# THE ROLE OF PARENTING IN EARLY COMMON EDUCATION FOR MUSIC PERFORMANCE ABILITIES EEG PATTERN DEVELOPMENT IN ADOLESCENTS

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Background

There are few important factors involved in musical talent development. First – a child must be endowed with inherited neurophysiological traits of talent and musical education should start earlier than 3 years old. Equally important is parental involvement (PI) in children's education that benefits children's learning and school success. There are known children's success in music performance due PI in early children's musical education.

Aim

We aimed to evaluate whether involving parents in early common education benefits adolescent outcomes in music performance too and is associated with higher level of neurophysiological EEG/EMG predictors of musical abilities (EPMA).

Methods

Forty three teenagers – musicians (14–16 years old) were rated in 1–10 scale for 9 kinds of musical abilities including musicality, performing technique, rhythm, attitude, empathy, intonation and creativity. PI in musical and common education was estimated by parental self reports. All students were divided in four groups according to PI in early education (1- no PI, 2 – PI in musical education, 3-PI in common early education and 4 – both PI in musical and common early education) involvement of EEG and EMG were recorded at rest and during finger movement conditions with closed and open eyes.

Results

The most successful young musicians (laureates of International competitions) had parents who were the most highly involved in both common and musical education in the earliest stages of learning (from infancy). Music performance abilities and EEG/EMG pattern predicting musical ability were equal in students having common and musical PI in early education (groups 2 and 3). These successful music learners in 74% of our cases had parents who were involved with music themselves. EMPAs for all kind of musical abilities positively associated with power of individual upper alpha range in rest condition (r= .55) and negatively with alpha amplitude suppression in response to finger movement (r=-.43). These EMPA s are correlated with age, duration of musical experience, parental engagement in musical and common early education. The EEG-predictor of Musical creativity included the alpha band width and had no correlation with age or parental engagement in non-music non-mathematical education.

Conclusions

It was concluded that development of such musical abilities as performing technique, rhythm, attitude, musical empathy and pitch is associated with parental engagement in children early education, while musical creativity is not.

***Keywords*:** music performance abilities, parents, early education, EEG, EMG.

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