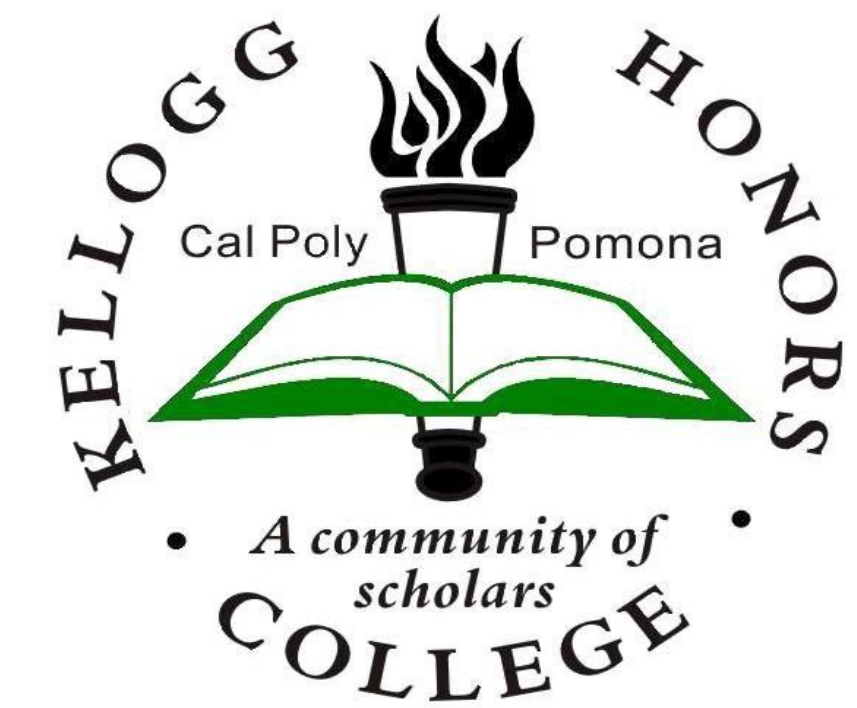


# Poverty and its Effects on Cognitive Development, Brain Development, and Educational Strategies for the Classroom to Combat those Effects



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Poverty is a very complex social dilemma and has long-term effects on a child's self-esteem, behavior, and cognitive development. Most people have uninformed views of the effects of poverty on human lives from childhood to adulthood, and often opt to believe in unexamined stereotypes and stigma. This paper presents a review of the relationship of poverty and education, research on poverty on cognitive development, and strategies for the classroom to combat those effects. According to Abraham Maslow, the basic physiological needs for food, water, warmth, and rest, as well as security and safety have to be met in order for students to become self-actualized individuals and to be able to fully engage in learning. Children from lower SES oftentimes come into school with many disadvantages and cognitive disabilities caused by acute and chronic stressors, emotional and social challenges, cognitive lags, and health and safety issues. Through modern technology and rapid medical advances, it has been scientifically shown that the external and material challenges in poor families physically alter the growing brain of the children and therefore cause social, emotional, and cognitive impairment. Informed educators can rely less on stereotypes to understand that a lack of manners, respect, indifference to school and aggression are among the major issues students from low SES exhibit. With sufficient awareness and staff development, educators are able to make use of the ample research and materials to help mitigate the damage and enrich their students' lives in order to enable them to lead a productive and successful life. Additionally, applying the most recent research and knowledge in the educational field, might finally be a way to greatly reduce the vicious cycle of poverty.

## Goals of Education:

- Compulsory law in America
- Historically: to educate citizens for democracy and social mobility = Common School
- Different curriculum for different social classes, for example Charity Schools for lower class and street children
- Private Schools for middle and upper class children
- Gender, religion, class, and race have always played role in kind and quality of education
- Horace Mann (Father of Education):
- "Education then, beyond all other devices of human origin, is the great equalizer of the conditions of men, the balance-wheel of the social machinery."



