Moreover, to what extent has the process of *life digitalization* and the practice of hyperconnectivity contributed to the consolidation, within the home environment, of an *informational-digital-technological capital* that is also useful for academic achievement?

These questions lead us to the third empirical axis of this work. During ENEM preparation, the younger segments of Generation Z are confronted with artistic and cultural content traditionally valued and transmitted by parents and schools – books, songs, films, and academic subjects with historical and political dimensions that are often featured in the humanities, essay, and Portuguese language sections of the exam. On one side, as the youngest members of Generation Z – particularly those born between 2007 and 2010 – grow older and advance in their schooling, they tend to consume audiovisual content that is less legitimized or culturally sanctioned. On the other side, within the relational triad of family–school–ENEM, they are challenged to engage with the artistic, aesthetic, historical, and political dimensions of more established cultural products. This dynamic is marked by tensions, conflicts, and fractures, which tend to be more intense and pronounced among *neonative* youths from higher-income families, whose parents hold prestigious occupations, possess higher education levels, and have elevated expectations for their children's academic success (Barbosa, et al 2011).

The digitalization of life and Generation Z: Digital neonatives and hyperconnectivity

Before delving into the specificities of Generation Z, it is essential to outline the centrality of the concept of "generation" for this study. It is worth noting that although chronological time serves as the primary criterion for defining Generation Z, it is neither the only nor the most relevant one. Within the sociological tradition, Karl Mannheim (1974) was the first to contribute to the conceptual development of the generation variable significantly. As Weller (2012) points out, Mannheim proposed two key concepts for understanding the social construction of a generation: (i) generational *position/situation* and (ii) *generational connection*. According to Weller (2012), the first concept – *generational position* or situation – refers to the

construction of a shared repertoire of accumulated experiences, historical events, and collective meanings, which together provide a sense of generational belonging. However, this concept primarily signals a potentiality – a becoming. That is, the *generational position* indicates the "conditions of possibility" for a generation to eventually recognize and define itself as such.

Still drawing on Weller (2007), the second concept introduced by Mannheim – *generational connection* – addresses more concrete and empirical elements. It serves as a highly operational and valuable analytical tool for researching, understanding, and explaining the existence and trajectory of a particular generation. The concept implies that more than simply sharing a temporal horizon that may result in common experiences, *generational connection* refers to the actual, material formation of a generation. Analytically speaking, one might say that in the case of *generational position*, a broad group of individuals (of similar age) within a given society may have the potential to construct a generational identity, but for various reasons, they do not. In this case, the potential exists but is not realized.

In the case of *generational connection*, a direct sense of belonging is formed – one that is built and solidified through everyday collective practices, established by routines, habits, and the consumption of ideologies, ideas, and values. This means that, over a specific socio-historical period, the potential to galvanize a generation has been realized and brought into being. These aspects, taken together, directly contribute to the formation of distinct *generational units*. It is possible to suggest, therefore, that a single group of individuals with similar chronological ages may belong to different *generational units*.

Within Generation Z, for instance, based on class, race, gender, and regional divides, we can identify several *generational units*. Due to socio-economic disparities, it is evident that there are few *generational similarities* between a young Black man living on the outskirts of a large Brazilian city, with limited schooling, coming from a low-income family and working as a food delivery app courier, and a white youth living in protected and privileged urban areas, from a highly educated, high-income family – despite both being 18 years old and born in 2007. This indicates that Generation Z contains many distinct generational units. For the analytical purposes of this study, our focus is on the generational unit made up of *digital neonatives* – individuals between 15 and 20 years old – who come from elite fractions of society, with parents who enjoy high income, high education levels, and top-tier professional occupations. According to Mannheim (1974), Generation Z holds a *potential generational position/situation*, and within it, multiple *generational units* are present.

Following Mannheim's contributions, it is possible to argue that the broad process of *life digitalization* (Lupton, 2015), which has accelerated over the past two decades, establishes the shared horizon of possibilities for Generation Z – the

first generation of digital natives. This process gave rise to a general *generational position/situation* for those born between 1995 and 2010. However, due to stark socioeconomic inequalities, particularly in Brazil, there are multiple and often contrasting *generational units* within Generation Z. To clarify these dynamics, it is necessary to present relevant data and typologies. From a chronological perspective, we are witnessing a historical moment in which five different generations – with distinct ages and generational positions – coexist and interact on a daily basis in many contemporary societies. In Brazil, for example, we currently observe meaningful interaction among five generations: Baby Boomers (born between 1945 and 1964), Generation X (1965–1979), Generation Y or Millennials (1980–1995), Generation Z (1996–2010), and Generation Alpha (from 2011 onward). The table below outlines the typology of these *generational groups*, their population sizes, and their relative percentages within Brazilian society.

