

## Mind the Gap – the impact of socio-economic status on academic performance

by Dr Sylvia Chong

At the heart of Freire's 1968 classic text, *Pedagogy of the Oppressed*, is how he challenged and categorised wealth disparity - "the haves and have nots". Fundamental in his beliefs is the need to create a level of equity in education by providing equal access.<sup>1</sup> The discrepancy in socio-economic status (SES) forms gaps in wealth, education, and opportunities, leading to further social categorisations.<sup>2</sup> A significant gap in education disparities is between students from differing economic statuses.<sup>3</sup> Behind these differing socio-economic status and education disparities are the impacts on students' mental and emotional disposition, cognitive development, and academic performance.

If the social and economic consequences of low academic performing communities are not addressed, they will put a strain on government resources.<sup>4</sup> A 2012 paper on the at-risk communities of Pinellas County in U.S. identified 5% of its total population as low-income, to which the lower socio-economic variables and patterns such as lower educational attainment are correlated.<sup>5</sup> Yet, this 5% tallied an estimated annual USD 2.3 billion potential lost in revenue. Employment opportunities are limited, and this translates to lower wages.<sup>6</sup> Aside from lower or lost wages, low educational attainment is also associated with higher crime rates and healthcare bills.<sup>7</sup> On the other hand, improvement in human capital in terms of cognitive skills translates to GDP per capita gains. An educated population that contributes to sustainable economies are less dependent on public aid and are less vulnerable to economic downturns. A country's economic growth is highly dependent on an educated and skilled workforce.

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<sup>1</sup> Freire, P. (2020), *Pedagogy of the oppressed*, In *Toward a Sociology of Education* (pp. 374-386). Routledge.

<sup>2</sup> Cho, S., Crenshaw, K. W., & McCall, L. (2013). Toward a field of intersectionality studies: Theory, applications, and praxis. *Signs: Journal of women in culture and society*, 38(4), 785-810.

<sup>3</sup> OECD (Organisation for Economic Cooperation and Development). (2012), *Equity and quality in education: Supporting disadvantaged students and schools*.

<sup>4</sup> Pinellas County Board of County Commissioners (2012), *The Economic Impact of Poverty*, [http://www.stpete.org/economic\\_development\\_dept/redevelopment\\_initiatives/docs/PSSCRA/May\\_2012\\_Pinellas\\_County\\_Economic\\_Impact\\_of\\_Poverty.pdf](http://www.stpete.org/economic_development_dept/redevelopment_initiatives/docs/PSSCRA/May_2012_Pinellas_County_Economic_Impact_of_Poverty.pdf)

<sup>5</sup> Pinellas County Board of County Commissioners (2012), *The Economic Impact of Poverty*, [http://www.stpete.org/economic\\_development\\_dept/redevelopment\\_initiatives/docs/PSSCRA/May\\_2012\\_Pinellas\\_County\\_Economic\\_Impact\\_of\\_Poverty.pdf](http://www.stpete.org/economic_development_dept/redevelopment_initiatives/docs/PSSCRA/May_2012_Pinellas_County_Economic_Impact_of_Poverty.pdf)

<sup>6</sup> Pinellas County Board of County Commissioners (2012), *The Economic Impact of Poverty*, [http://www.stpete.org/economic\\_development\\_dept/redevelopment\\_initiatives/docs/PSSCRA/May\\_2012\\_Pinellas\\_County\\_Economic\\_Impact\\_of\\_Poverty.pdf](http://www.stpete.org/economic_development_dept/redevelopment_initiatives/docs/PSSCRA/May_2012_Pinellas_County_Economic_Impact_of_Poverty.pdf)

<sup>7</sup> Pinellas County Board of County Commissioners (2012), *The Economic Impact of Poverty*, [http://www.stpete.org/economic\\_development\\_dept/redevelopment\\_initiatives/docs/PSSCRA/May\\_2012\\_Pinellas\\_County\\_Economic\\_Impact\\_of\\_Poverty.pdf](http://www.stpete.org/economic_development_dept/redevelopment_initiatives/docs/PSSCRA/May_2012_Pinellas_County_Economic_Impact_of_Poverty.pdf)

Over the past decades, the correlation between family SES and academic achievement in school-age children has been well documented. Research indicates that children from low-SES households and communities develop academic skills slower than children from higher SES groups.<sup>8</sup> For instance, low SES in childhood is related to poor cognitive development, language, memory, socio-emotional processing, and consequently poor income and health in adulthood.

