Title: Age estimation of a Roma Romanian population using the Thiemann *et al.* (2006) atlas

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Lack of official documentation is a reality for a portion of the population in Romania, especially the Roma. In the international context, this fact may have contributed to them being the one of the most common nationality that is age estimated in Germany. The most common methods of age estimation are through the evaluation of the development of hand/wrist ossifications using radiographs and specific radiographic atlases. Thiemann *et al.* (2006) is one of the most recent atlases developed. It was developed using radiographs from individuals between 0 to 18 years old from the former German Democratic Republic. Even though it is based on a modern population, the usage of this atlas in the forensic context has only been reported for German speaking countries, in conjunction with other age estimation methods. Additionally, the only test of the suitability of this method was performed by Schmidt *et al.* (2013) using a German population. For this reason, this research aimed to evaluate the use of the Thiemann *et al.* (2006) atlas in a Roma Romanian population. A total of 455 individuals (220 females and 235 males), between 1 to 20 years old were age estimated via radiographs of the hand/wrist using the Thiemann *et al.* (2006) atlas. The radiographs were obtained from the *Mina Minovici* Medical Legal Institute in Bucharest and all the individuals presented a valid document that stated their date of birth. Overall, there was no statistically significant difference between the chronological age (CA) and estimated age (EA) for either sex when the Thiemann *et al.* (2006) atlas was used. Considering the complete sample divided by sex, the mean difference between the CA and EA showed that there was a mean underestimation of 1.8 months for the females and 8.3 months for the males. However, when the mean difference between the ages was considered on a year by year basis, the females presented more age groups where the EA was higher than the CA. Some of the mean overestimation was observed between the ages of 14 and 16 years, for both sexes. Also, almost half of the male and female individuals at the age of 13 years were classified as being 14 years or more. These results have a forensic importance as this is the most common age for criminal responsibility in Europe.