Table 1 – Typology and Size of Generational Groups in Brazil

NAME	BIRTH INTERVAL	QUOTA	(%)
Baby Boomers	From 1945 to 1964	32.8 million	16.2
Generation X	From 1965 to 1979	45.6 million	22.5
Generation Y (*Millenniaials*)	From 1980 to 1995	48.5 million	23.9
Generation Z	From 1996 to 2010	42.8 million	21.1
Generation *Alfa*	From 2011 onwards	34.1, million	16.8

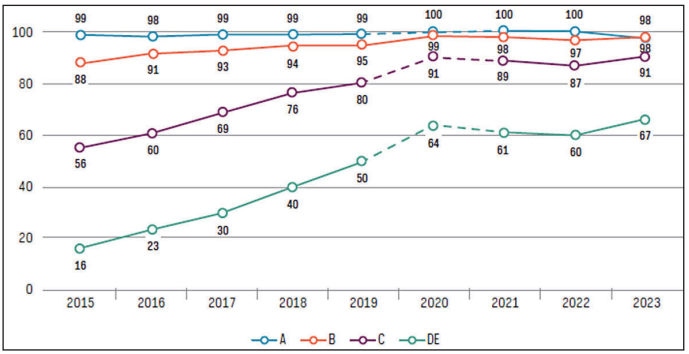
Source: Compiled from IBGE, 2022.

According to the United Nations, in 2023, 67% of the global population – out of 8 billion people – had regular access to the internet, equating to 5.3 billion individuals. Among them, 55% (4.4 billion people) actively used at least one digital social network. According to ABRANET (Brazilian Internet Association), in 2022, among more than 50 surveyed countries, Brazil ranked as the second country with the highest screen time usage in the world, with an average of 9 hours and 32 minutes per day, with smartphone[1] usage dominating. As highlighted by CGI-BR (2024), in 2023, 84% of the Brazilian population had internet access, and 85% of households were connected. Among lower-income households (social classes D and E), 87% of internet users accessed the internet exclusively via mobile phones. In contrast, among higher-income households (classes A and B), 81% accessed the internet using both computers and smartphones – demonstrating profound socioeconomic inequality. However, even among the lower-income groups (D and E),

[1] Available at: https://www.abranet.org.br/publicacoes/noticias/4627. Accessed in: 21 Jan. 2025.

there has been a significant expansion in internet access. As seen in the following graph, in 2018, only 40% of these groups had internet access – a figure that rose to 67% five years later. Since these groups represent approximately 52.5% of Brazil's population (106.5 million people), this data highlights the deep penetration of the internet into these social classes.

Graph 1 – Households with Internet Access by Social Class (2015–2023)



Source: CGI-BR, 2024.

In 2013, only 31% of Brazilians used smartphones to access the internet. By 2023, this rate had surged to 88% – an increase of 184% over ten years, with an average annual growth rate of 18.4%. Smartphones have become the primary device for digital access and activity. This usage is especially intense among lower-income groups (D and E), who, due to limited financial resources, are unable to afford computers or home Wi-Fi, relying instead on mobile devices. Among internet users in Brazil, 87% used their phones to send messages, 78% to watch videos, 76% to access social media, and 76% to listen to music, among other activities.

These striking statistics reveal that Brazilian society has undergone a rapid and profound digital transformation – albeit a highly unequal one. This digitalization has impacted all areas of life: politics, education, work, health, entertainment, culture, commerce, sexuality, identity, family, and more. Lupton (2015) captured this phenomenon using the concept of the *digitalization of life*: a global arrangement of extensive relational integration networks and interdependencies mediated by various mobile digital devices, which reshape individuals' psychosocial frameworks and their *social personality structures* (Elias, 1990). The *digitalization of life* is accompanied by daily routines of access, usage, and digital practices that give rise to new feelings and emotions – fear, anxiety, hatred, conflict, tension, as well as aesthetic, ethical, political, moral, environmental, and ideological engagements. This process, though contextually distinct in different countries and regions, encompasses three major dimensions: (1) domestic and familial; (2) political, ideological, and

governmental; and (3) financial-economic and labor-productive. For the purposes of understanding how the younger segment of Generation Z constructs *cultural capital* and *informational-digital-technological capital* – and how this impacts their academic performance – our interest lies in the first dimension.

Chart 1 – Dimensions of the life digitization process and its domains

DIMENSION	MASTERING CONNECTIVITY
DOMESTIC-FAMILY	– Digital socialization – Family spending on cultural-digital services – Formal-school education
POLITICAL-IDEOLOGICAL-GOVERNMENTAL	– Political-ideological activism – Use of various public services
ECONOMIC-FINANCIAL AND PRODUCTIVE-LABOR	– Corporate use of digital services – New work routines, controls, and productive characteristics of work – Global digital platform economy, anchored in data collection for the monetization of human experience and subjectivity

Source: Author's elaboration, 2021.

Generation Z has given empirical and agonistic materiality to the process of the *digitalization of life* (Lupton, 2015). While all contemporary generations make regular use of the internet, Generation Z does so more intensively, as it is the first generation in history to experience and develop new cognitive, emotional, and psychological structures entirely mediated by digital devices, both mobile and fixed, throughout its primary and secondary socialization. In fact, it grew up with a digital device in hand (tablet, smartphone, or computer), shaping its perception of various formative and constitutive experiences. The internet constitutes its symbolic and existential home. Unsurprisingly, the definitions of digital natives and Generation Z often overlap and intertwine. From a sociological perspective, this definition should emphasize the formative aspects of both primary and secondary socialization, in which stimuli, dispositions, and perceptions are shaped through the constant mediation between family, technology, and school. This makes Generation Z/digital natives not just internet users, but deeply digitalized and hyper-connected users.

