



ORIGINAL RESEARCH PAPERS

The detection of individual psychological differences of native Spanish and immigrants from Morocco, based on testing of proprioceptive control in fine motor performance



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Discriminative
analysis

Abstract

Background: Russian physiologists and psychologists posed the questions of the levels of psychic regulation of the temperament, character and personality (Anan'ev, 1980; Nebylitsin, 1966; Pavlov, 1951; Teplov, 1963). The aim of our study was to observe the differences due to both – cultural nature and individual changes in personality – relevant to adjustment mechanisms in Arabic migrants in Spain.

Method: Proprioceptive Diagnostics of Temperament and Character (DP-TC, Tous Ral et al., 2012) was used to obtain observations in fine motor performance in two groups: immigrants from Morocco to Spain and Spaniards. The DP-TC of individual and personality differences is based on fine motor precision tasks and allows comparing performances of participants from different cultures with no bias of linguistic interpretation.

Results: The significant differences in fine motor performance (proprioceptive condition) were found in average group's results. The consequent interpretation of their personality and individual behavioural differences was realised as per the DP-TC test dimensions. The results are discussed in terms of the interplay between possible cultural and individual differences concerning changes, related to the adjustment in migration processes.

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PALABRAS CLAVE

Precisión motora fina;
 Diagnóstico
 Propioceptivo del
 temperamento y del
 carácter;
 Adaptación en
 inmigrantes;
 Aculturación;
 Análisis discriminante

Conclusion: The assertiveness'-related temperament-features in migrants were found low together with cultural differences in variability of behaviour and attention style.

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La detección de las diferencias psicológicas individuales de los españoles nativos y los inmigrantes de Marruecos, basándose las pruebas de control propioceptivo en el rendimiento motor fino

Resumen

Antecedentes: Los fisiólogos y psicólogos rusos plantearon las cuestiones de los niveles de regulación psíquica del temperamento, el carácter y la personalidad (Pavlov, 1951; Anan'ev, 1980; Teplov, 1966; Nebylitsin, 1966). El objetivo de nuestro estudio fue observar las diferencias debidas tanto a la naturaleza cultural como a los cambios individuales en la personalidad, relevantes en los mecanismos de ajuste en los migrantes.

Método: Se utilizó el Diagnóstico Propioceptivo del Temperamento y del Carácter (DP-TC, Tous et al., 2012) para obtener observaciones en el rendimiento motor fino en 2 grupos: inmigrantes de Marruecos a España y españoles. El DP-TC se basa en tareas de precisión motora fina y permite comparar las actuaciones de participantes de diferentes culturas sin sesgo de interpretación lingüística.

Resultados: Se encontraron las diferencias significativas en el rendimiento (condición propioceptiva) según los resultados promedios de los grupos. Se realizó la correspondiente interpretación de las diferencias en personalidad. Los resultados se discuten en términos de la interacción entre las posibles diferencias culturales e individuales relacionadas con el ajuste en los procesos migratorios.

Conclusión: Los rasgos de temperamento relacionados con la asertividad en los migrantes se encontraron bajos junto con diferencias culturales en variabilidad de comportamiento y estilo de atención.

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Introduction

As soon as psychological diagnostics in the main part are very dependent to language and other cultural differences; the application of the psychological methods, based on the testing of the proprioceptive control, to the needs of psychological help in immigrants is very reasonable (Chui, Ng, Fong, Lin, & Ng, 2007).

Very few studies were done in relation of cultural and individual differences in the proprioceptive fine motor precision due to general ignorance of motor control field applied to psychology that currently plays a role of the "Cinderella" as defined by Rosenbaum (2005). However, some studies report about relation of motor control and cognition. Thus, East Asian American children were found to have more advanced final skills compared to the matched in socio-economic status European American children; moreover, fine motor performance was found to be a significant predictor of mathematics achievements (Luo, Jose, Huntsinger, & Pigott, 2007).

In the previous study, the change of task from single (just fine motor precision) to a dual one (combined with a cognitive charge – counting back numbers), the changes were found in proprioceptive movement precision had occurred,

such as increasing a line length that corresponded to the shift to the excitability pole in the Proprioceptive Diagnostic of Temperament and Character (DP-TC in Spanish original abbreviation) in a balance of Excitability-Inhibition dimension (Liutsko, Tous, & Segura, 2014). As indicate other studies, the proprioceptive fine motor precision depends on age, being worse while maturing (before 18 y.o.) and slowly starting to decline after 50 y.o. due to ageing processes (Liutsko, Muiños, & Tous, 2014). Better performance in the delayed visual memory tasks was also relayed to fine motor precision of some specific movement types (Liutsko, Tous, & Muiños, 2012). Moreover, individual differences pattern in fine motor precision were found to be important as health indicators since some movement types or congruence in hands performances were significantly different from the control groups in patients with Parkinson (Gironell, Liutsko, Muiños, & Tous, 2012); multiple sclerosis (Liutsko & Tous, 2013a, 2013b); psychiatric diseases (Efremov, Sluchaevskii, Popov, & Dunaevskaia, 1982); adaptation to stress in onco-patients (Liutsko, Malova, Poddubnij, Rozhkova, & Maldonado, 2016), and children with ADHD (Iglesias, Liutsko, & Tous, 2014).

Serpell (1979), in his study of pattern reproduction tasks in Zambian and British schoolchildren, concluded that cross-

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