H122 The Use of Material Culture to Establish the Ethnic Identity of Victims in Genocide Investigations: A Validation Study From the American Southwest

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After attending this presentation, attendees will understand the potential for using clothing and personal effects to accurately categorize victims of genocide or war crimes.

This presentation will impact the forensic community by providing an accurate, independent scientific method of establishing the ethnic identity of the victims of genocide, a crucial step in the successful prosecution of genocide and war crimes charges.

Successful prosecution of genocide requires that the victims constitute one of the four groups protected under international law: national, religious, ethnic or racial. Establishing victim social identity in prior tribunals has been largely presumptive, based on untested methodology, or relied on the positive identification of victims. This paper details a validation study of one untested method: the use of material culture in establishing ethnic identity. Classes of clothing and personal effects were scored for 3,430 individuals of known White Hispanic or White non-Hispanic ancestry from the autopsy records of the Office of the Medical Investigator in New Mexico from 2002 through 2005. Only positively identified decedents over age 18 who died unnatural, unexpected deaths (homicidal and accidental manners of death) were included in the study. Excluded were those who had experienced thermal damage resulting in the destruction of clothing or artifacts or whose clothing or personal effects were removed by hospital personnel or law enforcement prior to autopsy.

Personal effects were divided into three major categories: those providing evidence of nationality or personal identification (driver's licenses or government issued documents, currency); items indicating language (non- ID documents, jewelry, prescribed medications, books) and articles suggesting religious affiliation (jewelry, icons, documents such as prayer cards).

Data were entered into an Excel spreadsheet and statistical analyses were conducted using SAS version 9.1. Categorical variables were analyzed for univariate associations using chi-square or Fisher exact tests and continuous variables were compared using t-tests.

Following preliminary analysis, a second categorical system was intro- duced that evaluated the material evidence associated with each individual in terms of its potential to establish ethnic identity. Evidence was ranked according to its relative contribution. For example, evidence of language was considered more reliable in isolation than evidence of religious affili- ation, currency or clothing styles. Multiple sources of information were considered preferable to isolated indicators. A total of 5 classes of identity potential were scored for the total sample:

1. Well-defined, multiple sources of identity. Criteria include at least one source of national identity and one indicator of language or religious affiliation.
2. Reasonable sources of identity. Criteria include either multiple sources of potential information (i.e. indicators of religious affiliation) OR a single credible source of identity (evidence of language or nationality).
3. Ambiguous evidence of identity. Clothing or personal effects were recovered but such evidence was not definitive (i.e. indicators of religion only).
4. No potential for identity. No material culture was associated with the decedent OR only a single, non- descriptive item (such as underwear) was present.
5. Investigator error. Evidence was noted as present at autopsy but was not described in sufficient detail to allow for categorization. Individuals in this category were removed from subsequent analysis.

A model was then developed to predict ethnic affiliation in unknown individuals. Based on the relative frequency of a trait within the two popu- lations, the presence of the trait was considered neutral (no significant difference between populations), or as an indicator of either Hispanic or non- Hispanic ethnicity. Blinded, breakout subsets (n=100, 50 White Hispanic, 50 White non-Hispanic) were randomly selected and the ethnicity of the indi- vidual was estimated using the evidence available. A total of 400 individuals were tested representing the following subsets: general population (drawn from potential identity classes 1 through 4); potential identity class 1 (well- defined); potential identity class 2 (reasonable); potential identity class 3 (ambiguous).

Intraobserver error tests were conducted and kappa statistics were calcu- lated to determine the reliability and reproducibility of trait scoring, classi- fication of potential identity evidence and ethnicity prediction models. A random sample of 25 individuals was re-scored and the results were compared to prior data. Kappa statistics were interpreted using the classifi- cation proposed by Landis and Koch (1977).

Statistically significant differences (all p values were less than 0.0001) were seen in evidence of language, nationality and religious affiliation between the two groups, as well as clothing types and currency. Predictive models used to estimate ethnic affinity in the random, blind subsets produced an overall accuracy of 80.5% and estimates of 61 to 98% in specific subsets.

Failure to adequately establish victim group identity has resulted in overturned verdicts. In 2006, the

International Criminal Tribunal for Rwanda was found to have erred in failing to take judicial notice of the ethnic identity of the victims. Prosecutors can no longer afford to presumptively address the victims' cultural identity in acts of genocide. This study indicates that material culture can provide reliable evidence of ethnic affinity in genocide investigations, providing forensic scientists with a means of accurately estab- lishing victim social identity.

Forensic Science, Forensic Anthropology, International Human Rights Investigation