Psychosocial functioning of the intellectually gifted. A cohort data analysis.

Individuals with extremely high levels of intelligence are commonly viewed to be socially maladjusted, emotionally unstable and eccentric, with many "mad genius" figures being present in the pop culture. However, the scientific data on this subject is highly inconsistent and suffers from a number of methodological limitations. The main aim of the project is to answer the question of whether the relationship between intelligence and psychological well-being is nonlinear. Specifically, to test if said relationships becomes negative at extremely high levels of intelligence. In order to test this hypothesis four large datasets from cohort studies will be analyzed. Different age groups are going to be studied and different indicators of intelligence and psychosocial functioning will be used, which will increase the reliability and validity of the results. Another goal of the project is to explore potential mechanisms explaining the nonlinear relationship. The two most common themes in the literature regarding the problems of intellectually gifted individuals are underachievement and troubles with social relationships. In order to address them, it will be tested whether the subgroup of underachieving intellectually gifted individuals functions worse in terms of psychosocial functioning, and whether loneliness can be the main source of psychological issues intellectually gifted individuals.

Results of previous research on the subject show extremely inconsistent results, as well as methodological limitations, and fail to provide conclusive evidence on whether or not extremely high levels of intelligence are associated with worsened psychosocial functioning and potential factors that may influence such a phenomenon. A potential solution for these issues applied in the project is the usage of large databases from cohort studies, which will provide representative samples that are large enough to properly test nonlinear relationships. Moreover, a commonly used method of testing curvilinear relationships in psychological research - polynomial regression, also suffers from a number of limitations. As such, a more refined and underused method of spline regressions will be used, which not only performs better overall but is also better suited for the specific aims of the project.

The project allows to address and potentially resolve the doubts and inconsistencies which exist in the literature on the functioning of intellectually gifted individuals for many years and proposes mechanisms explaining the processes associated with it. This is particularly important as highly intelligent individuals, have a larger potential to have a positive impact on the functioning of the whole society and this potential might be wasted due to their psychosocial issues. As it is, these individuals might be generating significant social costs in terms of costs of medical care or lowered work productivity, while they could use their intellectual capabilities for contributing to bettering humankind. The results of the project might be used to help develop educational programs, as well as prevention programs for psychological issues (e.g. depression) and therapies designed to take the specific problems of intellectually gifted individuals into account.
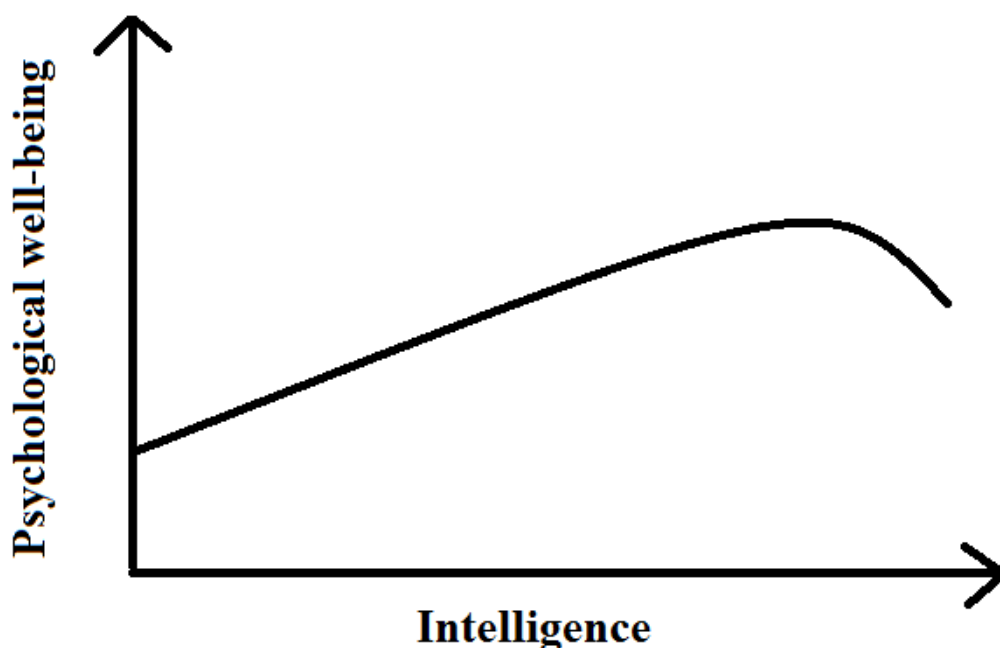

Figure 1. Visualization of the main hypothesis of the project.