

Crystallized intelligence: Everything you need to know

Author: Tinotenda Shannon Denhere . March 2022

Have you ever wondered why most people want to live forever but not grow old? This paradox is largely attributed to the various [negative stereotypes](#) associated with ageing. These stereotypes are embedded in common statements such as “it all goes downhill after the twenties,” among others. However, crystallized intelligence argues otherwise and may be necessary for developing an appreciation for the natural progression that is ageing.

What is Crystallized Intelligence?

[Crystallized intelligence](#) describes the accumulation of information, facts, and abilities that are acquired throughout a person’s life. Similarly, crystallized intelligence is a product of prior learning and is said to be “[rooted in experiences](#).” Therefore, the longer one lives and encounters various experiences or goes through any form of formal and informal learning, the more their crystallized intelligence increases. Additionally, other scholars have interpreted this type of intelligence as linked to culture. According to Horn and Cattell (1966), crystallized intelligence is “a [general intelligence](#) factor that is more dependent on cultural influences.” Again in 1985, Hon described crystallized intelligence as a factor of intelligence that indicates the extent to which an individual has accumulated knowledge related to a particular culture.

How Crystallized Intelligence came about:

Correspondingly, crystallized intelligence forms part of the [theory of fluid and crystallized](#) intelligence, which was suggested in 1963 by the psychologist, Raymond Cattell. Through this theory, Cattell argued that general intelligence is divided into two categories: fluid and crystallized. He conceptualized crystallized intelligence as a collection of [primary abilities](#) such as numerical, verbal, mechanical, and spatial aptitudes.

Why is crystallized intelligence important?

By the same token, although most people are unfamiliar with crystallized intelligence, this type plays a significant role. It is responsible for the skills acquired as early as childhood and used in adulthood. For instance, a common skill that most individuals learn in childhood is [riding a bicycle](#). Although the learning process may be reasonably long and gruesome, once those training wheels come off, and the skill is developed, no relearning will be needed in the future. Similarly, the abilities to [read and write](#) are

also attributed to crystallized intelligence. For most people, these skills are developed in early childhood learning, whereby only books with pictures are utilized, words are sounded, and crayons are used to scribble anywhere possible. However, once one can read and write, the process becomes natural to them, whereby they do not need to think of how to write every time they engage in the exercise. If at all, with time, they build on the basic skill by encountering more complicated or new words.

In addition, not only is crystallized intelligence used while acquiring skills in childhood but in adulthood as well. At 20 years of age, one may learn how to sew clothes, pursue that profession for 10 years, and venture into something else. If that person is again presented with a sewing machine at the age of 40, they will not have to relearn how to use it, although their skill may no longer be as sharp due to lack of practice. The same applies to drivers. The driver may encounter different new experiences which require different reactions altogether; however, they will still possess the basic knowledge of driving and skills acquired over time which may help them navigate.

Therefore, [crystallized intelligence](#) is important in the recollection of previously learned information and skills and has a significant impact on the learning process.

Related: [Fluid Intelligence: What you need to know](#)

Sharpening crystallized intelligence

As crystallized intelligence indicates accumulated information and skills, it can be actively built or developed in different ways. In so doing, factors that impact crystallized intelligence have been categorized into two groups which are; [internal and external](#). Factors that fall under the external category include both the educational system and the culture in which an individual grows up. Those considered internal include one's personality and the internal motivation for acquiring new knowledge.

Correspondingly, how crystallized intelligence can be improved also fall under these categories. These include, but are not limited to:

Reading & Studying

As crystallized intelligence is made up of knowledge that has been acquired from [previous learning](#), the logic follows that the more one learns, the more their crystallized intelligence increases. Such learning may take a formal form, whereby one reads and studies in order to acquire knowledge.

Accomplishing new tasks

Furthermore, learning is not limited to the formal kind, and as such, crystallized intelligence can also be improved through informal learning. [Statistics](#) show that due to technological developments, most people no longer challenge themselves to accomplish new tasks. Consequently, little is being learned now, which means that crystallized intelligence is being compromised. Therefore, to sharpen crystallized intelligence, one may attempt tasks that have never been tried before.

Meditation

Moreover, [meditation](#) is also another way of improving crystallized intelligence. According to scientific research, meditation improves cognitive functioning, particularly by increasing the [density of regional grey matter](#), which plays a significant role in learning and recalling. Similarly, meditation also promotes mindfulness, leading to improved capability to [pay attention](#). Once one can pay attention to the learning process, the quality of learning is improved.

Getting enough sleep

Similarly, studies have shown that getting [a good night's rest](#) aids in the enhancement of crystallized intelligence. Not only does rest help with paying attention to learning but also in recalling what has already been learned. Therefore, to improve crystallized intelligence, people are encouraged to have enough rest during the night. The argument is that when a person is well-rested, they can be more attentive during the day thereby increasing their alertness during any learning processes.

Related: [Fluid Intelligence versus Crystallized Intelligence](#)

How to measure crystallized intelligence

As with other factors of intelligence, crystallized intelligence can be measured. Generally, aspects such

as grammar, vocabulary, and reading comprehension are analyzed to determine a person's crystallized intelligence. However, these measures may not be as accurate. Thus, different tests are used. One such test is [the C-Test](#). This is considered to be an efficient test in the measurement of one's language proficiency. The C-test measures various language features such as spelling, vocabulary, morphology, and syntax. A typical example would be a paragraph of text whereby certain words are deleted, and the candidate is tasked to reconstruct the paragraph in a meaningful manner. However, the C-test requires rigor in the interpretation of results.

Another test that is used to determine crystallized intelligence is the [Wechsler Adult Intelligence Scale \(WAIS\)](#). Unlike the C-Test, which determines intelligence by measuring language proficiency, the WAIS measures quite a several cognitive abilities. The scores of the individual are then compared to the expected scores of the age group. At the same time, areas of high performance can be identified whereby a pattern of high scores is realized in certain areas and low scores in others. For example, if a candidate records low marks in vocabulary and spelling, and high scores in completing technical or practical tasks, it may be concluded that they have a weakness in language proficiency but are intelligent in practical areas.

In conclusion, although crystallized intelligence does increase with age, studies show that there comes a time where it reaches its peak, and memory impairments may start developing after some time, which then compromises it. For most people, the peak may be reached between [sixty and seventy years](#) of age. This is the age where other cognitive functions begin to slowly deteriorate, and thus crystallized intelligence is also adversely affected. Therefore, as all things have a declining period, so does crystallized intelligence.

This article was written by Tinotenda Shannon Denhere, a consultant at the Industrial Psychology Consultants. She can be contacted at shannon@ipccconsultants.com

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