

to them [the Hispanic community] that they're helping their own race when they're tested." As recently as September 26, 2002, the St. Petersburg Times continues the racial typing tradition by stating, "Patients usually need a donor with the same racial and ethnic background."

Human biologists are in an exceptionally good position to help clarify the actual nature of human variation distribution. We offer some suggestions on how our discipline might take an active role in educating the public through the media.

49

Migration studies in historical perspective. C G N MASCIE-TAYLOR, M A LITTLE. Cambridge University, UK and Binghamton University, SUNY.

The impact of migration is of considerable importance to a number of human biological disciplines including anthropology, demography, epidemiology and genetics. The history of human migration studies in anthropology can be traced back to the beginning of the last century.

There have been two main approaches. The first approach has examined the impact of migration in relation to changing environment and the importance of environmental plasticity. For example Fishberg reported that migrants had offspring different in stature from themselves with the differences thought to be due to improvements in the environment rather than from selection of genetically determined traits. Subsequently a number of research designs have been used ranging from Boas's simple design of sedente adults and children compared with first and second generation migrants, and Goldstein's four-fold comparison of (a) sedentes (b) their offspring in the donor country (c) migrants and (d) their foreign-born offspring in the receiving country and extension to include the comparison of sedentes with returning emigrants (Lasker) to the more sophisticated designs used by Harrison and Baker in examining altitudinal effects and changes in subsistence and life style.

The other approach has focussed on the effect of migration on gene flow. For example, the clinal variation of ABO blood groups in Europe and Australia is generally purported to result from past migration although increasing random migration for blood groups is likely to eliminate clinal variation (Mascie-Taylor and Lasker). Migration has usually been considered from a spatial (geographic) perspective but more recent studies have also investigated the impact of social or occupational movement (social mobility) alone, or in combination

with geographic migration, and tested whether such movements are selective or random for a number of biological traits.

50

Correlates of birthweight by ethnic group in the Siouland WIC program. RL MAY. Southern Oregon University, Ashland, OR.

This study was designed to compare characteristics of Hispanic and white (non-Hispanic) mothers and to test correlates of birthweight within each ethnic group. The sample was based on mothers enrolled in the Siouland WIC (Women, Infants, and Children) program (n=271). Information was copied from WIC records and included data routinely collected at clinic visits.

Maternal data included height, pre-pregnancy weight, weight gain during the most recent pregnancy, age, and monthly household income. Body mass index (BMI) was calculated based on height and pre-pregnancy weight. Infant data included birthweight, sex, and estimated gestational age. Complete data were available for 234 mothers and infants (84 Hispanic, 150 non-Hispanic white).

T-tests were used to test for ethnic differences in maternal and infant characteristics. Hispanic mothers were significantly older, gained less weight during pregnancy, and had slightly higher household incomes. Ethnic differences in birthweight and gestational age were non-significant. Multiple regression models were tested separately for each ethnic group and included maternal characteristics, infant sex, and estimated gestational age as independent variables and infant birthweight as the dependent variable. Maternal variables were recoded as dichotomous for statistical analysis. In the Hispanic group, male infants ($p < .01$) and infants of older mothers ($p < .05$) tended to be heavier. Non-Hispanic white mothers with a high BMI (greater than 30) tended to have heavier infants ($p < .01$). Future studies will test combinations of maternal factors as correlates of birthweight.

51

Acculturation, C-reactive protein, and child growth in lowland Bolivia. TW McDADE, WR LEONARD, and J BURHOP, Northwestern University, Evanston, IL, V REYES-GARCIA and V VADEZ, University of Florida, Gainesville, FL, T HUANCA, Instituto Cultural Aruwiwiri, La Paz, R GODOY, Brandeis University, Waltham, MA.