According to IBGE data, between 2019 and 2023, internet access increased across all eight major Brazilian age groups. The most significant growth was seen among those over 60 years old, rising from 44.8% in 2019 to 66% in 2023. However,

the highest average internet usage is observed among digital natives/Generation Z (born between 1996 and 2010), aged 15 to 29. The average internet access rate for the three age groups comprising this generation is 95.3%, higher than the averages for Generation Y (95.5%), Generation X (90.7%), and Baby Boomers (66%). The younger segments of Generation Z are the most hyper-connected, as they are more familiar with digital environments and have internalized the various uses of digital technologies in their dispositions, perceptions, and classifications. This is especially true for those born between 2005 and 2010, who have already absorbed a new phase of the internet: one characterized by mass user-generated content and active participation in digital social networks, known as Web 2.0.

The digital neo-natives of Generation Z: Cultural capital and new relational flows between family, school, and technology

According to Bourdieu (2004), *cultural capital* is a symbolic resource woven and transmitted through the incorporation of cognitive structures and artistic, cultural, educational, and evaluative symbolic dispositions, which are activated in specific interactions. *Cultural capital* is embodied by individuals and has both historical and bodily materiality (the *habitus*). There are three specific forms of cultural capital: (1) *institutionalized*, (2) *objectified*, and (3) *embodied*. The first refers to the institutionalized forms of academic and educational credentials, materialized through diplomas endorsed by prestigious schools and universities. The second form concerns *cultural capital* that takes material shape in artistic and aesthetic objects and artifacts, particularly within the domestic space, such as paintings, records, sculptures, books, etc. Finally, the third form relates to embodied cultural capital, which is expressed in ways of speaking, gesturing, eating, dressing, feeling, walking, listening, among others. It is the class's predisposed body and its social history embodied in action (*hexis*), which acts, speaks, and thinks throughout various social interactions, such as a dinner, a class, a work meeting, a party, a casual encounter, a trip, a soccer match, and so on.

All forms of *cultural capital* contribute to defining a resource of power which, in the course of interactions, grants power, prestige, and distinction to those who possess higher quantities of these forms of cultural capital. In all three forms, *cultural capital* originates within the family during the processes of primary and secondary socialization, through which children incorporate the predispositions and dispositions transmitted by their parents. The family is, therefore, the primary and principal nucleus for the construction and sedimentation of high or low volumes of *cultural capital*. Later, these original dispositions are reinforced and solidified through contact with educational, academic, artistic, and professional institutions.

These theoretical aspects, supported by qualitative and quantitative empirical data, allowed Bourdieu to make a significant discovery: that *cultural capital*, in all its forms, functions as linguistic and symbolic codes that students incorporate and carry with them into the school environment, which, in turn, reinforces, endorses, and legitimizes these forms of capital through its curricula, academic content, and the works it reiterates and consecrates. This creates a convergence of subjectivity and objectivity, gradually shaping a specific *habitus*. In Bourdieu's view (2004), schools, in the vast majority of cases, reproduce the *cultural capital* of more privileged families – those who possess high levels of such capital. Thus, the school functions as a reproducer of asymmetries.

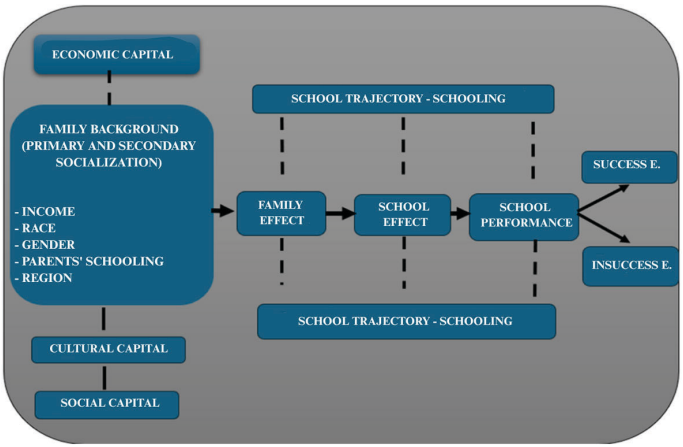
As a corollary, the school, as a legitimizer of symbolic and cultural asymmetries, contributes to the reproduction of social hierarchies. These hierarchies – subtle and often unconscious – serve to naturalize the legitimacy of certain contents, such as specific books, films, plays, works of art, and historical and cultural facts, among others. Bourdieu's discovery (2004), which was also identified by sociologist James Coleman through the renowned Coleman Report (1964), contributed to a shift in educational sociology toward emphasizing the decisive importance of the family effect on student's academic success or failure. Thus, according to these authors, academic performance depends more on the resources of *cultural capital* (Bourdieu, 2001) and *social capital* (Coleman, 1964), and less on the physical structure and educational or pedagogical quality of schools.

Drawing from Elias (2001), Lahire (2006) argues that *cultural capital* is constructed through the relational interdependence between family and school. Using qualitative methods with an ethnographic approach, Lahire emphasizes that school directly affects learning and academic performance, contributing to the construction of valuable fragments of *cultural capital* – even among poor and undereducated families with limited access to cultural resources. While Bourdieu (2004) places central emphasis on the family and develops a causal pendulum based on the "family effect," Lahire (2006) expands this perspective by highlighting the role of the school and stressing the existence of mutual symbolic and cultural influences between family and school. According to Lahire (2006), the transmission of *cultural capital* from parents to children is neither automatic nor unidirectional; the school plays an important role in this process, particularly in the academic performance of students from working-class backgrounds.