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## Definition of Poverty:

- Poverty line is set at \$25,750 per year per family of four (Office of Budget and Management)
- Poverty is also described as: Situational, Generational, Absolute, Relative, Urban, and Rural, depending on location, availability of resources such as jobs, and cost of living.

## Risk Factors of Poverty:

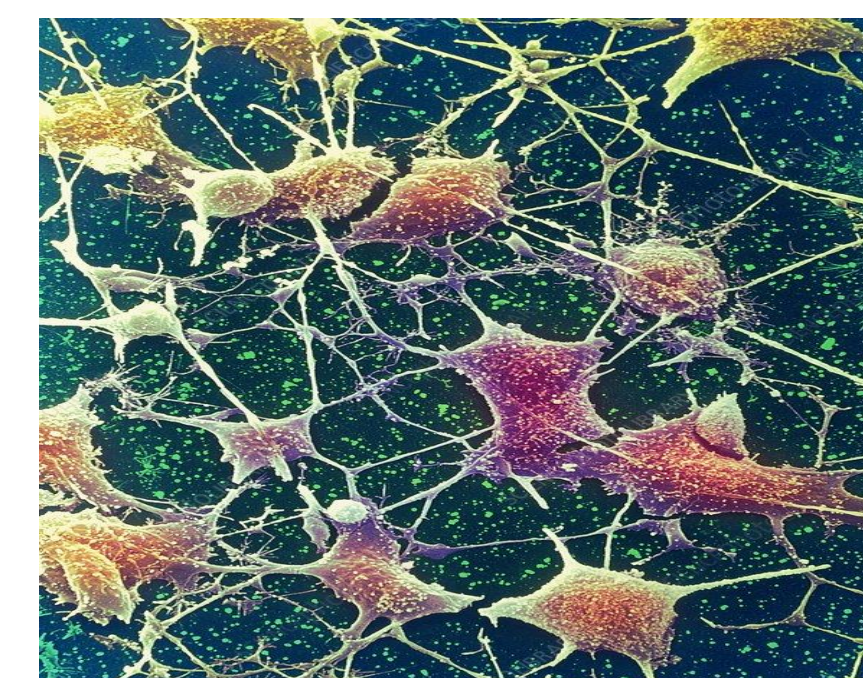
- Acute and Chronic Stressors
- Emotional and Social Challenges
- Cognitive Lags for Children in Poverty
- Health and Safety Issues



