



## **Appendix B**

# **On Motivation Theory: Explorations in Evolutionary Psychology, Hormesis, and Brain Function**

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### **Abstract**

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*What motivates people? Why do they behave as they do? For that matter, why do people do anything at all? Questions like these have persisted over 100 years of psychology despite decades upon decades of research to answer them. Waves of academic thinking have addressed these issues, with each new school of thought providing different answers, at least in form if not in function. In our brief overview of motivation theory, we will emphasize commonalities in theory rather than their differences. We will then discuss evolutionary theory as an overarching, modern model of motivation — specifically, the motivations to promote one's survival and to be reproductively fit in a Darwinian sense. This discussion of evolutionary theory will be applied to human motivation and to the many ways in which people — such as ourselves — adapt in a complex world.*

# Brief Overview of Motivation Theory

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## History

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For most of psychology's (relatively brief) history, motivation theory was the bread and butter of the discipline. Elaborate theories were developed and hotly debated concerning the nature and architecture of human motivation. Starting with Freud's expansive theorizing around the turn of the century and the rise of behaviorism in American psychology, ideas about motivation were paramount. The effort was to reduce human motivation to its most basic components: sex in the case of Freud, drive and *tension-reduction* for Hull and Spence, psychological reflexes for Pavlov, and reinforcement for Skinner. All this changed with the Cognitive Revolution of the 1960s and 70s, and cognitivism remains arguably the dominant system in psychology today (although neuroscience is in the process of becoming ascendant). However, as we argue later on, cognitivism does not easily lend itself to motivation theory. Similarly, computers are powerful and flexible machines (and metaphors for mind and brain) but have no intrinsic motivation, and programming computers to effectively mimic human motivation has proven mightily difficult to do.

## Emotions or Cognitions

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In the 1980s there were heated exchanges about whether cognitions or emotions were primary. These debates seem today to have been at the same time: (1) fundamental to psychological thought, and (2) almost entirely specious. In today's brain science, we tend to think of motivation as an *emergent property* of mainly subcortical brain structures or specific neurotransmitter systems (such as dopamine). In 20 years or sooner, we will no doubt look back on this view as a quaint but necessary step in the ultimate integration of psychology with neuroscience. This integration, which has already begun but is likely to continue for decades, may render psychology a small subdiscipline of neuroscience, or irrelevant as a discipline (as many scientists now view philosophy).

## Psychodynamic Theory

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Freud viewed eros and its cousin libido (or sex drive) as the primary human motivations. This was scandalous at the time, particularly when it was applied to children's motivations (infantile sexuality) and might be today if it were not so discounted in modern thought. It has been said that Freud looked for sexual

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