The associations between acculturation and health are mixed: a number of studies note improvements in

morbidity and mortality associated with the availability of health-related infrastructure, education, and cash incomes. Others draw attention to changing patterns of morbidity, with rising rates of stress-related, chronic degenerative, and atopic diseases, and concentrations of morbidity associated with socioeconomic stratification. We are addressing this issue in a longitudinal study of market integration and health among the Tsimane, a group of swidden horticulturalists in lowland Bolivia.

Here we examine sociodemographic and economic data from households in 12 villages—encompassing a range of exposure to opportunities for wage labor, cash cropping, and credit—in relation to levels of C-reactive protein, assayed in finger prick blood samples from 500 individuals under the age of 20. CRP results—a measure of non-specific immune/inflammatory activity—are used to identify individuals with subclinical infectious morbidity. Previous research on this population has shown that an important aspect of acculturation—Spanish language proficiency of the head of the household—was *negatively* associated with height-for-age and weight-for-age for children under 10 (Foster et al., 2001, *AJHB* 13: 120). Analysis of CRP concentration will test the hypothesis that the association between acculturation and poor child growth is mediated by infectious morbidity. Investigation of blood spot CRP will identify the cultural-ecological contexts associated with infection, and provide insight into the pathways through which these contexts impact child health and growth.

Research supported by the National Science Foundation (BCS-0134225; BCS-0078801)

52

Pedigree structure in a genetic epidemiology study of adiposity in Samoans: preliminary report. ST McGarvey, ST Roberts, KS Bergantz, Brown University, Providence, RI, P Turituri, J Tufa, Department of Health, Pago Pago, American Samoa, R Deka, University of Cincinnati, OH, DE Weeks, University of Pittsburgh, PA.

As the first part of a genetic epidemiology study of adiposity and related cardiovascular disease (CVD) risk factors among Samoans in American Samoa and independent Samoa, we report preliminary data on the pedigree structure of the American Samoan families. The overall aim of the study was to collect genotypic and phenotypic data from individuals in large pedigrees and conduct a genome wide scan to detect susceptibility loci. The fieldwork recruitment was designed to maximize the number of family members in the pedigrees. Pedigrees were unselected for adiposity or

related conditions. From February through August 2002 we recruited over 1,200 individuals from 200 households in American Samoa. Initial analysis of the pedigree data yielded 24 families including three very large families. The distribution of dyadic family relationships showed there were 756 first degree pairs, but due to the large and complex pedigrees many pairs of lesser degree relatives, e.g. over 5,000 half-sibling pairs. In combination with families recruited from Samoa, these pedigrees should provide more than sufficient power to detect linkage between adiposity phenotypes and putative susceptibility loci in the genome scan analyses. Supported by NIH Grants AG 09375, HL 52611, DK55406 and DK59642.

53

Correlations between serum hormone levels and urinary hormone values adjusted by two methods. RC MILLER, E BRINDLE, DE SCHECHTER, NA KLEIN, MR SOULES, KA O'CONNOR University of Washington, Seattle, WA 98195

Urine samples may be preferred over serum in anthropological fieldwork and population level research because frequent sampling is easy, collection is non-invasive, and the risk of disease transmission is low. Urinary hormone concentrations must be corrected for hydration status and time since last micturition. In this paper we evaluate two correction methods: creatinine (CR) and specific gravity (SG). Creatinine correction is widely used in clinical and research settings, despite being inexpedient, hazardous and costly compared to specific gravity measurement. Furthermore, creatinine excretion is not constant but varies with age, sex, body surface area, and physical activity^{1,2,3}

To test the reliability of SG as an alternative correction method, we compared SG and CR adjusted hormone values using 799 paired daily urine and serum samples collected from 30 normally cycling women across one complete menstrual cycle. The serum/urine SG-corrected correlations were compared to the serum/urine CR-corrected correlations for four different hormones (estrogen, progesterone, FSH, LH) using a bootstrap regression method.

The correlations between serum and SG corrected hormone values were high, ranging from .79 to .95. Correlations were also high for CR corrected (.81 to .96) and uncorrected urine results (.75 to .94). The 95% confidence intervals of SG and CR