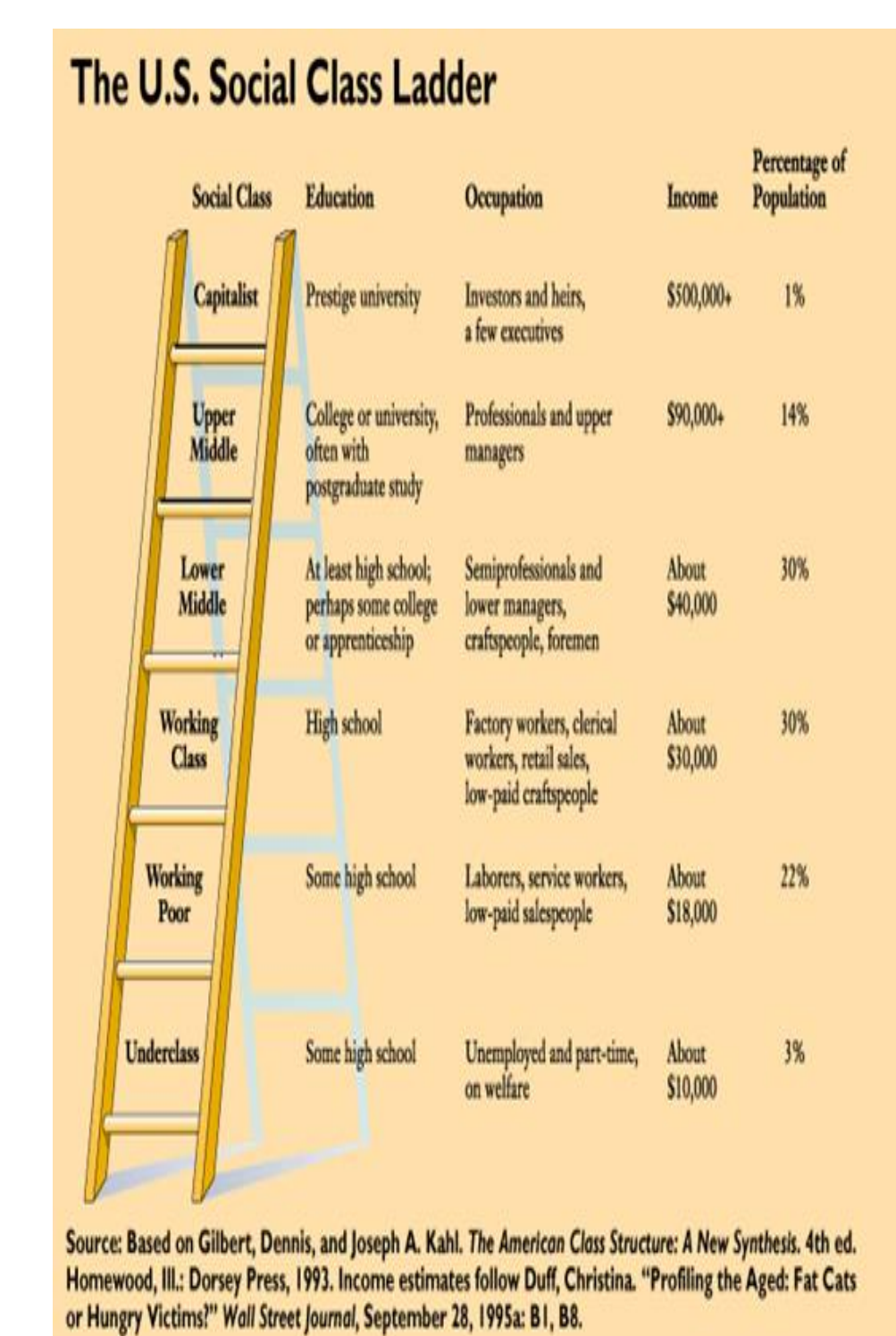
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## Cognitive Delays caused by Poverty:

- Nature (30-60%) versus Nurture (40-70%)
- Causes: malnutrition, viral infections, drugs, environmental toxins affect strength, size, and amount of neuron connections
- External stimuli are necessary for healthy brain development: exposure to language and vocabulary, novel experiences, attunement (secure attachment to caregiver), adequate nutrition, safe and healthy environment, exposure to enriching experiences, for example, outings, museums, library visits.
- Neuroplasticity: the ability of the brain to reorganize itself by forming new neural connections throughout life. The brain can change!



## Ladder of Social Classes



Source: Based on Gilbert, Dennis, and Joseph A. Kahl, *The American Class Structure: A New Synthesis*, 4th ed. Homewood, IL: Dorsey Press, 1993. Income estimates follow Dall, Christina. "Profiling the Aged, Fat Cats or Hungry Victims?" *Wall Street Journal*, September 28, 1995: B1, B4.

## Strategies for the Classroom to Combat the Effects of Poverty

**Remove Stress and Threats from Learning Environment:** Students from poverty are already exposed to acute and chronic stressors in their homes and neighborhoods. Threatening detention or extra homework only activates the affected students flight and fight response.

**Teach Social Emotional Learning (SEL):** In order to reduce stress for those students, teachers can teach them SEL – to identify and regulate emotions, to develop positive relationships, to make responsible decisions.

**Get Brain's Attention:** Learning has to be relevant and engaging for the student, and contrasts of movement, sounds, and emotions consume most of attention. Genes may play a role in how much attention a person has. Additionally, there are natural attention cycles throughout the day.

**Enrich Environment:** New and stimulating experiences are "food" for the brain and help grow and keep connections between neurons. Discussion and debate, art and drama activities, group projects, and role plays are a great way to keep the neurons firing. The least favorite activities for students are presentations, individual reading, and teacher lectures.