Based on the contributions of Bourdieu (2004) and Lahire (2006), the sociology of education has begun to explore the reciprocal relationships between family and school, examining how the *cultural and economic capital* of students and their families shapes both the "family effect" and the "school effect" in understanding and explaining students' academic performance. In light of these contributions and the consolidation of a body of literature on the subject, we outline an analytical

framework that will be applied ahead to explore the relationship between the *cultural capital* of the younger segments of Generation Z and their performance on the ENEM (Brazil's National High School Exam). The model demonstrates that, in order to understand students' academic performance, it is essential to consider the relational dynamics between family and school, taking into account both the student's educational trajectories and the socioeconomic and cultural composition of their families, as well as the physical structure and pedagogical conditions of the schools – whether public or private.

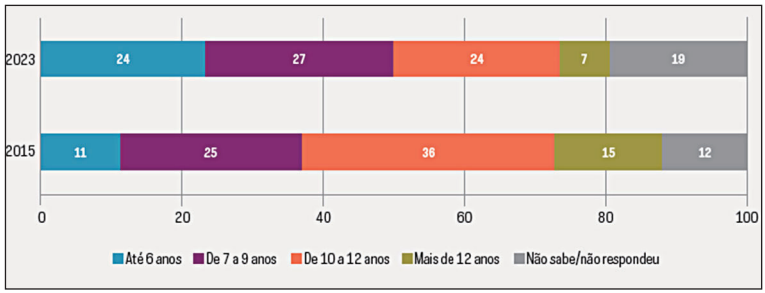
Figure 1 – Analytical model – interdependence between the family effect and the school effect



Source: Own elaboration, 2025.

The process of *digitizing life* (Lupton, 2015) exerts a more intense force on Generation Z, and the hyperconnectivity maintained by its younger segment reveals that there are other ways of constructing *cultural capital* that escape the direct influence of the family and the oversight of the school. According to CGI-BR, in 2023, 94.6% of children and adolescents aged 9 to 17 were regular internet users. Among adolescents and young adults aged 15 to 20, this rate reached 97%. As the following graph shows, children are accessing the internet at increasingly younger ages. In 2015, 11% of Brazilian children accessed the internet for the first time by the age of six. In 2023, this rate jumped to 24% – an increase of over 100%. In 2015, 36% of all children who used the internet had their first access between the ages of 10 and 12, a percentage that dropped to 24% in 2023 – a reduction of 33.2%. Finally, in 2015, 15% of all child and adolescent internet users accessed the internet for the first time after the age of 12, a percentage that fell to just 7% in 2023 (a reduction of more than 50%).

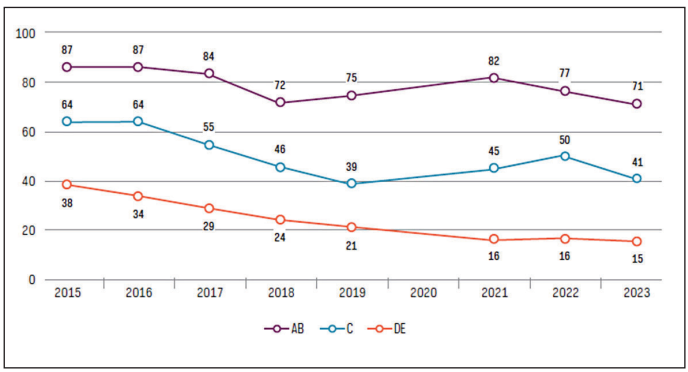
Graph 2 – Children and adolescents, by age of first internet access (2015 to 2023) (Total internet users aged 9 to 17)



Source: CGI-BR, 2024.

It is worth noting that in 2015, 63% of all child internet users used a computer to carry out online activities. In 2023, this rate declined to 42.3%. This decrease was accompanied by a continuous rise in the use of smartphones to access the internet. The greatest decline was recorded in the lowest income brackets (classes D and E), where computer use fell from 38% in 2015 to 15% in 2023 – a reduction of more than 60%. Not using or owning a computer significantly hinders the completion of schoolwork and assignments, as the small screen size of mobile phones often makes such tasks unfeasible. Meanwhile, the use of television (smart TVs) to access the internet has expanded significantly among children and adolescents. In 2015, only 10.3% of all child and adolescent internet users used a television for online access. By 2023, this rate had soared to an impressive 72.3% – an increase of over 600% (an average annual growth of 75%). Among the lower-income brackets (D and E), the jump was from 2% in 2015 to 54% in 2023.

