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Systematic Review of Students' Attitudes and Motivation Using Dynamical System Models

A. Maryati [1*], N. Anggriani [2], A. K. Supriatna [2] and E. Carnia [2]

[1] *Doctoral at the Department of Mathematics, Faculty of Mathematics and Natural Sciences, Universitas Padjadjaran, Bandung, Indonesia.*

[2] *Department of Mathematics, Faculty of Mathematics and Natural Sciences, Universitas Padjadjaran, Bandung, Indonesia.*

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Abstract: The study investigates students' negative attitudes toward learning mathematics, often linked to low motivation, anxiety, and disinterest. These issues are widespread and influenced by factors such as misinformation and avoidance of challenging math courses. To understand the spread of such attitudes, the research uses mathematical modeling through a Systematic Literature Review (SLR) covering studies from 2013–2023, using databases including Scopus, Science Direct, Google Scholar, and Dimensions. Analysis follows the PRISMA method and uses bibliometric tools such as VOSviewer. The findings reveal that since 2020, very few studies have focused on mathematical models analyzing students' attitudes toward mathematics learning, and none have addressed both attitudes and motivation simultaneously–highlighting a significant research gap.

Keywords: *mathematical model; dynamic analysis; optimal control; anxiety; hostility towards mathematics; motivation; interest.*

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* Corresponding author: mailto:nursanti.anggriani@unpad.ac.id