


Prosociality should be a public health priority

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Hopelessness and despair threaten health and longevity. We urgently need strategies to counteract these effects and improve population health. Prosociality contributes to better mental and physical health for individuals, and for the communities in which they live. We propose that prosociality should be a public health priority.

The COVID-19 pandemic produced high levels of stress, loneliness and mental health problems, magnifying global trends in health disparities¹. Hopelessness and despair are growing problems, particularly in the USA. The sharp increase in rates of poor mental health is problematic in its own right, but poor mental health also contributes to greater morbidity and mortality. Without action, we will see steep declines in global population health and escalation in related costs to society. An approach that is ‘more of the same’ is insufficient to stem the cascading effects of emotional ill-being. Something new is desperately needed.

To this point, recent work has called on the discipline of psychiatry to contribute more meaningfully to the ‘deaths of despair’ framework (that is, conceptualizing rises in suicide, drug poisoning and alcoholic liver disease as due to the misery of difficult social and economic circumstances)². Recognizing that simply expanding mental health services cannot address the problem, the authors noted the importance of population-level prevention and targeting macro-level causes for intervention. This requires identifying upstream factors that are causally related to these deaths. However, factors that explain population health trends are poorly delineated and focus on risks and deficits (for example, adverse childhood experiences or unemployment). A ‘deficit-based’ approach has limits, as the absence of a risk factor does not inevitably indicate the presence of a protective asset; we also need an ‘asset-based’ approach to understanding more comprehensively the forces that shape good health and buffer the harmful effects of stress and adversity.

Prosociality for population health

The COVID-19 pandemic sharply reminds us of the importance of prosociality for population and community health. Prosociality (defined as positive other-regarding behaviours and beliefs) encompasses numerous facets, such as altruism, trust, reciprocity, compassion and empathy. Recent research documents links between higher prosociality and intentions to receive a COVID-19 vaccination or engaging in preventive behaviours such as masking³. Previous work also shows linkages between prosocial behaviours (for example, compassionate acts or volunteering) and greater well-being⁴, although such research has not yet reached a broad audience. Though limited, work that has examined prosociality in relation to physical health suggests that it is a health asset⁴. Sociological and other work on resilience further indicates that prosociality contributes to maintaining health not only for

individuals who practice the behaviours, but also for the communities and societies in which they live⁵. In fact, a key finding from a Lancet commission on lessons from the COVID-19 pandemic was the low population levels of prosociality and how they contributed to the global failure to successfully implement epidemic control³. The commission defined prosociality as “the orientation of individuals and government regulations to the needs of society as a whole, rather than to narrow individual interests” and urgently called for public health systems to invest in promoting prosocial behaviour to prepare for future pandemics. We echo this call but suggest that the commission’s view of prosociality is too narrow. The potential reach of prosociality for improving population health goes well beyond managing emerging infectious diseases. Because prosociality substantially contributes to individual and community health, it provides a target for improving population health across many public health spheres and may be especially important in the context of climate change. Of note, the UN’s sustainable development goals are also rooted in the universal values of prosociality, compassion and equity⁶. As a result, understanding the antecedents and consequences of prosociality should be a public health priority that is worthy of resources.

Initial evidence suggests that changes in prosocial behaviour reliably lead to downstream physical health improvements. Some studies have shown that meditation-based interventions that cultivate compassion and kindness, and other methods of modifying prosocial behaviours, have positive effects on major health outcomes, including cardiovascular disease^{7,8}. Such interventions can be labour-intensive and generally focus on modifying prosociality at the individual level, but may be modifiable to have greater reach. For example, recent randomized trials show that highly scalable digital mobile interventions decrease distress and loneliness and improve social connectedness⁹. Interventions that can be implemented at scale in schools, communities and organizations to provide greater reach are also promising. For example, a randomized trial of adolescents that examined the effects of volunteering weekly (versus not) on risk markers for cardiovascular disease found lower systemic inflammation, and healthier cholesterol levels and body weight, in the intervention group four months later⁸. Taken together, the experimental and epidemiological evidence points to a moderate but consistently protective association of prosociality with physical health. Randomized trials of prosocial behaviour that can follow participants for long enough to observe meaningful health changes, as well as rigorous longitudinal studies, will enhance the evidence base.