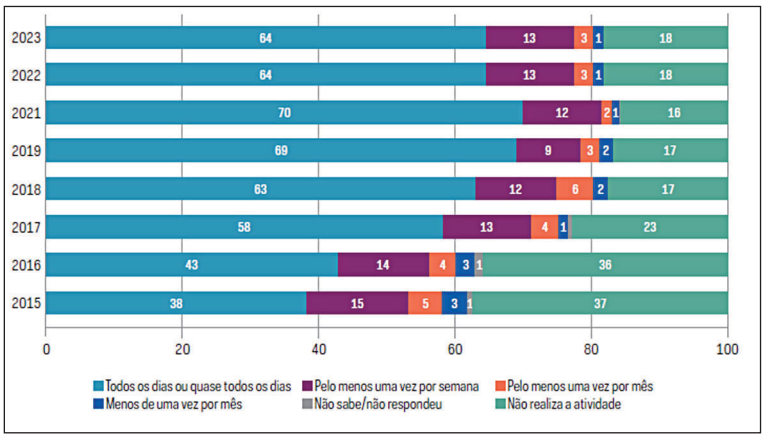
Graph 3 – Children and adolescents by type of device used to access the internet, by socioeconomic class (2015–2023) (Total internet users aged 9 to 17 [%])



Source: CGI-BR, 2024.

Internet use has expanded, but more importantly, its intensity has significantly increased. Although the source used (CGI-BR) focuses on children aged 9 to 17, and our empirical emphasis is on young people aged 15 to 20, it is possible to observe the intensity of access, usage, and digital consumption across all these age groups. For example, in 2015, 41% of children and adolescents who used the internet accessed it to listen to music online every day or almost every day. In 2023, this percentage jumped to 75% – an 83% increase. This is a significant increase, as the indicator reflects both the intensity and frequency of access (every day or almost every day). Regarding the consumption of videos, shows, movies, and series, the growth was also substantial. In 2015, 38% of children and adolescents aged 9 to 17 who used the internet watched videos, shows, movies, and series online every day or almost every day. By 2023, this percentage rose to 64% – an increase of 68.5%.

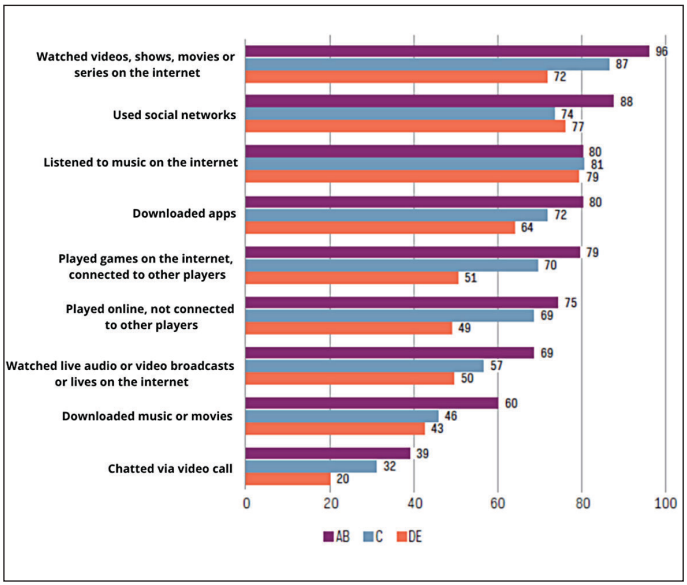
Graph 4 – Watched videos, shows, series, or movies online



Source: CGI-BR, 2024.

The intensity of this consumption is not homogeneous across income brackets; on the contrary, it shows clear disparities. As illustrated in the following graph, children and adolescents from income groups A and B accessed and consumed more video, show, movie, and series content, reaching a rate of 96% in this income group. This means that 96% of internet users aged 9 to 17 in this bracket had regular access to such content. Among children and adolescents who were internet users from the lower income brackets (D and E), the percentage drops to 72%.

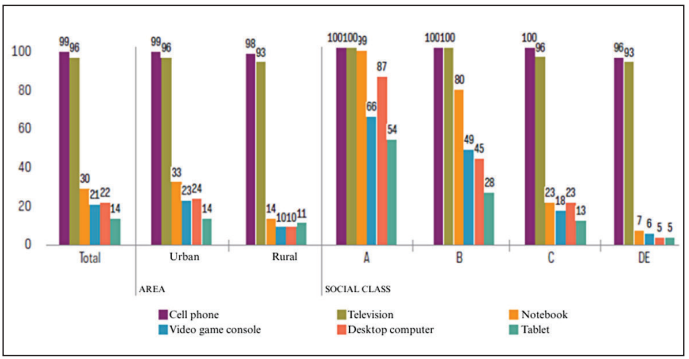
Graph 5 – Children and adolescents, by internet activities performed by income class (2021) – Total internet users aged 9 to 17 (%)



Source: CGI-BR, 2024.

The asymmetries persist and become quite evident when analyzing the domestic technological infrastructure necessary for internet access and usage. Among internet-using children from the highest income group (A), nearly all have access to a desktop computer, laptop, television, and mobile phone for internet access. Additionally, 66% have a video game console, and 54% have a tablet. On the other hand, internet-using children and adolescents from the lower income groups (D and E) have almost no access to desktops, tablets, video games, or laptops for going online. This reveals a marked socio-domestic inequality. The *digital neonatives* (the youngest fraction of Generation Z) from income brackets A and B are the ones with the greatest access to this home technological infrastructure, which they use intensely and on a daily basis. It is through this infrastructure that a kind of new *informational-digital-technological capital* is built – one deeply tied to the digitalization of life.

Graph 6 – Children and adolescents living in households with ICT equipment (2021) – Estimated population totals for individuals aged 9 to 17 (%)



Source: CGI-BR, 2024.

