GENDER AND CHRONOTYPE DIFFERENCES IN SCHOOL ACHIEVEMENT AND SATISFACTION WITH SCHOOL

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School as we know is based on many outdated and arbitrary principles that are not conducive to optimal learning and might even go against it. It is well established that school conceptually suits girls more than boys, which is apparent from their generally higher school achievement. The school is also not balanced in regards to some other students' biological and individual differences, such as circadian rhythms. The goal of this research was to determine a degree to which gender and circadian rhythms (i.e., chronotypes) predict differences in school achievement and satisfaction with school amongst high school students. The sample consisted of 866 high school students (51.4% males) from Bosnia and Herzegovina. The modal age of the sample was 17 years and an average overall school achievement was 3.74 (SD=0.73) out of possible 5. Most of the students self-identified (via a self-report four-category question) as being moderately evening type (41.9%) and a definite evening type (30.4%), with fewer claiming to be a moderately morning type (19.3%), and a definite morning type (8.4%). Independent variables were gender and chronotypes and dependent variables were school achievement and three dimensions of satisfaction with school: 1) satisfaction with teachers and school, 2) dissatisfaction with the compulsivity of school, and 3) dissatisfaction with the concept of school. Multivariate effects of gender ($F(4, 855)=13.01$, $\Lambda=.94$, $p<.001$, $\eta p=.06$) and chronotypes ($F(12, 2262.41)=6.38$, $\Lambda=.92$, $p<.001$, $\eta p=.03$) were statistically significant, so was their interaction ($F(12, 2262.41)=2.06$, $\Lambda=.97$, $p<.001$, $\eta p=.01$). Specifically, girls had higher school achievement than boys ($F(1, 858)=47.50$, $p<.001$, $\eta p=.05$), with morning types having higher satisfaction with teachers and school ($F(3, 858)=13.84$, $p<.001$, $\eta p=.05$) and higher school achievement ($F(3, 858)=5.61$, $p<.001$, $\eta p=.02$). A dissatisfaction with the compulsivity ($F(3, 858)=13.93$, $p<.001$, $\eta p=.05$) and a concept of school ($F(3, 858)=8.34$, $p<.001$, $\eta p=.03$) tended to be higher for evening types. However, being a definitive morning type was associated with the highest obtained school achievement for girls (M=4.19, SD=0.63), but the lowest obtained achievement for boys (M=3.42, SD=0.77): $F(3, 858)=3.05$,

p=.03, ηp=.01. Thus, not only gender differences, but also chronotype differences appear to be important in understanding individual differences in school achievement and satisfaction. Schools and policy makers should be aware of these differences and take them into consideration not only when designing curricula, but also when planning time periods for their execution (as much as practically possible).

keywords: chronotypes, circadian rhythms, school achievement, satisfaction with school, gender differences