

**A SOCIOCULTURAL STUDY OF MATHEMATICAL AND OTHER IDENTITIES
OF 'STRUGGLING' TEENAGE BOYS**

Submitted by Melinda Evelyn Browne, to the University of Exeter as a thesis for
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Melinda Evelyn Browne

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Abstract

The purpose of this study is to gather and describe case studies of ‘struggling’ teenage boys, focusing on their identities, which are mediated by the discursive practices associated with school mathematics and other activities. The sociocultural model of identity unites an individual’s psychodynamic continuity with the roles and positions that emerge from his/her social interactions. The setting for the investigation is a small single-sex, non-traditional secondary school, in which the sample is seven boys, ages sixteen to eighteen, who have lost interest in the academic mainstream. Qualitative data were collected on individual boys, and then matched in a table to the theoretical framework. The study raised five issues about identity, struggling teenage boys, and school mathematics. To negotiate the dialectic of opposing identity norms, struggling teenage boys employed identities as expressive tools that held desirable positions for them in school mathematics. In the organization of multiple identities, salience depended upon the intrinsic and extrinsic gratification associated with knowledge of mathematics. Positive mathematical identities clustered with compatible social identities that were also supported by these rewards. The sociohistorical availability of identities increased in nontraditional mathematics courses that provided the boys with opportunities to enact positive roles. Many of the boys communicated positive attitudes towards school mathematics in relation to their future career goals. Though they may have struggled, they expected to achieve conventional success in the adult world. The issue of identity and emotions was illustrated by the shame and mistrust that accompanied the loss of a former identity such as a “gifted” level in school mathematics. For some struggling teenage boys, mistrustfulness was evident in their discussions about money. They expressed an affinity for simple arithmetic, which they

could easily master with repetitive practice. Implications for teaching include cultivating future-oriented identities, incorporating ‘money’ themes, and offering customized courses.

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