Both the intensity of use and the availability of domestic technological infrastructure reveal a significant consumption of online audiovisual content among *digital neonatives*, especially those from families with higher income and education levels (income brackets A and B). This consumption mainly takes place through subscriptions to streaming platforms for music, series, movies, games, and videos. As analyzed in other works (Alves, 2019; Alves, 2023), the growth of streaming service subscriptions represents the most advanced front of the process of *symbolic digitalization*, which generally refers to the intense and recurring migration of cultural goods and services to the online environment, converting them into cultural-digital services. In 2023, there were approximately 750 million subscriptions to streaming platforms for series and movies worldwide, with global platform companies leading the market: Netflix (220 million subscribers), Prime Video (180 million), Disney (140 million), HBO Max (110 million), among others.

In Brazil, in 2023, according to CGI-BR (2024), 74% of internet users over ten years old accessed the internet to consume videos, shows, series, and movies online, primarily through video streaming services. According to IBGE (2024), in 2023, Brazil recorded 31.3 million households with at least one regular streaming service subscription. Considering an average of three residents per household, it is estimated that about 93 million people in the country have paid access to some online audiovisual platform (Alves, 2023). *Digital neonatives* – especially those from higher income and education levels – are habitual consumers of audiovisual content accessed through streaming subscription platforms. However, the repertoire of online practices among this fraction of Generation Z is not limited to audiovisual content consumption. It also includes conventional school activities supported by domestic technological infrastructure for internet access. In 2015,

29% of internet-using children and adolescents in Brazil accessed the internet daily to carry out school activities. By 2023, this percentage had risen to 46% – a 59% increase.

Generation Z *digital neonatives* use this domestic technological infrastructure as a technological, cultural, informational, educational, and cognitive resource available within the household to build part of their *cultural capital*. The effects of this capital will later be reflected in their performance on the ENEM exam. In other words, the role of the family has been reinforced, and the cultural and *economic capital* provided by families, with the advent and widespread use of the internet, tends to have a greater impact than the school. Put differently, the *cultural* and *economic capital* provided by the family has been reinforced by a new kind of *informational-digital-technological capital*, which has become a decisive resource for good academic performance.

Digital neonatives and academic performance: Economic capital, cultural capital, informational capital, and performance on the ENEM exam

Within the sociology of education, there is a consensus that a student's academic performance depends directly on the family effect and the school effect. This performance, built throughout the student's educational trajectory, can be characterized by either academic success or failure. The family effect, as explored in this study, refers to the socioeconomic and cultural composition of students' parents, especially the impact of *economic* and *cultural* capital on their school journey. The school effect refers to the institution's influence on students, particularly through aspects such as the quality of physical infrastructure, administrative dependence (public or private), availability of educational resources, laboratories, libraries, and teacher qualifications.

In Brazil, particularly over the last twenty years, studies on the family effect and the school effect – based on national large-scale exams like ENEM – have emphasized, following Lahire (2006), the need to observe the mutual influence of family and school. In research focused on academic performance and its multiple relational factors – class, race, gender, region, parents' education, parents' income, school location, institutional infrastructure, and teacher qualifications – the causal pendulum sometimes swings toward the family, sometimes toward the school.

In the studies conducted by Barbosa (2011), the author emphasizes that among the social strata with higher income and education levels, the expectation for strong academic performance and educational success for their children is quite intense. The author uses this factor to address and compare, within the

family sphere, which variable carries more weight in students' academic performance: household income (*economic capital*) or parents' educational level (*cultural capital*). By comparing average scores in the subjects of mathematics and Portuguese language (language arts), obtained by public elementary school students, the author identified some significant findings. Analyzing the scores from nationally administered exams in these two subjects, Barbosa finds that the scores of students in the highest income quartile are higher than those of students in the lowest income quartile. In mathematics, the difference reaches 2.12 points; in language, the discrepancy reaches 2.26 points.

Table 2 – Performance scores according to income quartile

INCOME QUARTILE	MATH SCORE	LANGUAGE SCORE
Quartile 1	22.50	15.98
Quartile 2	24.00	18.06
Quartile 3	25.24	19.38
Quartile 4	27.20	20.02

Source: Barbosa, 2011.

However, as the author (2011) argues, the family's level of education carries greater weight. In this case, the score differences are even more significant. The author focuses on the mother's level of education. In mathematics, children whose mothers had lower levels of education – up to the completion of primary school (an older classification of Brazil's educational stages) – scored 22.91. In contrast, students whose mothers had higher levels of education (12 years or more of schooling) scored 27.25, a difference of 4.34 points. In language, students whose mothers had lower levels of education scored an average of 16.84 points, while those whose mothers had higher levels of education scored 21.28, a difference of 4.44 points.

