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Markoulis, Diomedes

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THE ACQUISITION OF FORMAL OPERATIONAL SCHEMATA DURING ADOLESCENCE: A CROSS-NATIONAL COMPARISON

NICOS VALANIDES

University of Cyprus

DIOMEDES MARKOULIS

University of Thessaloniki, Greece

ABSTRACT: The study compared the results of three cross-sectional and large-scale group studies conducted in Cyprus, Israel, and the USA. The studies examined the acquisition of the formal schemata of control of variables, proportions, probability, correlations, and combinations during the secondary school years. Despite the differences among the three studies in terms of sampling procedures, sample sizes, tasks (content and type), and administrative procedures, the results provided evidence that the examined schemata represent singular cognitive structures showing a common developmental trend. These schemata appeared to be acquired gradually across age rather than in wholesale spurts. The wide range of student performance on the test items across all grade levels appears to be related to differences in task difficulty. The range also suggests that the development and saturation of these abilities are not completed even for twelfth-grade students, and that a high percentage of secondary school students are still in the process of developing them. There were also indications for the possible effects of differences in science and mathematics teaching as well as other educational factors on cog-

Nicos Valanides is a member of the Department of Educational Sciences at the University of Cyprus. He is interested in educational psychology with a special focus on the investigation of structures of reasoning and the educational implications of such investigations.

Diomedes Markoulis is a professor of psychology at the University of Thessaloniki. He has served as Chairman of its Department of Psychology and has published numerous articles on moral and cognitive development.

Correspondence regarding this article should be addressed to Nicos Valanides, Department of Educational Sciences, University of Cyprus, P.O. Box 537, CY-1678, Nicosia, Cyprus; e-mail: NICHRI@zeus.cc.ucy.ac.cy.