Abstract: Introduction: In light of the complex and dynamic nature of physical activity behavior change, it seems unlikely that a single theoretical approach can truly capture its. In our country, especially among college students, this kind of research has been seriously neglected as a research topic.

The purpose of this study was to evaluate a theoretical model explaining the exercise behavior of Iranian college students based on constructs from the Transtheoretical Model (TTM) and Self-determination Theory (SDT).

Method: This study is a cross-sectional study in which 418 first year students of Guilan University of medical sciences completed the valid transtheoretical model, self-determination theory and exercise behavior questionnaire. Data were analyzed by SPSS 16 and LISREL 8.80 using bivariate correlation tests and structural equation modeling.

Results: The relationship between exercise behavior and all of the constructs from the TTM and SDT (except external regulation) was statistically significant. Relative autonomy index accounted for 48% of the variance in current exercise behavior. The model accounted for 82% of the variance in current exercise behavior.

Conclusions: Study findings support the application of an integrated model of health behavior combining constructs from the TTM and SDT to explain the exercise behavior of Iranian college students.