Table 3 – Effects of the mother's education level on academic performance

MOTHER'S EDUCATION LEVEL	MATH SCORE	LANGUAGE SCORE
Up to primary school	22.91	16.84
Up to lower secondary school	25.01	18.80
Up to high school	28.59	17.60
Twelve years or more	27.25	21.28

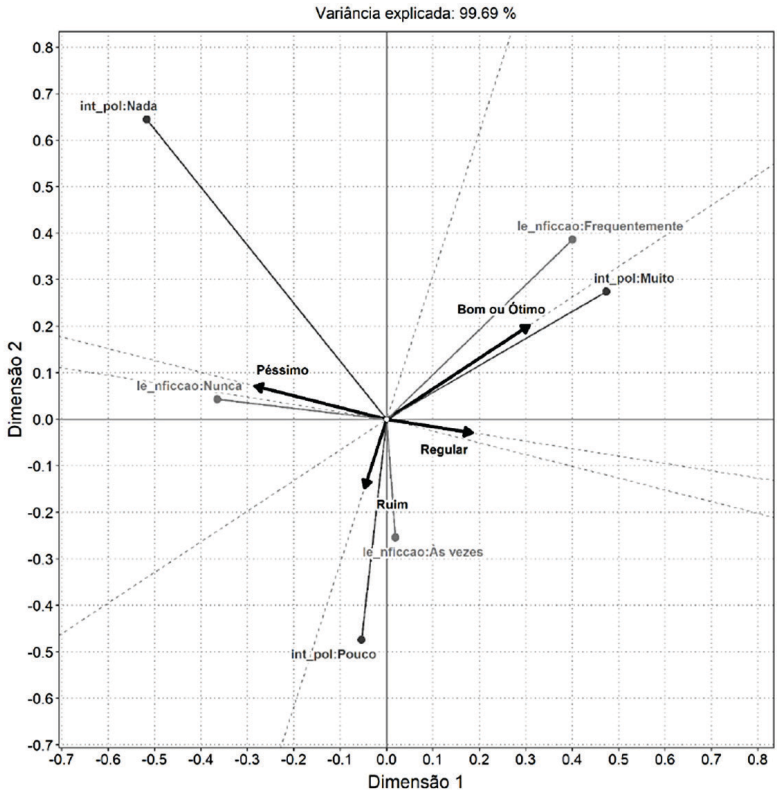
Source: Barbosa, 2011.

The research conducted by Barbosa (2011) was carried out in the first half of the 2010s. This does not invalidate the research or its results – quite the opposite – but it captures little of the process of *life digitalization* and the rise of hyperconnectivity among *digital neonatives*, as they were only beginning to be born at the time. The study conducted by Nascimento, Cavalcanti, and Ostermann (2009), also in the first decade of this century, presents findings similar to those of Barbosa (2011), though with some relevant distinctions. The research was based on the ENEM results of students from working-class backgrounds who, despite initially coming from families with little *cultural* and *economic capital*, achieved satisfactory performance. The data was collected and processed from the socio-economic questionnaire completed by students who took the ENEM in 2009. To obtain more accurate results, the authors created four indicators: i) Economic Capital Index (ICE); ii) Institutionalized Cultural Capital Index (ICC-INST); iii) General Culture Cultural Capital Index (ICC-GER); iv) Social Awareness Cultural Capital Index (ICC-CS). The authors placed particular emphasis on the second indicator (ICC-INST).

Based on the *scores* obtained and the combination of indicators, the authors identified students from working-class backgrounds with satisfactory performance despite having low levels of *economic* and *cultural capital*. Out of a total sample of 172,994 students, 14,995 from lower socioeconomic backgrounds achieved good or excellent results, representing just 8.67% of the total. From the same total population (172,994) and this subsample of 14,995 students, the authors identified some revealing findings. For example, 57,501 students in the total population performed very poorly, accounting for 33.24%. Among them, only 13.92% reported frequently reading non-fiction. On the other hand, among the 14,995 students who performed well, 29.2% said they engaged in reading frequently. Among the poorly performing group (57,501 candidates), only 18.82% reported being very interested in politics. In contrast, among those with satisfactory performance from working-class backgrounds (14,995 candidates), 38.32% reported a strong interest in politics.

To clearly demonstrate the relevance of reading practices and interest in political topics, the authors created a joint correspondence analysis map, relating ENEM exam performance to the frequency of reading non-fiction books and interest in politics. As shown, the greater the frequency of reading and the higher the interest in political topics, the better the performance on the ENEM exam. The reverse is also true: the lower the reading frequency and the lesser the interest in political topics, the worse the performance on the ENEM. The frequency and intensity of these practices – closely related to the three forms of *cultural capital* – reveal that, even among the working classes, good performance depends heavily on the accumulation of cognitive skills linked to reading and interest in political information and general knowledge.

Graph 7 – Joint correspondence analysis map relating ENEM exam performance, the practice of reading non-fiction books, and interest in political topics



Source: Nascimento, Cavalcanti, and Ostermann, 2009.

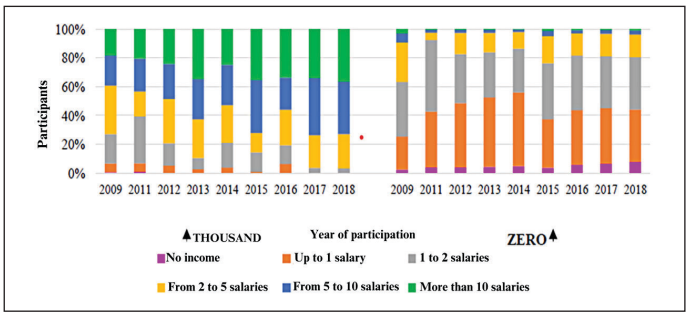
Performance on the ENEM writing exam by *digital neonatives*

