

Evolutionary Psychology vs. Human Behavioral Ecology



Daly & Wilson 1999 vs. Smith, Borgerhoff Mulder & Hill 2000

Two Contrasting but (in my opinion) Complementary Evolutionary Perspectives on Human Behavior:

Evolutionary Psychology (EP) – derived from a synthesis of evolutionary biology and psychology

Human Behavioral Ecology (HBE) – derived from a synthesis of evolutionary biology and anthropology

	<i>Evolutionary Psychology</i>	<i>Human Behavioral Ecology</i>
Focus on	Universals	Variation/Diversity
Assumed Selective Environment	Environment of Evolutionary Adaptedness	Present Environment
How measure Adaptation?	Design Criteria (re EEA)	Reproductive Success or 'Fitness'
Usual study population	Modern societies	Traditional societies

Daly & Wilson 1999

True evolutionary approach “carves the psyche more nearly at its joints”.

“Freud ... never grasped the fundamental Darwinian insight that the ultimate criterion of adaptive functional organization is its contribution to fitness”.

Symons (1989): “measuring reproductive attainment [contemporaneous reproductive fitness] is **not** the test of a Darwinian approach”.

EPs accuse HBEs “of treating inclusive fitness as a **motive** or objective rather than as **the historical arbiter of the selective retention of attributes**, and thus of imagining that evolution imparts a magic ability to find the course of action that maximizes inclusive fitness even in the face of evolutionarily unforeseen challenges.”

Daly & Wilson 1999

“...dissatisfaction with the EEA concept has mostly derived from its equation with a stereotyped Pleistocene savannah. It is surely not controversial that a world with abundant refined sugar, effective oral contraceptives ... [etc etc] ... must be importantly different from that to which an evolved human nature is adapted, and the idea that mismatches between modern environments and the EEA compromise the effectiveness of human adaptations is the cornerstone of [e.g..] ‘Darwinian medicine’”

“An irony is that those who deride the EEA concept include researchers who have taken the trouble to study people in nonstate, face-to-face societies, presumably believing that such studies can afford important insights into human nature that could not be attained by studying the citizens of modern mass society”.

But is this why they study traditional societies?

Daly & Wilson 1999

“Interpretative pitfalls await those who disregard the possibility of mismatch between contemporary environments and the EEA. “

Example: Kalick et al (1998): no correlation between attractiveness at 17-18 and prior or future health status – therefore a ‘Fisher runaway’ effect, not a ‘good genes’ effect. Blinded by beauty.

But “the ancestral information value of attractiveness cues [i.e., predictive of good health in the EEA] might have been obscured by modern medicine, good nutrition, or other aspects of life in 20th-century, urban California”.

Smith, Borgerhoff Mulder & Hill 2000

Contrast Evolutionary Psychology (EP) and Human Behavioral Ecology (HBE).

To considerable extent EP and HBE are **complementary**, differing in relative emphasis placed on psychological mechanism versus manifest behavior

But they **diverge** in other, controversial ways:

1. Use of formal models and deductive theory (✓HBE)
2. Emphasis on **domain-specific cognitive algorithms** (✓EP)
3. Relationship between psychological mechanisms and observed behavior (✓EP)
4. Assertions regarding **adaptive lag** and adaption to past environments (EP↑ HBE↓)
5. Views on the **relevance of fitness measures** to analyses of contemporary behavior. (EP↓ HBE↑)

Smith, Borgerhoff Mulder & Hill 2000

1. Use of formal models and deductive theory (✓HBE)
2. Emphasis on domain-specific cognitive algorithms (✓EP)

“... fitness maximization is often a better predictor of behavioral patterns than is pursuit of any one specific goal ... presumably because nature is full of trade-offs, and organisms have evolved mechanisms to appropriately weigh different goals and currencies. While partitioning adaptive problems into discrete real-world problem domains (such as mate assessment, kin recognition, parental investment allocation, and threat and bluff) may ‘carve the psyche more nearly at its joints’, it is not at all clear how EP helps us analyze the myriad situations where these domains interact in determining adaptive payoffs”.

Need optimization and ESS models.

Smith, Borgerhoff Mulder & Hill 2000

3. Relationship between psychological mechanisms and observed behavior.

“The central problem here is that behaviour is unlikely to be a simple expression of evolved psychological mechanisms, but rather a complex outcome of interaction between such mechanisms and psychological, social and cultural dynamics”.

“In practice...the EP research strategy often ends up simply ascribing behavioural patterns, or verbal statements about preferences, to hypothesized psychological mechanisms”.

Mate choice as example: EP studies has revealed lots about “the sexual and parental cues men look for in women, and vice-versa ... [but little about] how they are used in the real world of mating markets and biological clocks”.

Smith, Borgerhoff Mulder & Hill 2000

4. Assertions regarding adaptive lag and adaption to past environments (EP↑ HBE↓)

“In practice, the evolutionary part of EP often reduces to rather vague claims about selective conditions in the EEA that may have favoured the evolution of a hypothesized psychological mechanism ... To the extent that our knowledge of the EEA remains sketchy, rigorous quantitative testing of precise selectionist hypotheses becomes virtually impossible, and the result **can easily degenerate into adaptive storytelling**”.

“In contrast, HBE researchers begin with the assumption that evolved conditional strategies, learning biases, and social information transfer **will produce adaptive outcomes, most of the time, even in relatively novel environments**.

“...pointing to the negative side of a given trade-off...does not provide valid grounds for concluding that the trait is maladaptive”

trout example

Smith, Borgerhoff Mulder & Hill 2000

5. Views on the relevance of fitness measures to analyses of contemporary behavior. (EP↓ HBE↑)

EP researchers: fitness measures are irrelevant to evolutionary analyses of current behaviour.

“...in our experience the fitness-maximization assumption usually comes closer to predicting observed behaviour than an assumption that fitness consequences are irrelevant.”

“...EP researchers are all too ready to assume that a given trait maximized fitness in the EEA (**a truly untestable assertion**) even as they find fitness measures irrelevant in the present”.