Inès Malroux

Gender and social class inequalities in children's psychomotor development: a sociological approach.

1. Topic

Child development refers to the orderly process by which an individual acquires sensorimotor, cognitive, language and socio-emotional skills (Engle et al., 2007). In the medical-psychological frame of reference, this body of learning is understood as an indicator of children's health, as it supports the diagnosis and categorisation of developmental disorders.
Studying development in sociology implies exploring how children's development is socially differentiated, how it is mediated from social to biological, and how the developmental paradigm is socially constructed (Leiter, 2007). The socialisation approach describes the process by which developmental skills are socially transmitted to be incorporated (Darmon, 2016). This learning can therefore be differentiated at an early stage.

2. Theoretical focus

This differentiation lies at the genesis of socio-economic inequalities, as early childhood is a crucial period for the incorporation of socially situated dispositions and the construction of class hierarchies (Hertzman and Wiens, 1996; Lahire, 2019) and gender inequalities (Court, 2010).
A large body of literature points to a developmental advantage for girls over boys in the early years, particularly in the areas of communication and vocabulary (Eriksson et al., 2012; Lange et al., 2016; Rinaldi et al., 2021). The use of rich vocabulary (Berglund et al., 2005) and complex syntax (Bouchard et al., 2009) are particularly differentiated by gender. Differences are also marked in motor skills, with girls showing better fine motor skills and boys showing greater overall physical activity at younger ages (Dinkel and Snyder, 2020; Matarma et al, 2020). Studies on the differences between girls and boys often tend to explain these disparities in biological terms. For example, some research suggests that as girls mature biologically and neurologically more rapidly, their communication skills enable more complex language exchanges with parents (Rinaldi et al., 2021). Hormonal functioning also favors girls. Studies show a link between high estrogen levels measured at birth and high social and verbal skills. The link with testosterone is reversed (Adani and Cepanec, 2019).
Developmental differences can also be explained by social factors. Indeed, parental practices are bearers of gender norms. Thus, developmental differences between boys and girls can be explained by their social environment, such as the differentiation of toys, notably through play (Fausto-Sterling et al., 2012; Dinkel and Snyder, 2020) and differentiated language stimulation (Octobre and Berthomier, 2019). Furthermore, there are significant effects of socioeconomic status on children's vocabulary (Grobon et al, 2019; Berglund et al, 2005; Hargis and Pagis, 2020), and cognitive development (Kulic et al, 2019).
The aim of this paper is to describe the differentiation of children's abilities in different areas of learning according to gender and social class. This description sheds light on how children position themselves in relation to developmental norms and how inequalities in education and health manifest themselves from the age of three and a half. The analysis also explores how differentiation operates at the intersection of gender and social class. Intersectionality therefore means not looking at these characteristics in isolation, but understanding how their interweaving produces particular dispositions. In this way, class and gender produce a social position at the intersection of these two regimes of domination (Crenshaw, 1989) and

socialisation. These differentiated positions produce specific dispositions that are more or less in line with school expectations and norms of good childhood health.

3. Data

Using data from the French birh cohort Elfe (*Etude longitudinale française depuis l'enfance*) collected from 3,5-year-olds, we explore the results obtained on Child Development Inventory (CDI). This indicator measures children's overall development and is composed by eight domains: sociability, autonomy, understood and expressed language, fine and gross motor skills, numbering, and writing.
The Elfe survey repeatedly interviews parents of children born in 2011, recruited from a representative sample of 344 maternity hospitals in mainland France. The questionnaires, designed as part of an interdisciplinary approach, ask families, among other things, about their material living conditions, and their children's health and development. The data used here concerns 11 314 children whose parents - in 95% of cases, the mother - were interviewed by telephone at the age of 3 and a half. Part of the questionnaire is devoted to the child's acquisitions, with 44 items making up the CDI.

4. Methods

Each subscale score is dichotomised to obtain comparable results, taking into account age differences between children. Children scoring above the average of their age group are considered to have achieved a "high" score, while children scoring below the average of their age group are considered to have achieved a "low" score. Finally, the marginal effects of the interaction between gender and social class are measured for four developmental subscales: understood language, expressed language, fine motor skills and autonomy. The marginal effects are the average of the predicted values obtained by linear regression. This model is based on a hypothetical scenario of fixed modality. Thus, for each interaction term, we measure the effect on the average score if the whole population met the chosen criteria.

