World Conference on Education and Teaching

Education and Teaching Conferences

17 - 19 October 2025 Lyon , France

An Investigation into how First-year Medical Students Adapt to a New Educational Environment

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Abstract

Our study aimed to investigate how first-year medical students adapt to new educational environments. The study involved 35 healthy female (F) and 35 male (M) first-year medical students. Participants completed two randomized order simulated virtual visual tasks utilizing simple and choice sensorimotor reaction times (SSMRT, CSMRT). We calculated the correct answer percentages (CA%), means (M), and standard deviations (SD) for both groups (F-1, M-2) during SSMRT (S) and CSMRT (C).
M- SCA1= 88.9%; SD- SCA1=8.8;
M- SCA2= 92.4%; SD- SCA2=8.3;
M- CCA1= 53.3%; SD- CCA1=7.6;
M- CCA2= 56.2%; SD- CCA2=4.5.
For statistical check, we calculated the coefficient of variation (CV=SD/Mean);
CV- SCA1=0.098988;
CV- SCA2=0.089827;
CV-CCA1=0.142589 ?;
CV-CCA2=0.080071.
There were no statistically significant differences between the different means; however, CV-CCA1 in F-students was much higher than in M-students, indicating impulsive error responses.
M-S1=0.3332s; SD-S1=0.10617;
M-S2=0.336s; SD-S2=0.1376s;
M-C1=0.67s; SD-C1=0.1505;
M-C2=0.615s ?; SD-C2=0.1261;
CV-S1=0. 030303;
CV-S2=0.411764 ?;
CV-C1=0. 22388;

CV-C2=0.209677
There were no statistically significant differences between the means for SSMRT, indicating almost equal executive function abilities in both groups; significant differences were revealed during CSMRT, suggesting better RT results in M-students. Increased variability in M-students during SSMRT suggests lower attention concentration, due to their lower motivation, along with a more stable nervous system.
The findings suggest that females tend to exhibit some neuroticism, linked with error-prone executive outcomes during RT tests. This may be attributed to the stress of adapting to a new environment. However, they showed higher motivation, indicating that females may employ more effective coping strategies focused on achievement.

Keywords: Coping Strategies, Executive Function Outcomes, Neuroticism in Firstyear-year Medical Students, Sensorimotor Reaction Time Tasks, Virtual Model.