A deeper understanding of the biopsychosocial mechanisms that underlie the relationship between prosociality and health will help to guide more effective strategies for scaling up interventions to the population level. Mechanistic studies suggest that prosociality leads to better health not only via behavioural and social pathways but also through direct biological effects. Volunteering is linked to healthier cognition in later life, and also with slowing or reversing declines in the brain volume of areas that are implicated in dementia pathology¹⁰. Interventions that teach simple meditation practices designed to nurture kindness and compassion lead to increases in prosociality and to

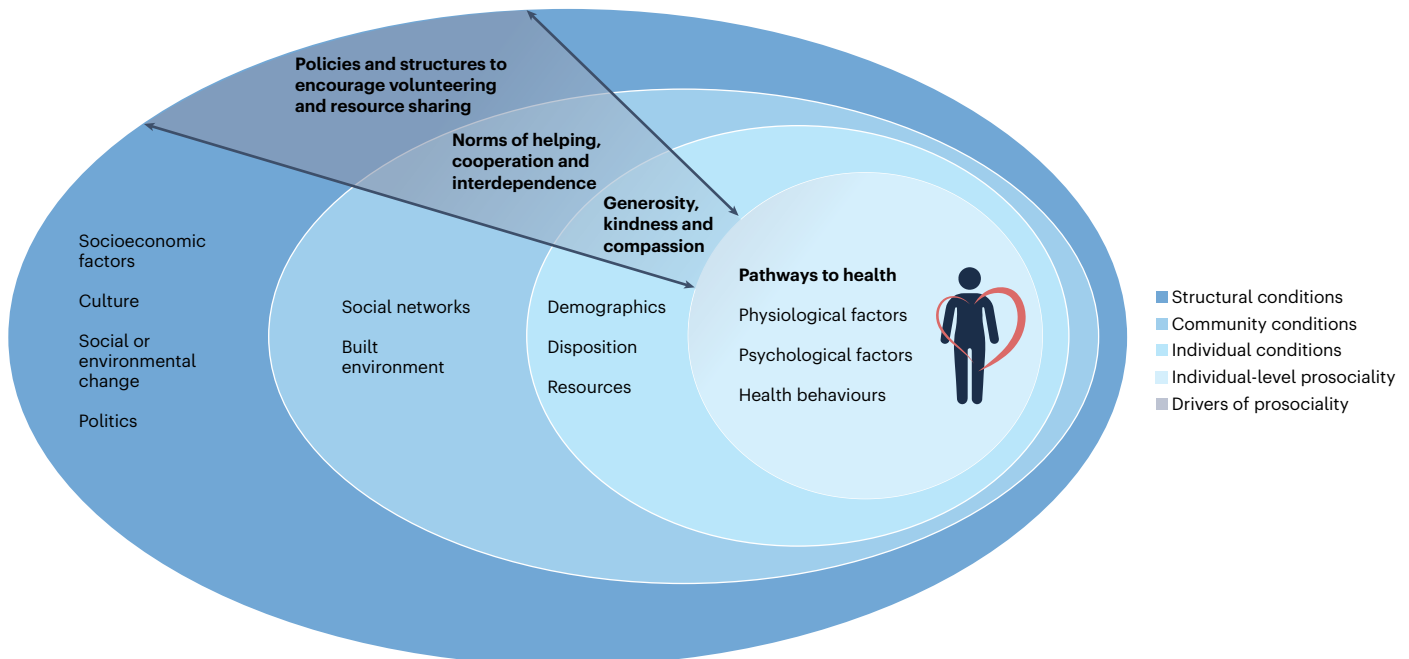


Fig. 1 | A conceptual model of prosociality and population health. The model describes upstream macro- and individual-level factors that shape the distribution of prosociality (either by promoting or impeding levels) among individuals in the population and the downstream effects of prosociality on health-relevant processes that influence morbidity and mortality over the life course. Structural, community and individual conditions all interact with each other and have direct and indirect effects on pathways to health. The inset provides more specific examples of ways in which structural, community and individual conditions could promote a higher prevalence of prosociality in the population. This model is not designed to include all relevant factors in each category but rather to provide examples for each. In this model, ‘disposition’ includes individual-level factors that promote prosocial behaviours, whereas ‘psychological factors’ refers solely to downstream individual-level factors that are influenced by prosociality and also affect health-related processes.

A non-exhaustive set of examples of each element in the model are as follows. For structural conditions, ‘socioeconomic factors’ could include inequality, social welfare and systemic racism; ‘culture’ could include norms, values, competition–cooperation and independence–interdependence; ‘social or environmental change’ could include war and civil unrest, and climate change; and ‘politics’ could include laws, public policy, level of trust in leaders and human rights. For community conditions, ‘social networks’ could include size, density and diversity of the networks; and ‘built environment’ could include safe communal spaces and barriers to integration. For individual conditions, ‘disposition’ could include motivation and compassion; ‘demographics’ could include sex and majority group status; and ‘resources’ could include time and money. For pathways to health, ‘physiological factors’ could include immune function and brain neuroplasticity; ‘psychological factors’ could include stress buffering and sense of purpose; and ‘health behaviours’ could include exercise and smoking.

changes in brain circuits that are implicated in effectively regulating emotions. Prosociality may also affect health by decreasing stress and stress reactivity, and promoting social connectedness⁴.

