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How is the Human Pangenome Project Like a Whole Person Psychology

Editor's Introduction

Not many decades ago the notion that the entire human genome could be sequenced was a distant dream. An initial sequencing and analysis was completed in 2001 (Hawkins et al.), with completion of the project announced in 2004 (IHGSC). As remarkable as this is, the current reference genome consists of merged haplotypes from little more than 20 individuals (Wang et al., 2022)—a framework that simply does not represent global human genomic variation. To remedy this, The Human Pangenome Project is a global partnership to produce a far more thorough reference with “diverse representation of global genomic variation” (Wang et al., 2022, p. 437), which will serve as a powerful resource for biomedical research across populations.

This problem of narrow selectivity extends well beyond genetics, given that much of medical research studies focus on White male subjects. As recently as 2020, 75% of participants were White in 53 trials of new drugs that enrolled a total of 32,000 subjects (Gray et al., 2021), and a 2015 review of medical textbooks found greater than 20% difference between the volume of male and female depictions; in the case of illustrations of faces that permitted clear gender identification just 21.96% were female (Murciano-Goroff, 2015). These inequities are important because populations who are underrepresented in clinical trials of new pharmaceuticals, for example, may benefit less and experience greater harm from side effects (Corneli et al., 2023).

Psychology has a similar problem. In 2010 Joseph Heinrich and colleagues demonstrated that the vast majority of studies on human psychology and behavior are conducted on samples drawn from Western, educated, industrialized, rich, and democratic populations—designated with the acronym, “WEIRD.” Moreover, they provided clear evidence that “WEIRD subjects are particularly unusual compared with the rest of the species—frequent outliers” (p. 61). When psychological models, treatment protocols, and clinical measures are designed based on outlier populations, the resulting psychology can only be a narrow and impoverished version that will be of limited value outside of those societies. Moreover, WEIRD cultures will fail to benefit from understanding the ways in which they diverge from broader human norms, or from approaches to healing and wellness that various other communities embody.

In the language of participatory thought, each human society or community inhabits a particular “location,” geographically, culturally, and historically (cf. Hartelius & Ferrer, 2013). Recent work carrying forward Heinrich’s efforts to point to the cultural shortcomings of psychology have attempted to calculate the psychological and cultural distance between various societies, using the United States and China as reference scales (Muthukrishna et al., 2020). This team developed a scale for the United States, selected because it is “the most overrepresented county in psychological

research by a wide margin” (p. 685), and for China, which was then the largest nation in the world and is a commonly used comparison population in cultural psychology. Scales were created by “calculating the cultural distance for all countries relative to the United States” and China (p. 685). Cultural distance was determined through use of an extensive survey of cultural values, cultural dimensions, personality and behavioral factors, as well as degrees of geographical, genetic, and linguistic distance. The results calculated that there was relatively little difference between, for example, the United States and Canada, reflected in a cultural distance score of 0.26, and a much larger difference between China and Qatar, with a cultural distance score of 2.62; other distance scores fell between these two poles. This mathematical representation of cultural distances points to the urgent need for a comparable consideration of diversity in the development and application of psychology.

Transpersonal psychology is a small area of study within the broader field of psychology, but it has pioneered in areas that contribute to this larger project. For example, it helped to restore psychological consideration of spirituality as a human capacity separate from religion—a dimension of life and experience that is of profound importance to much of the human population. By grappling with the many different ways that human spirituality is expressed through various cultures, transpersonal scholars have been engaged with this same challenge of wide diversities in the expressions of deeply human dimensions—not only in documenting differences, but also in seeking ways to understand commonalities and appreciate and learn across differences.

The field’s early approaches to comprehending peak experiences, including spiritual experiences, were reaching for finding biological bases of expansive experiences that had previously been dismissed as either pathological or the product of subjective cultural constructions—what Maslow (1969) called, “the farther reaches of human nature.” This ambition was well beyond the predominant illness-focused approaches of the day—a bold stroke to examine these more inspiring experiences and qualities *as expressions of biology*, just as surely as

the destructive instincts of the Freudian unconscious. This was the transpersonal psychology of Maslow and Sutich: one that turned convention on its head, not by countering the primal impulses of biology with lofty constructions of the higher mind, but by *situating the better angels of human nature firmly in the cells and tissues of biology* (cf. Maslow, 1967).

As with the shift from singular human genome to the aspiration for a pangenome that represents much more of the creative diversities of human genetics, Maslow held forth a profoundly revolutionary vision—one that attends to human experiences of uplifting absorption in something wider than ourselves, neither marginalizing them as subjective noise nor attempting to unify them in syncretic spiritual visions; instead, it imagines their roots reaching down into that same pangenome that is shared by every person in the human family. Even though transpersonal psychology has yet to implement this vision, it still beckons.

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