A social unveiling of natural genomic researchers

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While genomics scientists have been classified as highly skilled and revolutionary, they have also been characterized as non-empathizing and guilty of stereotyping the public as ignorant. Recognizing this dichotomy, we were curious as to the perceptions scientists held of themselves and their current work in a large-scale interdisciplinary genomics and bioremediation project. Between October 2021 and April 2022, we conducted an exploratory case study, using unstructured open-ended interviews and thematic analysis, to understand scientists' views on their work from an interdisciplinary lens. We interviewed nine natural science researchers with a variety of genomics-related expertise, and the emerging topics were grouped into two broad social science categories reflecting the nested developmental model of Bronfenbrenner: microsystem matters, composed of technical advances, barriers, and concerns at the individual and local level; and macrosystem matters, related to wider reflections and the philosophies of genomics and society. Main findings on the microsystem level related to how differences of opinions around methodological steps, the incompleteness of databases, and the absence of established reference values may not only impact a project's progress, but also the ability to gauge success rates, thereby affecting budgeting, personnel needs, and overall stress. In the macrosystem level, concerns about the perception of genomics by different social groups were predominant, as the controversy related to genetic interventions could lead to limited social license of genomics applications. Another focus was on how the institution of academic publication slows progress because of its orientation towards positive results, and how gaps in knowledge could be filled by publishing negative results. This study demonstrated that scientists do observe themselves as subjects in the genomics science field, being aware of how their beliefs and bias may affect research performance.