Of note, other positive qualities have been identified as potential health assets, including hope, optimism, self-regulation and resilience. In contrast to prosociality, these factors are non-social. Although positive non-social and social factors are correlated, they also have distinct effects. For example, non-social factors may be less likely to benefit the health of community members. Importantly, the interrelationships between these factors and health requires future research.

An epidemiology of prosociality

We propose prosociality as a strategy for improving population health. To develop and implement this strategy, we first recommend developing an epidemiology of prosociality using research designed to identify the antecedents and consequences of prosociality in the context of health. This will include gaining more granularity on when and how prosocial behaviours influence health, the range of outcomes affected and whether relationships are similar across diverse groups. It will be important to consider outcomes at both the individual and

societal levels. An example is a global study of 31 nations and regions that documented associations between national prosociality levels and each country’s performance on environmental protection, which also benefits human health¹¹.

Leveraging previous work on the social and moral determinants of health¹², Fig. 1 provides a conceptual model. Refining the model will require identifying characteristics of communities and organizations that promote prosocial values and behaviours, structural factors that work against or promote prosocial behaviours (for example, school or workplace policies that promote competition versus collaboration) and specific pathways that link prosociality to individual and community health.

Although prosociality interventions at the individual level have received more attention, efforts to modify prosociality must occur at multiple levels as prosociality is embedded in cultural values and social norms that shape behaviour. Research on upstream structural factors that affect population levels of prosociality and how they may be modified is urgently needed. Such work can build on findings that have linked economic (for example, income inequality or economic hardship) and other social (for example, market forces or

racial segregation) conditions to prosociality levels (for example, volunteerism rates) and on promising community-level interventions¹³. For example, the Experience Corps (which pairs older adults, who are at higher risk of becoming socially disengaged and inactive, with underprivileged youth through a tutoring programme) has demonstrated effects on prosociality¹⁰. Such interventions could be considered for expansion. We can also learn from previous successful public health campaigns that have targeted smoking or physical exercise, and use similar strategies (such as leveraging the social influence of celebrities, medical influencers, public health messaging and advertising). Efforts to develop a coordinated campaign for promoting prosocial behaviour should be informed by key design principles that contribute to (or impair) campaign effectiveness. Moreover, research on individual-level interventions can be leveraged to assess the scalability and durability of effects. For example, micro-interventions (such as simple kindness and compassion meditation practices that are short in duration) have a demonstrated effect on prosocial behaviour in the moment and over time with repeated practice. Critical next steps include evaluating whether such interventions can promote prosociality at scale, affect community norms and culture (for example, by creating a culture of caring) and ultimately affect population health, and considering potential synergistic effects of interventions that target structural factors and individual-level components. Beyond issues of scalability, the timing and dose of interventions at any level should consider sensitive periods of development and change. Previous work suggests that there are critical developmental influences on, and stability in, prosocial behaviour over time, in which interventions administered as early as pre-school effectively promoted higher prosociality¹⁴. Other work suggests that older adulthood is a critical aetiological window; enhancing prosociality in this period could provide health benefits when individuals are particularly vulnerable¹⁰.

The way forward

We call for researchers to apply a public health lens to prosociality. We must consider its potential as a promising health asset beyond preparing for the next pandemic. A major obstacle to developing strategies that promote health assets is the belief that such efforts are a luxury and not a necessity – that we must focus on mitigating deficits and disease. Given increasing evidence that promoting health assets can effectively and independently improve emotional well-being, quality of life and health, we should ensure that such efforts become a frontline treatment in clinical populations and a critical focus for population-based interventions. Rather than being a secondary treatment if resources allow, efforts to enhance assets must be a priority. In perhaps the clearest demonstration to date, the pandemic has shown that prosociality is an absolutely necessary health asset³. As such, public health researchers and practitioners should invest resources in understanding both its antecedents and downstream effects.

Research on upstream determinants faces substantial challenges. Individual-level interventions are easier to evaluate and recommend. Complex multifactorial causal pathways can be difficult to test with randomized experiments, and isolating the effects of macro-level determinants can be problematic. However, natural experiments derived from

policy changes and related examinations of practice-based evidence could provide critical insights¹⁵. Research funding is often siloed by disease end points rather than supporting work on causal psychosocial factors. Further, changes at the macro-level require political will. However, such problems are insurmountable only if scholars and funders do not engage with them.

We invite multidisciplinary collaborations to build the science around prosociality and request commitment from all relevant funding agencies and organizations to support this work. We ask researchers from public health, medicine and the social sciences to commit to examining social and structural factors that promote prosociality across diverse populations and how prosociality is linked to population mental and physical health. We also need to identify interventions that promote prosociality and assess whether they improve health. It is time to go beyond an individual-level orientation to wellbeing; we must identify factors that promote both individual and societal health. In this time of high economic uncertainty, with countless societal stressors imposing a substantial burden on mental and physical health, such efforts are particularly urgent. There is much work to be done.

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