5. Findings

The two subscales measuring language skills are those for which the differences between social classes are the greatest. While only 52.9% of children from the least favoured class obtained a high score for expressive language, this was the case for 73.7% of the most affluent children. The uneven distribution of this score is explained by the children's ability to express long, complex sentences, which varies greatly according to class. It is the accumulation of skills that creates gender differentiation.
In both areas of language, the advantage of girls over boys is greater in the working classes than in the upper classes. This gap gradually decreases with increasing wealth, particularly in expressive language.
Writing is a skill that is rarely acquired by the children surveyed. Only 39.5% of all children scored high in this area. This is more common among girls (44.6%) than boys (34.4%). The numbering domain measured here can be seen to be marked by a slight advantage for girls. They are more likely to be able to count at least ten objects.
There were no significant differences in gross motor skills depending on the characteristics of the children. Over 60% of both boys and girls scored high on this subscale. Social class

differences were also small, with the most advantaged children slightly ahead. The ability to jump, run, climb and descend stairs was then not differentiated.
As for fine motor skills, 62.3% of girls scored high in this area, compared with 44.9% of boys. At the intersection of gender and social class, girls have outperform boys in fine motor skills in all classes. There is no social variation in the gender gap.
Sociability is poorly differentiated by gender and social class. There was a slight advantage for middle-class children, 58% of whom scored highly. Some items are more strongly differentiated by social class. For example, children from the upper classes were more likely than those from other classes to ask for help, give orders and talk about what other children were doing.
The results show that 69.8% of girls scored high on self-help skills, compared to only 50.6% of boys. The skills in which girls have the greatest advantage in terms of self-help are sphincter cleanliness and the ability to get dress by themselves. This area of development is unique in that it is the only one in which the class distribution is gradually shifting from an advantage for the working classes to a disadvantage for the upper classes. It is the ability to dress independently, and to a lesser extent, sphincter cleanliness, that allows working class children to stand out. Thus, 66.3% of children from the unskilled working class achieved a high score, compared with 58.2% of children from the skilled working class and 53.3% of children from the upper class.
Examination of the child development inventory proposed by the Elfe birth cohort highlights two factors of inequality: gender and social class, and inequalities at their intersections. At the start of nursery school, gender differences in development indicate a significant advantage for girls over boys in almost all areas of development. This advantage is stable in several areas of development, such as language, fine motor skills and autonomy, so that no area of competence favours boys. In terms of social class, children from the most economically and socially advantaged backgrounds have advantages in most areas. The areas of development in which there are the greatest differences to the disadvantage of the least well-off children are also the most advantageous at school: understanding language, expressing language, writing and numeracy. These findings are in line with the literature, which points to an advantage for girls and a beneficial effect of higher socio-economic status. This is particularly true for vocabulary acquisition (Grobon et al., 2018) and fine motor skills (Dinkel and Snyder, 2020; Venetsanou and Kambas, 2010).
An original contribution of this article lies in its intersectional approach. We observe an accumulation of dispositions that lead to upper-class girls having the greatest advantage in several areas of learning. The intersection of the two social relations shows the cumulative effect of two characteristics favourable to children's development (in this case, being a girl and coming from a socially and economically advantaged family), but also the variation in the effect of gender according to the socio-economic configuration in which it is situated (Carde, 2021).

CITED REFERENCES

- Adani, Shir, et Maja Cepanec. « Sex Differences in Early Communication Development: Behavioral et Neurobiological Indicators of More Vulnerable Communication System Development in Boys ». *Croatian Medical Journal* 60, nº 2 (avril 2019): 141-49.
- Berglund, Eva, Mårten Eriksson, et Monica Westerlund. « Communicative skills in relation to gender, birth order, childcare and socioeconomic status in 18-month-old children ». *Scandinavian Journal of Psychology* 46, nº 6 (décembre 2005): 485-91.

