

Graduate Student Profile: Dejana Nikitovic

PhD Candidate, Department of Anthropology, University of Toronto

My main area of expertise is human skeletal biology, with particular focus on issues of juvenile health, growth and development. My academic degrees (B.A. in Archaeology, M.Sc. in Human Biology, and pursuing PhD in Biological Anthropology) are supplemented with extensive archaeological field work experience and



Dejana instructing students in *Advance Topics in Human Osteology*, University of Toronto Scarborough (Photo by Dr. Larry Sawchuk).

analysis of skeletal material in archaeological and forensic contexts. Anchored in the practical and academic background, my interdisciplinary research focuses on the interaction between social and biological factors. I am primarily interested in three areas of research: 1) social construction of childhood in past populations, 2) ontogeny of sexual dimorphism, and 3) paleopathology.

Social construction of childhood in past populations

My PhD research at the Department of Anthropology, University of Toronto, examines the social construction of childhood in ancestral and historic Puebloan groups from the American Southwest (A.D. 890-1680). In studies of populations from archaeological context, childhood is usually equated with biological immaturity, marked with cessation of growth. However, while growing is a biological process common to all human beings, it happens within specific cultural contexts. Every society will construct its own understanding of childhood, which does not necessarily link directly with chronological or biological age. As such, in studies of archaeological populations the social construction of childhood needs to be investigated, rather than assumed.

My research builds on the assumption that cultural practices, conditioned by age identity, create social environments that have a great impact on growth and health, leaving traces that are visible through skeletal analysis. In 2010 I participated in designing a study that analysed growth and the appearance of pathological cranial porosity among juveniles from ancestral and historic Puebloan sites in relation to the socially meaningful age groups among modern Puebloan tribe (Tewa). Our results suggested that stunting, poor health in general and high mortality occur before the socially important transition from a young to an older child.

My doctoral research expands existing scholarship by incorporating ethnographic data, with information derived from skeletal and archaeological material, to deepen an understanding of how children were defined and treated in Puebloan societies. I used rich ethnographic data to develop a model of socially constructed age identities among modern

Pueblo tribes. This model, which focuses on age-dependent variables traceable archaeologically through analyses of skeletal and mortuary data, is tested on six sites or site complexes that belong to different periods of Puebloan history, namely Mesa Verde, Chaco Canyon, Arroyo Hondo, Grasshopper, San Cristobal and Hawikku. Comparing patterns from the sites that belong to different time periods will allow tracing diachronical changes in social construction of childhood. Furthermore, my research examines interactions between childhood and other forms of identity (specifically ethnolinguistic groups, social strata and genders). This holistic study will reveal children as active agents in their cultural and physical environment, increasing our knowledge of childhood in American Southwest, as well as dynamic cultural processes that shaped ancestral and historic Puebloan groups.

Ontogeny of sexual dimorphism

Finding methods for accurate estimation of sex in juvenile skeletons has been an important goal for biological and forensic anthropologists. Working on the documented skeletal collection housed at the Bocage Museum in Lisbon, Portugal, I have been examining morphological and metrical sexual differences among juveniles. Along with testing existing methods (particularly morphology of the greater sciatic notch), my research project involved examining new methods for sex estimation in juveniles – namely the dimensions of the basiocranium. Results indicate lower sexual dimorphism in the Portuguese collection compared to other samples, suggesting population variability of sexual dimorphism. Following these findings, I am currently focusing on examining the influence that environment (physical and social) has on ontogeny of sexual dimorphism and the expression of sexual dimorphism in adults.

Paleopathology

Paleopathological studies are mostly the result of a joint research project with the Institute for Anthropological Research in Zagreb, Croatia. Research involves skeletal analyses of prehistoric and historic Croatian sites. Following studies on autoimmune joint diseases and elongated styloid process, we are currently conducting research on pathological conditions on juvenile skeletal remains, such as scurvy and trauma (particularly dislocations).

Peer Reviewed Publications:

Schillaci MA, **Nikitovic D**, Akins N, Tripp L, Palkovich A (2011) Infant and juvenile growth in Ancestral Pueblo Indians. *American Journal of Physical Anthropology* 145:318-326.

Šikanjić-Rajić P, **Vlak D** (2010) Elongated styloid process in Late Medieval skeletons from Uzdoļje-Grablje, Croatia. *International Journal of Osteoarchaeology* 20:248-252.

Šikanjić Rajić P, **Vlak D** (2010) Autoimmune joint diseases in Late Medieval skeletal sample from Croatia. *Rheumatology International* 30:349-356.

Veroni A, **Nikitovic D**, Schillaci MA (2010) Sexual dimorphism of the juvenile basiocranium. *American Journal of Physical Anthropology* 141:147-151.

Roksandic M, **Vlak D**, Schillaci MA, Voicu D (2009) Applicability of tooth cementum annulation to an archaeological population. *American Journal of Physical Anthropology* 140:583-588.

Vlak D, Roksandic M, Schillaci MA (2008) Greater sciatic notch as a sex indicator in juveniles. *American Journal of Physical Anthropology* 137:309-315.

Roksandic M, Wood C, **Vlak D** (2007) Death in the line of duty: Late Medieval burials at the site of Lepenski Vir (Serbia). *International Journal of Osteoarchaeology* 17:635-642.