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Developing a 'leading identity': The relationship between students' mathematical identities and their career and higher education aspirations.

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Summary: The construct of identity has been used widely in mathematics education in order to understand how students (and teachers) relate to and engage with the subject (Kaasila; Sfard & Prusak; Boaler). Drawing on Cultural Historical Activity Theory (CHAT), this paper adopts Leont'ev's notion of leading activity in order to explore the key 'significant' activities that are implicated in the development of students' reflexive understanding of self and how this may offer differing relations with mathematics. According to Leont'ev, leading activities are those which are significant to the development of the individual's psyche through the emergence of new motives for engagement. We suggest that alongside new motives for engagement comes a new understanding of self-a leading identity-which reflects a hierarchy of our motives. Narrative analysis of interviews with two students (aged 16-17 years old) in post-compulsory education, Mary and Lee, are presented. Mary holds a stable 'vocational' leading identity throughout her narrative and, thus, her motive for studying mathematics is defined by its 'use value' in terms of pursuing this vocation. In contrast, Lee develops a leading identity which is focused on the activity of studying and becoming a university student. As such, his motive for study is framed in terms of the exchange value of the qualifications he hopes to obtain. We argue that this empirical grounding of leading activity and leading identity offers new insights into students' identity development.

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