**Enrich with Reading and Language:** Reading aloud and talking to children is one of the best ways to give children from all socio-economic classes a head start

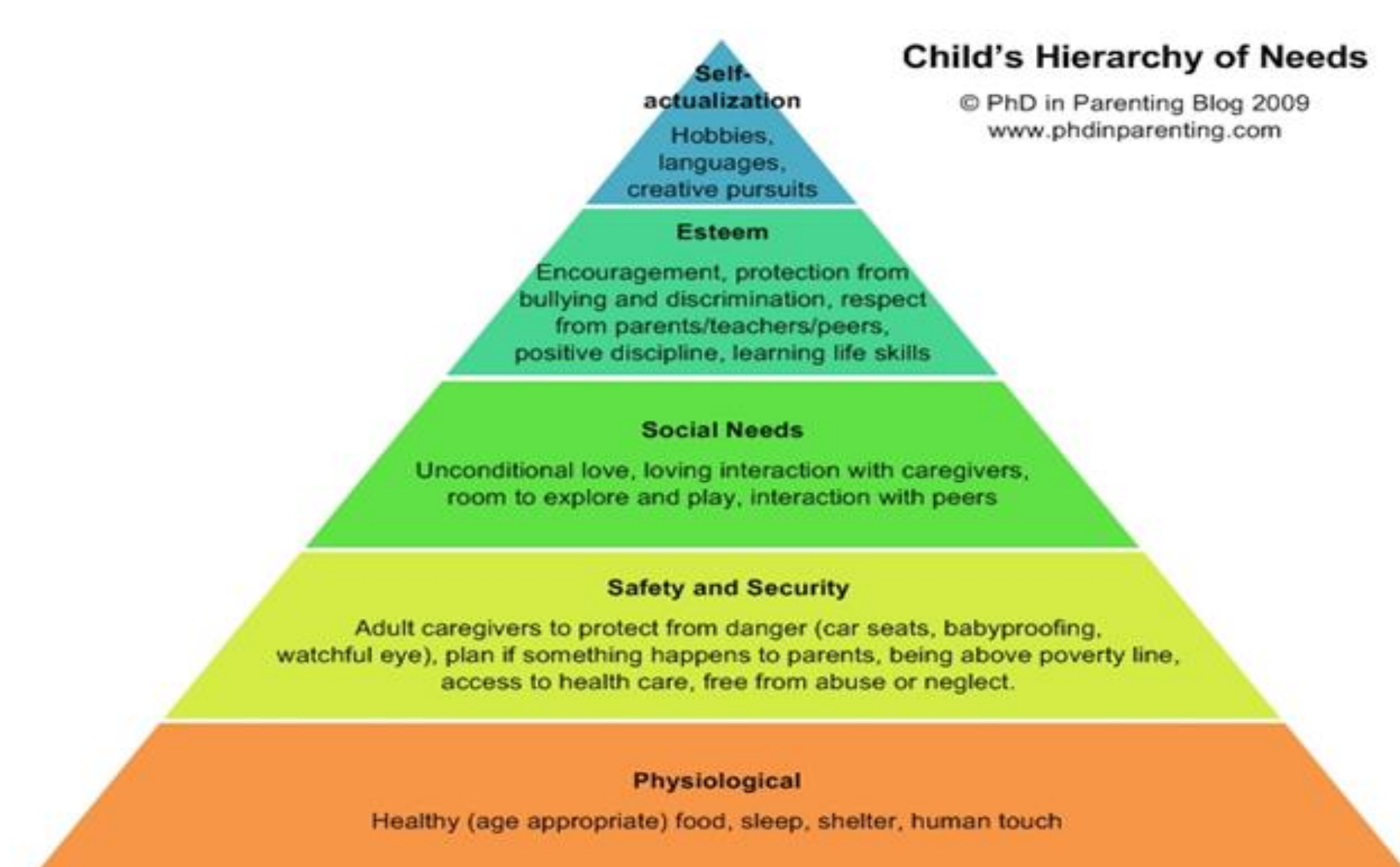
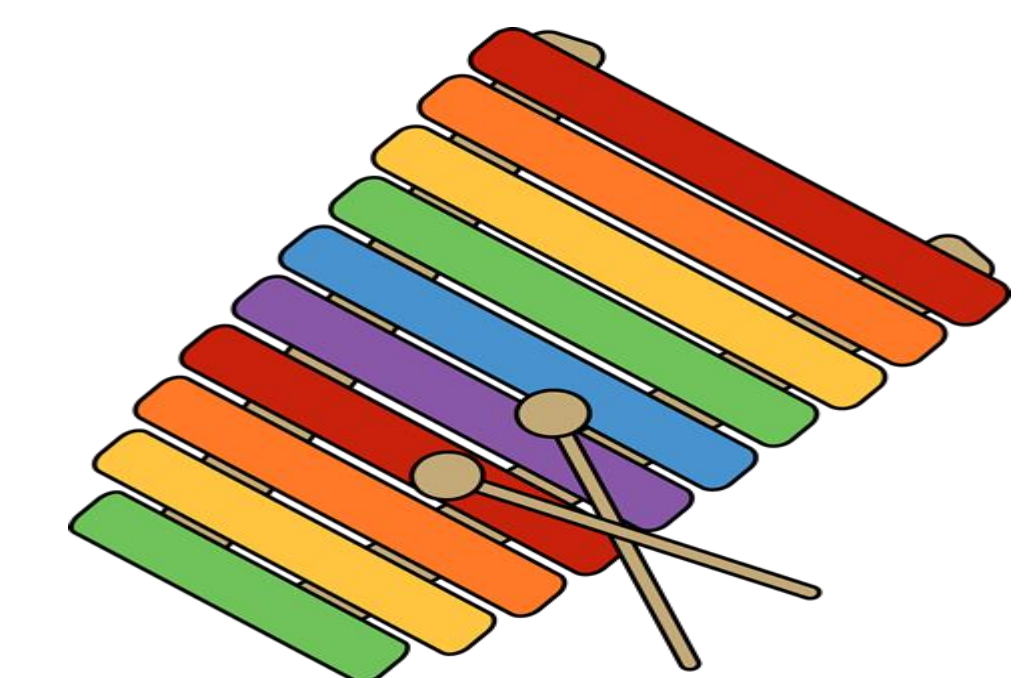
**Enrich with Physical Movement:** Physical exertion provides the brain with oxygen and studies have found that children who move before exams, outperform their sedentary peers at exam time. Additionally, exercise reduces stress and stimulates the brain and learning.

