



## Economic and Social Council

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**Coordination, programme and other questions:  
tobacco or health**

### **Statement submitted by Korea Institute of Brain Science, a non-governmental organization in consultative status with the Economic and Social Council**

The Secretary-General has received the following statement, which is being circulated in accordance with paragraphs 30 and 31 of Economic and Social Council resolution 1996/31.



## Statement

### **Applied neuroscience: unleashing the human brain's capacity to address challenges of development and peace**

The root of our global problems lies in the human brain, and in the brain lies the answers.

Research has demonstrated that major traumatic stressors, such as violent attacks and abuse, may have long-term effects on brain structure, brain and body function and behaviour, even after just one event. Other work has demonstrated that more subtle, pervasive, or chronic stressors, such as poverty or growing up in a chaotic household, affect our brain and body, including decreasing our immune response. Both stressors can suppress electrical activity and reduce new cell growth, impairing abilities such as learning, memory and socio-emotional management, making our brain less capable to succeed in society.

Children who grow up in developing countries face many obstacles in their environment, for example, parents without education, weak cognitive stimulation, violent neighbourhoods and lack of access to medical resources. These circumstances have an impact on the brain that is rooted on the stress they create and can impede learning, motivation, creativity and productivity.

A negative environment affects our brain, but our brain also can change that environment. The latest scientific findings have shown us how the brain is malleable (neuroplasticity). We have the ability to rewire it. That is why, more and more, there are science-supported methods being developed to mitigate those habits caused by stress and to positively nurture the brain. Such training during childhood can redirect the thought and emotional processes negatively affected by our environment in a radical manner. The same brain flexibility that makes children particularly vulnerable to damage from the toxic stressors that often accompany difficult environments also makes them open to positive change in their early years.

Lately, we are also discovering that what happens in our brains at the individual level impacts the collective level. Traditional neuroscience has for many years considered the human brain as an isolated entity and ignored influences of and to the social environments in which humans live. But we now recognize the considerable impact of social structures on the operations of the brain and body and vice versa. These social factors operate on the individual through a continuous interplay of neural, neuroendocrine, metabolic and immune factors on brain and body in which the brain is the central regulatory organ and also a target of these factors.

If we apply the findings of social neuroscience, which investigates the biological mechanisms that underlie social behaviour, to the educational system in the developing world, we can find ways of maximizing the potential of the brain in young generations to create positive change at the community level.

What we suggest is for people to be aware of the great value of the brain as our human common denominator and life source. If more people acknowledge this and apply it, we'll witness a better world and advance the United Nations goals of development and peace. The tool we offer to do this is called brain education, a holistic education that combines traditional Eastern mind-body training with Western neuroscientific advances to actualize the value of one's brain.