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Migratory selection for inversely related covariant T-, and IQ-Nexus traits: Testing the IQ/T-Geo-Climatic-Origin theory by the General Trait Covariance model

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ABSTRACT

The IQ/T-Geo-Climatic Origin (GCO) theory admits that primordial northbound migration out of Africa increasingly demanded higher IQ and decreased aggression as temperatures sank. To organisms with a fixed intra-systemic energy budget, this meant that small-brained – High T (Lo-IQ/Hi-T)" masculine aggressive A5 males became too "expensive" in cold eco-niches, and were replaced by Low Testosterone androgyne A1 (Hi-IQ/Lo-T) light-weight males with sufficient energy for developing the large energy-greedy brain needed for survival during cold winters. The physiological re-balancing of T-Nexus and IQ-Nexus traits probably occurred during migration over the past 40,000 years.

The moderate heritability of the traits leads us to expect that rudiments of this evolutionary progression can still be identified in contemporary geographic race and androtype distributions of inversely related T- and IQ-Nexus traits. Rushton's three-racial ranking of Life History traits (Table 1 in Nyborg, this issue,) confirms this, as do analyses using the General Trait Covariance model on data for five races and pentile IQ bands.

The evolutionary progression seems time-limited, however, as recent decennia witness a decaying Western civilization.

1. Introduction

This paper presents the theory that evolutionary progression took place during primordial northbound migration out of Africa, culminating in Western democracy and civilization. To examine it, we tested a basic premise of the General Trait Covariance (GTC) model (Nyborg, 1987, 1994), and then inspected predictions of the IQ/T-Geo-Climatic Origin (GCO) theory.

2. The GTC model

Figure 1 illustrates one of several GTC models.

The model generates testable predictions about harmonized body, brain, intellectual, and personality development based on parental DNA, Testosterone/Estradiol (T/E2) balance, and experience. Optimum brain, intellectual, and personality development depends on low and balanced hormone concentrations, at the cost of sexual differentiation, in accordance with the economy principle (Nyborg, 1994). Conversely, maximum sexual differentiation accompanies high and contrasting T and E2 concentrations, respectively, at the cost of optimum intellectual and personality development – the inverse of Hi-IQ/Lo-T relationships (Nyborg, ibid). The present study focuses on the male side of the model to study evolutionary progressive diversion.

2.1. Testing inverse IQ/T-relationships

The model depicts an inverse relationship between IQ (large brains) and T(low aggression), so we first have to provide empirical support for this.

2.1.1. Data and methods

The large-scale Vietnam Era Study (VES, 1989) provides relevant data for representative groups of non-Hispanic white (N = 3654), Hispanic (N = 200), black (N = 525), Asian (34), and Native (49) middle-aged American males.

The cognitive test battery consists of 19 experimentally independent variables, highly diverse in types of abilities, information content, and cognitive skills. Five of the tests were administered at the time the subjects were inducted into the armed forces; all the others were administered approximately 17 years after induction, on average. The full battery of 19 cognitive tests is described in details by Nyborg and Jensen (2000a,b). Raw scores were subjected to Principal Component (PC) analyses to extract *g*-factor scores and then converting them to IQ metrics.

Plasma T values were determined at on average 38.1 years of age. Blood specimens were taken in the morning before breakfast,

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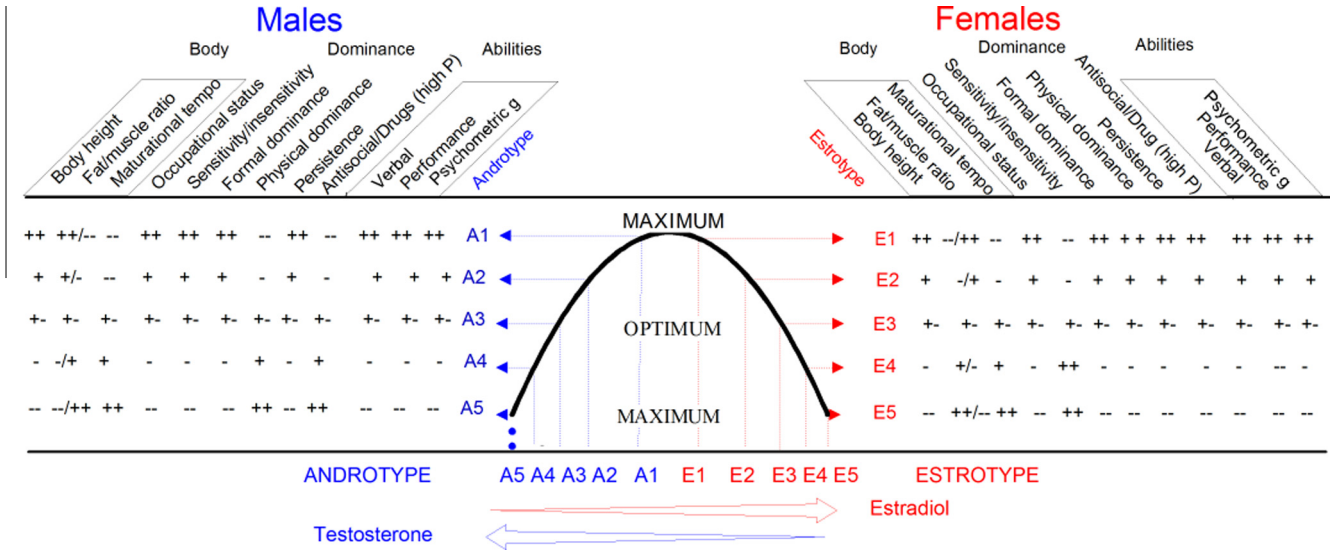

