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SP - (15819) - STUDENTS' GENERALIZED MEANINGS OF PHYSICS: USING SEMIOTIC-CULTURAL PERSPECTIVE TO MAP ATTITUDES TOWARDS PHYSICS

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Short Abstract

The purpose of this study was to analyze high school and university students' attitudes towards physics using the Semiotic Cultural Psychological Theory (SCPT). In the SCPT framework, attitudes represent how individuals interpret their experience through the mediation of the generalized meaning with which they are identified. A view-of-physics questionnaire was used as instrument to collect data with 1,603 high school and university Italian students. Data were analysed through Multiple Correspondence Analysis and Cluster Analysis. We identified four generalized meanings of physics: a) interesting and important for a technology-based society; b) a quite interesting, but badly taught subject at school and not completely useful for society; c) difficult and irrelevant for society; d) a fascinating and protective niche. The identified generalized meanings are significantly correlated to the choice to study physics at undergraduate level and to the choice of attending physics-related activities in high school