- Bouchard, Caroline, Natacha Trudeau, Ann Sutton, Marie-Claude Boudreault, et Joane Deneault. « Gender Differences in Language Development in French Canadian Children between 8 et 30 Months of Age ». *Applied Psycholinguistics* 30, nº 4 (octobre 2009): 685-707.
- Carde, Estelle. « Les inégalités sociales de santé au prisme de l'intersectionnalité ». *Sciences sociales et sante* Vol. 39, nº 1 (22 mars 2021): 5-30.
- Court M. *Corps de filles, corps de garçons: une construction sociale*. La Dispute, 2010.
- Crenshaw, Kimberle. « Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics »,
- Darmon Muriel 1973-... *La socialisation*. 3e Edition. Paris: Paris : Armand Colin, 2016.
- Dinkel, Danae, et Kailey Snyder. « Exploring Gender Differences in Infant Motor Development Related to Parent's Promotion of Play ». *Infant Behavior et Development* 59 (1 mai 2020): 101440.
- Engle, Patrice L, Maureen M Black, Jere R Behrman, Meena Cabral de Mello, Paul J Gertler, Lydia Kapiriri, Reynaldo Martorell, et Mary Eming Young. « Strategies to Avoid the Loss of Developmental Potential in More than 200 Million Children in the Developing World ». *The Lancet* 369, nº 9557 (janvier 2007): 229-42.
- Eriksson « Differences between girls and boys in emerging language skills: Evidence from 10 language communities - - 2012 - British Journal of Developmental Psychology - Wiley Online Library ». Consulté le 19 octobre 2023.
- Fausto-Sterling, Anne, Cynthia Garcia Coll, et Meghan Lamarre. « Sexing the Baby: Part 1 – What Do We Really Know about Sex Differentiation in the First Three Years of Life? » *Social Science & Medicine*, Gender et health: Relational, intersectional, et biosocial approaches, 74, nº 11 (1 juin 2012): 1684-92.
- Grobon, Sébastien, Lidia Panico, et Anne Solaz. « Inégalités socioéconomiques dans le développement langagier et moteur des enfants à 2 ans ». *Bulletin épidémiologie Hebdomadaire*, nº 1 (2019): 2-9.
- Hargis, Holly, et Julie Pagis. « La différenciation sociale du langage à 2 ans. Une approche variationniste des premiers mots à partir de l'enquête Elfe ». *Revue des politiques sociales et familiales* 136, nº 1 (2020): 9-23.
- Hertzman C., et M. Wiens. « Child development and long-term outcomes: A population health perspective and summary of successful interventions ». *Social Science & Medicine* 43, nº 7 (1 octobre 1996): 1083-95.
- Kulic, Nevena, Jan Skopek, Moris Triventi, et Hans-Peter Blossfeld. « Social Background et Children's Cognitive Skills: The Role of Early Childhood Education et Care in a Cross-National Perspective ». *Annual Review of Sociology* 45, nº 1 (30 juillet 2019): 557-79.
- Lahire B. (dir.), *Enfances de classe : de l'inégalité parmi les enfants*. Paris: Paris : Editions du Seuil, 2019.
- Lange, Benjamin P., Harald A. Euler, et Eugen Zaretsky. « Sex Differences in Language Competence of 3- to 6-Year-Old Children ». *Applied Psycholinguistics* 37, nº 6 (novembre 2016): 1417-38
- Leiter, Valerie. « "Nobody's just normal, you know": The social creation of developmental disability ». *Social Science & Medicine* 65, nº 8 (1 octobre 2007): 1630-41.
- Matarma Tanja, Hanna Lagström, Eliisa Löyttyniemi, Pasi Koski, « Motor Skills of 5-Year-Old Children: Gender Differences and Activity and Family Correlates - 2020 ».
- Octobre, Sylvie. « La socialisation culturelle sexuée des enfants au sein de la famille ». *Cahiers du Genre* 49, nº 2 (2010): 55-76.
- Rinaldi, Pasquale, Patrizio Pasqualetti, Virginia Volterra, et Maria Cristina Caselli. « Gender Differences in Early Stages of Language Development. Some Evidence and Possible Explanations ». *Journal of Neuroscience Research* 101, nº 5 (mai 2023): 643-53.
- Venetsanou, Fotini, et Antonis Kambas. « Environmental Factors Affecting Preschoolers' Motor Development ». *Early Childhood Education Journal* 37, nº 4 (1 janvier 2010): 319-27. https://doi.org/10.1007/s10643-009-0350-z.