Fig. 1. The General Trait Covariance (GTC) model (Nyborg, 1987; Nyborg, 1994) for inverse relationships among General Intelligence-related traits (g-nexus traits) and Testosterone related traits (T-nexus traits) (Female side of model not considered here).

following an overnight fast commencing at 7 pm. Plasma T concentration was determined (nanograms/deciliter, or n/100 ml) using a standard double antibody radioimmunoassay system (Leeco Diagnostics, Inc.), and monitored with bench and blind repeat quality control procedures. Vietnam and Non-Vietnam veterans did not differ in T concentration, so data were pooled.

Formal education, income in 1985/86 US dollars, 14 MMPI special scale scores and 4 MMPI-derived Eysenckian personality dimensions were also noted.

2.1.2. Problem

Ellis and Nyborg (1992) previously found in the VES material that "Old" black T at age 38.1 was only 3.3% higher than non-Hispanic white T. Even if significant, the difference is small, and a previous study found that young black Americans have 19% higher T than young white males (Ross et al., 1986).

The problem is that T drops differently with age for the races. Table 1 provides racial regressions coefficients for the differential T decline with age between 31 and 49 years.

Black, Hispanic, and white T declines significantly, whereas Asian and Native T does not.

Regression coefficients were used to estimate "Young" T(25)-values from measured Old T(38.1) at mean age 38.1, using the formula in Table 2.

T(38.1) seriously underestimates race differences in T(25) – most for "southernmost" Afro-American blacks, less for "intermediate" Hispanics and "northern" whites, and least for "northernmost" Asians and their Native brothers, who later migrated to the Americas. Linear retro-estimation undoubtedly inflates T(25) values somewhat, but the actual function is not known. The North–South reference implied is based on the fact that skin reflection correlates -0.92 with IQ (Templer, in this issue).

Clearly, studies relying on T(38.1), measured few years before racial slope lines approach each other, will underestimate differences in T(25), as illustrated in Fig. 2.

Interestingly, individual differences in T are about 50% heritable (Hoekstra, Bartels, & Boomsma, 2006), but most race differences in plasma T become negligent at age 40, even if they affect health (Ellis & Nyborg, 1992) and still exist at very old age (Orwoll et al., 2006).

The small Natives and Asians samples (N = 49 and 34, respectively) compromise their IQ means, and Lynn and Vanhanen (2006) suggest that Asian mean IQ is 105. This aberration reduces the true strength of the inverse relationship between T and IQ, but both Pearson and Spearman correlations nevertheless became significant (Table 2).

Table 3 provides average T(25), T(38.1), and mean IQ, as categorized by pentile IQ bands.

T-differences are significant across pentile IQ bands.

Figure 3 shows that T(25) relates inversely and linearly to IQ, whereas T(38.1) only do so for above average IQs.

Having addressed the ***how*** question we may now proceed to examine the ***why*** and ***when*** questions of progressive differentiation in evolution.

Table 1
Regression coefficients used to define Young T values with age 25 T(25) according to the formula 1: T(25) = (age at measurement − 25) ∗ race tilt coefficient + T at time of measurement.

Race	Race regression tilt coefficients	Correlations and level	
Black	$y = 1686.89 - 26.31 * x$	$r = -0.28$ $p < 0.001$	$r^2 = 0.08$
Hispanic	$y = 1348.73 - 17.80 * x$	$r = -0.17$ $p < 0.01$	$r^2 = 0.03$
White	$y = 1243.32 - 15.16 * x$	$r = -0.16$ $p < 0.001$	$r^2 = 0.03$
Asian	$y = 1030.98 - 8.15 * x$	$r = -0.08$ n.s.	$r^2 = 0.01$
Native	$y = 817.36 - 3.78 * x$	$r = -0.05$ n.s.	$r^2 = 0.00$
All	$y = 1296.07 - 16.47 * x$	$r = -0.18$ $p < 0.001$	$r^2 = 0.03$

Note: Thomas Lill Madsen, Tryg Insurance Company, Copenhagen, kindly conceived and performed this analysis, which is gratefully acknowledged.

3. The inverse IQ/T-Geo-Climatic Origin (GCO) theory

GCO theory capitalizes on an idea recently catching momentum (e.g. Kanazava, 2008; Lynn, 1991; Lynn, 2006; Nyborg, 1987; Nyborg 1994; Nyborg, 2012; Rushton, 1995; Rushton, 2000; Templer & Arikawa, 2006) that North-bound migration out of Africa 195.000–40.000 years ago through still colder geo-climatic zones selected for large-brained individuals high in IQ and low in aggression.

3.1. ***Why?***

I previously defined the term "Universal Darwinian selection" as selection at the mass-molecular level for the most economic