

## **THE RELATIONSHIP BETWEEN INSTRUMENTAL EXPERIENCE AND SOCIAL COGNITION - A STUDY ON TRANSFER EFFECTS**

*Reinhard Kopiez, Marco Lehmann & Luisa Rodehorst*

Hanover University of Music and Drama,  
Institute for Research in Music Education/Hanover Music Lab, Germany

### **BACKGROUND AND AIMS**

Playing a musical instrument alone as well as in an ensemble requires the acquisition of a differentiated system of emotional codes for music production and perception (Juslin, 2001). Over the years, such training in a non-language-related communication system (music) can also have a positive effect on the socio-affective cognition that is present in the language-related domain (Dankovicová, House, Crooks & Jones, 2007; Thompson, Schellenberg & Husain, 2004). However, up until now there has been no research on how this expertise in the music-related expressive code might influence social cognition in a complex and realistic social situation, as measured, for example, by the evaluation of interactions in a group conversation. We investigated whether a positive transfer of emotional codes/skills acquired in instrumental training can facilitate similar ones in the domain of social and affective cognition. Based on previous studies (e.g., Thompson, Schellenberg & Husain, 2004), we formulated a directed hypothesis that instrumentalists would be superior in a social cognition task compared with students from non-musical domains.

### **METHOD**

In a quasi-experimental study, 80 students (20 students each of music, drama, art and electric engineering, mean age = 23.6, SD = 1.9, min. = 20, max. = 30 years) participated in a test procedure. The film-based MASC test (Movie Assessment of Social Cognition; Dziobek et al., 2006) was used as the dependent variable. This test measures competence in situation-dependent inter-human understanding (empathy), using the assessment of complex conversation settings presented in 45 short film sequences. The total duration of the procedure was about 45 minutes. Measurements were conducted in a group setting by the use of a video projection on a large screen (screen-size: about 2 m) and paper and pencil for filling in the questionnaires. The respective level of musical expertise in the 4 groups was controlled by means of the OMSI scale (Ollen Musical Sophistication Index; Ollen, 2006).

### **RESULTS**

Concerning the score of the social cognition test (MASC), music students outperformed electric engineering students (effect size: Cohen's  $d = 1.22$ ). No statistical differences were found between music students and those of drama and art (results of statistical contrast analyses). The direct relationship between the duration of instrumental training and the MASC score revealed a correlation of  $r = .37$  ( $p = .01$ ).

## CONCLUSIONS

Our results confirm previous findings on effects of long-term instrumental training on other domains of language-related communication, such as speech perception. However, due to the quasi-experimental design, no causal conclusions on the influence of instrumental training on social cognition can be drawn. Such conclusions can only be based on data from longitudinal studies. However, to our knowledge, there has been no longitudinal study on transfer effects to date. Additionally, we also have to bear in mind that social selection effects are hard to control for by the chosen experimental design. For example, classical musicians often come from socio-economic backgrounds with a high appreciation for extracurricular cultural education such as instrumental lessons. Finally, we discuss the more general problem of the use of dependent variables with a "built-in advantage" for musicians. We argue for a cautious interpretation of "inferiority" of other groups in the population.

## REFERENCES

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## TOPIC AREAS

Social psychology of music  
Music education  
Musical development