Santana and Dantas (2025) conducted a valuable and detailed study on the relationship between *economic capital*, *cultural capital*, and performance on the ENEM writing exam. The authors obtained the data through the responses to the socioeconomic questionnaires answered by students during the ENEM exam application. In total, they analyzed responses from 1,154,800 students, corresponding to a 2.6% sample of the 44.5 million writing tests accumulated between the years 2009 and 2018. This period encompasses the *digitalization of life*, the consolidation of hyperconnectivity practices, and, consequently, the construction of *informational-digital-technological capital* by Generation Z digital neonatives. The authors divided the 1,154,800 writing tests, taken between 2009 and 2018, into two groups:

1) those that received a score of 1000 (the maximum score), and those that received a score of zero (the minimum score). Of the total population of 44,553,503 writing tests, the group with a score of 1000 represented only 0.3% (11,964 essays), while the group with a score of zero represented 2.6% (1,142,836 essays). According to the authors, the score of 1000 reflects the *cultural capital* accumulated by the student, as a result of the family-school dynamic.

Since *cultural capital* does not operate in a vacuum (Santana & Dantas, 2025), the group that obtained the maximum score between 2009 and 2018 belonged to the higher-income strata. Among the students who scored 1000, the majority came from families in the highest income brackets. In 2017 and 2018, for instance, approximately 75% of these students belonged to families earning between 5 and 10 minimum wages or more than 10 minimum wages per month. On the other hand, among the students who scored zero, the majority came from families earning up to 1 minimum wage, from 1 to 2 minimum wages, or no income at all. In 2017 and 2018, over 80% of students who scored zero belonged to these three lowest income brackets.

Graph 8 – Distribution of monthly family income of participants who scored 1000 and zero, respectively, on the ENEM writing exam



Source: Santana and Dantas, 2025.

In the case of *digital neonatives*, as they are young people between the ages of 15 and 20, living through the final cycle of basic education and entering higher education, the family-school dynamic is intense and revealing. These youths carry in their bodies, dispositions, and evaluative frameworks durable traits of class, race, gender, region, and age group. The artistic, cultural, aesthetic, and entertainment content they consume often escapes both the school's oversight and the direct influence of their parents, mainly due to the digitalization of life and hyperconnectivity. This parental and school supervision was more effective during early and middle childhood (from ages 0 to 6 and 7 to 12). After that stage, hyperconnectivity intensifies, linked to the consumption of less canonized and legitimized audiovisual

content – especially via smartphones connected to the internet and subscribed to one or more streaming platforms.

It is possible to note that although these young people and adolescents, as members of the youngest fractions of Generation Z, did incorporate a specific type of *cultural capital* during their early and middle childhood – reflected in ways of feeling, thinking, perceiving, evaluating, and judging – by the time they reach 14 or 15 years old, these original dispositions are transformed and adapted to new aesthetic, artistic, entertainment, and informational references. These references are accessed and consumed through mobile digital devices and home technological infrastructure (computers, cell phones, notebooks, tablets, games, television, Wi-Fi, among others), which allow access to subscription streaming platforms – a central element in the *digitalization of life* and hyperconnectivity.

Although they use smartphones from a very young age – being the first generation of digital natives – members of Generation Z, when aged between 5 and 12, are heavily monitored by their parents and supervised by the school. However, as they grow older, their individualization is shaped by a socio-domestic infrastructure (a personal bedroom, private bathroom, smartphone, tablet, unlimited home Wi-Fi, computer, library, clothing, decoration accessories, etc.), enabling them to operate digital functionalities with great skill and competence. This allows them to access and consume series, films, videos, music, information, and other content – often not recommended or endorsed by parents and schools, but highly useful for good academic performance.

Final Considerations

Based on the theoretical and empirical aspects presented in this work, we propose the following conclusion: on one hand, *digital neonatives*, albeit in a fragmented, conflicting, and tense manner, incorporate part of the cultural capital transmitted by parents and schools. This incorporation, as the modality suggests, is more of a bodily durable disposition and is less related to the other two forms of cultural capital – *institutionalized* and *objectified* (Bourdieu, 2001). The aforementioned tension arises from the intense consumption of online audiovisual content, which diverges from the more legitimized and established cultural canons. This partial and fragmented incorporation is nonetheless quite useful for achieving good performance on the ENEM, particularly on the writing exam, as it contributes to the development of cognitive competencies such as reading and writing.

On the other hand, the economic capital of higher-income and more educated families of *digital neonatives* plays a determinative causal role in the provision and use of the home technological infrastructure required for internet use – both for

consuming digital audiovisual content and for carrying out school-related activities. This aspect contributes to the construction of a kind of *informational-digital-technological capital* among *digital neonatives*, which is highly relevant to achieving good performance on the ENEM.

Thus, as previously noted, regarding *digital neonatives* from Generation Z, the family sphere is reinforced in the relational dynamic between family and school and ends up exerting a greater causal influence on school performance. However, this does not mean that the school has no impact – it certainly does. What happens is that with the digitalization of life and the deep immersion in hyperconnectivity, particularly by *digital neonatives* from Generation Z, a kind of *informational-digital-technological capital* has been constructed and consolidated within their families – especially among those with higher income and education. The genesis and practical operation of this capital are more directly related to economic capital than to cultural capital.

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