It is thus very important, first, to recognise and acknowledge the gaps. Several studies explored models that seek to identify variables of students' academic achievement. Academic achievement, and its relationship with socio-economic background, is one of the key variables in this area of educational research. A recent collaborative study between Yayasan MENDAKI and SUSS applied cluster analysis to profile socio-economically disadvantaged students and their impact on their academic achievement.<sup>9</sup> The evaluation of cluster profiles showed that Cluster 1 comprised students from relatively higher SES standing among all clusters, in which they lived in better residences (for e.g., larger houses and non-rental blocks), with better financial background (for e.g., higher average PCI and majority parents are employed) and these students also have a lower-class absenteeism rate. These factors were associated with a higher academic performance in their academic achievements (see Figure 1). Cluster 1 had the highest percentages of "improved" students and lowest percentages of "worsened" students for both Literacy and Numeracy academic results.<sup>10</sup> Households with lower SES will have less access to learning materials and experiences, including books, computers, stimulating toys, skill-building lessons. Children's initial reading and numeracy competencies are correlated with the home environment, number of books owned, and parent distress.<sup>11</sup>

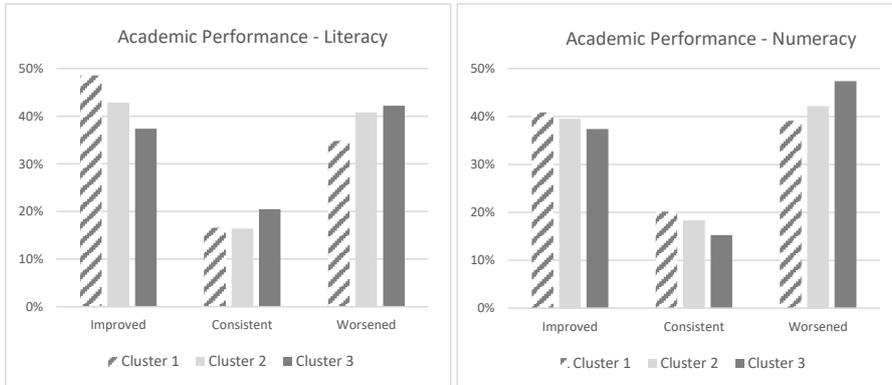
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<sup>8</sup> Morgan, P. L., Farkas, G., Hillemeier, M. M., & Maczuga, S. (2009), Risk factors for learning-related behavior problems at 24 months of age: Population-based estimates, *Journal of abnormal child psychology*, 37(3), 401-413

<sup>9</sup> Li, J., & Chong, S. (2022), Cluster analysis to profile socioeconomically disadvantaged students and their impact on academic performance, *Advances in Social Sciences Research Journal*, 9(3), 405-414. <https://doi.org/10.14738/assrj.93.12060>

<sup>10</sup> Li, J., & Chong, S. (2022), Cluster analysis to profile socioeconomically disadvantaged students and their impact on academic performance, *Advances in Social Sciences Research Journal*, 9(3), 405-414, <https://doi.org/10.14738/assrj.93.12060>

<sup>11</sup> Buckingham, J., Wheldall, K., & Beaman-Wheldall, R. (2013), Why poor children are more likely to become poor readers: The school years. *Australian Journal of Education*, 57(3), 190-213



**Figure 1. Distributions of performance bands by cluster for literacy and numeracy skills**

Research continues to link lower SES to lower academic achievement and slower rates of academic progress as compared with higher SES communities. The success rate of low-income students in science, technology, engineering, and mathematics disciplines is much lower than that of students who do not come from underrepresented backgrounds.<sup>12</sup> According to the U.S. Census Bureau (2014), individuals within the top family income quartile are eight times more likely to obtain a bachelor's degree by age 24 as compared to individuals from the lowest family income quartile.

It is important to work and aim towards closing this gap. Voices will need to be amplified, and continued action and support are required. Further research is required to inform and provide opportunities for evidenced-based action and informed decisions. The literature has identified various approaches to close this gap.

