

Grand challenges for life improvement science.

I. Challenges for increasing well-doing:

1. Identify the primary bottlenecks to well-doing and how they can be overcome.
2. Develop valid and reliable measures of an individual's intentional, unintentional, and total well-doing that quantifies the cumulative effects of their actions on the long-term well-being of humanity.
3. Develop a set of tools or interventions that can collectively increase the intentional well-doing of people from a given population by at least two-thirds of a standard deviation.
4. Develop a digital companion that increases the extent to which people live their personal values by at least 10%.
5. Develop a set of interventions that can consistently increase the weekly unintentional well-doing of people from a given population by at least two-thirds of a standard deviation.
6. Develop an intervention that can reliably convince groups of individuals sampled from a given population that is not already committed to effective altruism to donate at least 0.2% of their collective annual income to effective charities (MacAskill, 2015) working towards one or more of the UN's sustainable development goals.
7. Identify which socio-cultural factors have the strongest impact on well-doing and can be changed most easily.

II. Challenges for promoting optimal personal development:

8. Identify the primary bottlenecks to optimal personal development and how they can be overcome.
9. Establish a valid and reliable measure of cognitive growth that can be used to quantify the rate at which a person's practical and epistemic rationality are increasing or decreasing.
10. Develop a computational-level theory of optimal personal development and demonstrate its successful application to increasing cognitive growth and well-doing.
11. Develop a value-change intervention that can shift people's aspirations towards intrinsic values according to the expanded aspirations index (Martela, Bradshaw, & Ryan, 2019) by at least two-thirds of a standard deviation.
12. Develop a tool or intervention for promoting metacognitive learning that can consistently increase people's weekly cognitive growth over a period of at least 3 months.
13. Develop a career advice system that increases the expected well-doing of the resulting work and the consistency of the resulting choices with the person's intrinsic values by at least 10% each.
14. Develop interventions that increase the adaptive problem solving and problem-solving in technology-rich environments skills of at least 10% of adults by at least one level on the OECD Survey of Adult Skills (OECD, 2020).

15. Discover effective cognitive strategies for goal-setting and planning and a way of conveying those strategies to people that together significantly improve people's performance in the real world.
16. Formulate sociologically informed principles for designing tools and interventions for diverse populations that support their autonomy in the real world and demonstrate their effectiveness.

III. Challenges for reducing ill-doing and alleviating suffering:

17. Develop a computational model of how values, such as honesty and achievement, are learned and test if it can explain why some people develop deleterious levels of materialism.
18. Develop interventions that reduce the prevalence of psychological and physical abuse of children and adolescents perpetrated by their parents and/or other children and adolescents by at least 20% over a period of at least 3 months within a community of at least 300 people compared to an equivalent active control group.
19. Identify the most cost-effective intervention(s) for sustainably improving the living conditions of underprivileged people so that they can more effectively pursue their intrinsic values.
20. Develop a freely available digital intervention that enables healthy people to improve their life satisfaction at least as much as an equivalent amount of in-person CBT achieves in people with depression or anxiety disorders.