

## Can greater perceptions of inequality negatively impact physical health?

Stress has been linked to a wide range of deleterious outcomes extending from obesity to cardiovascular problems to increases in depression and anxiety, and even an increased risk of mortality. Even more troubling is that stress is commonly experienced, extending into virtually all social strata and across all age ranges. Despite the pervasiveness of stress exposure, the frequency, duration, and intensity of exposure is dynamic, contributing to individual differences in response. For example, a sizable proportion of the stressful experiences that we encounter on a daily basis are relatively acute and short in duration. While these stressors can accumulate over time, such experiences, at least in isolation, have little impact on overall physical or mental health. This is largely due to the fact that humans have adapted to acute stressors, resulting in the development of response mechanisms that aid in encountering and overcoming the stressor. Once the stressor subsides, the activated physiological systems normalize. This cycle of physiological arousal and normalization has been coined “allostasis,” meaning “maintaining stability through change.” This process is largely adaptive, as such changes effectively provide the means for overcoming the stressor but then divert resources back to more mundane, but essential, biological processes.

Allostasis can become more problematic when stressors are chronic and exposure duration increases. This prolonged exposure can result in the more frequent activation of various biological and physiological responses, ultimately resulting in increased “wear and tear.” Wear and tear stemming from repeated and prolonged exposure to stressors can accumulate across various biological systems and over time. This accumulation is referred to as “allostatic load” and has been found to be associated with a host of physical and mental health problems.

Interestingly, responses to stress, and, by extension, allostatic load, do not randomly vary across the population. Rather, some people appear to be more sensitive to stressful experiences and others appear to be more resilient, indicating that the process of allostasis is the result of a complex combination of biological and environmental influences, giving rise to individual differences in stress response. Similarly, some sources of stress also seem to be differentially concentrated among particular groups relative to others.

I recently explored the potential impact of an environmental stressor that is expected to be both chronic and sustained—perceived inequality—on allostatic load in a sample of adults. While previous studies have identified a greater concentration of physical health problems among those who report greater levels of racial discrimination, very few studies have examined more comprehensive indicators of physical health problems like allostatic load. My study also attempted to take into account the extent to which biological factors, such as genetic influences, and environmental influences that cluster within families differentially predispose certain people to increased levels of allostatic load. The research design used relies on twin pairs raised in the same family. Twins

share genetic material and home environments, making it is possible to examine whether differences in experiences between twins from the same household result in meaningful differences in allostatic load. The results of the study indicated that, on average, the twin in each family pair that reported greater feelings of perceived inequality also displayed greater levels of allostatic load.

Taken together, my results indicate that stress stemming from increased perceptions of inequality can result in increases in allostatic load. These findings indicate that environmental sources of stress that ultimately impact allostatic load are likely more diverse than previously thought. The continued investigation and identification of such sources of influence is important, particularly in the interest of the development of intervention and prevention programs aimed at limiting physical health problems.

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## **Publication**

[Long-term physical health consequences of perceived inequality: Results from a twin comparison design.](#)

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*Soc Sci Med. 2017 Aug*