#### 1. *Strengthening preschool education and early interventions*

Preschool provides the foundation for children's emotional, social, and cognitive development. Research shows that children who graduate from preschool have improved academic readiness, lower incarceration rates, and higher earnings. The Yayasan MENDAKI-SUSS study also identified participation in the lower primary Learning Support Programme

<sup>12</sup> Doerschuk, P., Bahrim, C., Daniel, J., Kruger, J., Mann, J., & Martin, C. (2016), Closing the gaps and filling the STEM pipeline: A multidisciplinary approach. *Journal of Science Education and Technology*, 25(4), 682-695.

(LSP) and Learning Support in Math (LSM) programmes are early indicators of continued lower academic performance and this weak foundation, if not addressed early, will continue to have an impact on the students' academic performance. A study by Schoenfeld and Stipek looked at Maths performance and found that students with a poor Maths foundation and academic underperformance in preschool were still lagging when they reached grade 8 (equivalent to secondary two in Singapore).<sup>13</sup> The findings of these studies suggest that having a weak foundation have strong and lasting impact on students' future performance. It is therefore important to close this gap as early as possible.

Focusing on the children's development during their early education years can prevent gaps in learning and future problems.<sup>14</sup> This will also require quick actions to address learning gaps and ensure smooth and continued educational pathways for all learners. Over a longer term, educational systems will need to strengthen learner and foster environments that will support every individual to reach their full potential. These learning environments can provide learners with experiences that are within their zone of proximal development (ZPD). ZPD, the space between the student's existing knowledge or skills and his potential level, is a key construct in Lev Vygotsky's theory of learning and development.<sup>15</sup> Meaningful learning can occur by encouraging and advancing the learners' higher order skills.

In March 2022, Singapore's Ministry of Social and Family Development (MSF) introduced key initiatives to enhance access to quality and affordable quality preschools, especially for low-income families, and raise the quality of early childhood professionals and programmes. "These initiatives build on continuing efforts to give every child a good start in life and to uplift the early childhood profession".<sup>16</sup>

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<sup>13</sup> Schoenfeld A. H. & Stipek D. (2011), Math Matters: Children's Mathematical Journeys Start Early. *Conference Report*, [www.earlylearning.org](http://www.earlylearning.org), <https://prek-math-te.stanford.edu/system/files/media/document/2017/Math%20Matters%20Full%20Report.pdf>

<sup>14</sup> Magasa N. (2021), Why a solid foundation is important for a learner's education. *Alberton Record*, <https://albertonrecord.co.za/290803/why-a-solid-foundation-is-important-for-a-learners-education-5/>

<sup>15</sup> Mat, H., & Yusoff, N. A. N. (2019), The Effect of Edutainment on Higher Order Thinking Skills among Year Five Students. *Development*, 8(4), 55-65.

<sup>16</sup> Ministry of Social and Family Development, Singapore (2022), Raising Quality Of Preschools And More Support For Children From Low-Income Families To Be Expanded Nationwide, <https://www.msf.gov.sg/media-room/Pages/Raising-Quality-Of-Preschools-And-More-Support-For-Children-From-Low-Income-Families-To-Be-Expanded-Nationwide.aspx>

A key initiative in enhancing the access for children from low-income families is the KidSTART programme. The Ministry announced that the KidSTART programme which provides upstream support to lower-income families with young children up to six years old in the home, community and preschool settings will be expanded nationwide to benefit more families.<sup>17</sup>

## 2. *Enhancing parent and family involvement*

Family has a central role in a child's development and growth. Research has shown that parents and family involvement in school have a positive association with students' academic outcomes.<sup>18</sup> This positive involvement contributes to a student's socio-emotional and cognitive development. That is, students with highly involved parents had better academic performance and higher test scores in all the subjects than students with parents who were not involved.<sup>19</sup>

Several interviewees in the Yayasan MENDAKI-SUSS study highlighted the feeling of being encouraged and supported when their parents were highly involved. One interviewee in the study commented that it was important to their parents that they completed their education as this may lead to employment. Their parents explicitly expressed the importance of getting an education.