**Enrich with Music:** There is persuasive evidence that music has positive, measurable, and lasting social and academic benefits. Listening to music in the classroom activates memory and therefore learning that lasts.

**Enrich with Art:** By learning and practicing art, the human brain actually rewires itself to make more and stronger connections. Evidence is found in the outcomes for mainly art centered schools that score 20 points above their district's norms in five of six academic areas.



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## Conclusion:

Education has been viewed as a tool for upward social mobility, a way to improve one's life, and to better one's circumstances throughout history. Ideally, this is the goal of public education. As we have learned, poverty is a troublesome issue that affects the well-being of society as a whole, economically, politically, and on a human-interest level. Since today we there is a plethora of knowledge about how individuals learn, maybe we can affect change through focused professional development of today's educators. Although, it is the first step for teachers to know the newest research on poverty and its effect on cognitive development, the next step has to be implementation in the classroom through specific strategies. The logical progression would be the third step of real change. Although most of that change has to happen outside the classroom by eliminating stereotyping and stigmatizing our fellow citizens who are less fortunate. Keeping Maslow's hierarchy of needs in mind, it is exciting to imagine a society where every individual was able to achieve self-actualization. Education is the tool to make this possible if the newest research and knowledge gets passed on to educators and caregivers in order to eliminate poverty and its dire consequences, especially for children, once and for all.