However, many parents and families often face different challenges when supporting their children through school. To overcome some of these challenges, parental or family involvement programmes and assistance schemes can be developed to promote and enhance parent and family involvement. Schools as well as community organisations such as Yayasan MENDAKI can help parents to identify various strategies of engaging with their children as well as how to build a more inclusive school-home collaboration. It is also important for

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<sup>17</sup> Ministry of Social and Family Development, Singapore (2022), Raising Quality Of Preschools And More Support For Children From Low-Income Families To Be Expanded Nationwide, <https://www.msf.gov.sg/media-room/Pages/Raising-Quality-Of-Preschools-And-More-Support-For-Children-From-Low-Income-Families-To-Be-Expanded-Nationwide.aspx>

<sup>18</sup> Kim, S. W. (2020), Meta-analysis of parental involvement and achievement in East Asian countries, *Education and Urban Society*, 52(2), 312-337.

<sup>19</sup> Catalano, H., & Catalano, C. (2014), The importance of the school-family relationship in the child's intellectual and social development, *Procedia-Social and Behavioral Sciences*, 128, 406-414

these programmes to communicate and dialogue with parents and families in their preferred language and style of communication for these programmes and schemes to be used efficaciously. This will support parents and families as empowered participants in their children's education, thereby contributing to students' success in school.

### 3. *Broadening definitions of achievements beyond academic attainments*

Academic results and attainment are standard measures of progression and success in a public education system. The education field is littered with a range of academic benchmarks — such as passing grades, achievement tests, and national benchmarks. There is a pressing need to reorient and embrace a wider definition of achievement going beyond traditional academic measures to include skills, habits, and competencies that will enable students to thrive in their future lives. Students' individual strengths and weaknesses must also be taken into consideration. For example, student success can be seen in terms of outcomes such as persistence and increase in self-efficacy. Redefining student success and achievements will require family and schools to change. It will also require the wider society to accept and support these broader definitions of success in life.

Success and achievements come in diverse forms and a single yardstick measure should not be used. Quoting Mr Chan Chun Seng, the Minister for Education in his speech at SUSS 2022 graduation:

“First, the conventional meaning of broadening the definition of success is looking beyond success in academic performance. And indeed, we need to do much more in this aspect. We should do more to celebrate the success of your respective achievements in the fields of academics, sports, the arts, and other arenas. All of us are gifted in different ways. In life, success is when we are able to do justice to our blessings and to bring to fruition our talents in order to benefit not just ourselves and our families, but also society as a whole.”<sup>20</sup>

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<sup>20</sup> Ministry of Education, Singapore (2022) Speech by Speech by Minister Chan Chun Sing at Singapore University of Social Sciences (SUSS) Convocation 2022, <https://www.moe.gov.sg/news/speeches/20221005-speech-by-minister-chan-chun-sing-at-singapore-university-of-social-sciences-convocation-2022-at-block-a-the-grand-hall>

In addressing this gap as well as educational disadvantages of the students with low SES, a paradigm shift around achievement is needed to change the mindsets of educators, parents, students, and other stakeholders. Evidence from research can be a source that policymakers and social changers can tap on to design policies and interventions that are customised to the needs of these students. Additional research could help clarify what types of interventions and investments would be most beneficial in closing this gap. This should also include the perspectives of other stakeholders, such as teachers and community support groups, to obtain more insights about the efficacy of systematic interventions to mitigate educational inequalities for students in lower income group.

### **Did You Know?**

#### **Median Monthly Household Income from Work Among Resident and Malay Populations<sup>21</sup>**

<b>Population</b>	<b>2010</b>	<b>2020</b>
Resident	\$5,600	\$7,744
Malay	\$4,328	\$5,704

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In 2020, resident households saw a 38.3% increase in median monthly household incomes from work (including Employer CPF Contributions) from \$5,600 in 2010, while Malay households saw a 31.7% increase from \$4,328 in 2010. As of 2020, the median monthly household incomes among Resident and Malay households were \$7,744 and \$5,704 respectively.

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<sup>21</sup> Department of Statistics Singapore. (2021). Singapore Census of Population 2020, Statistical Release 2: Households, Geographic Distribution, Transport and Difficulty in Basic Activities. Singapore.

## Monthly Household Income Among Resident and Malay Population

