



# Mindfulness of the Stone-Age Mind?

## Contrasting Evolutionary Cognitive Biases and Mindfulness in the Context of Sustainable Consumption

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## Introduction: Motivation for Research

- ▶ To gain a more complete understanding of human environmental activities, some researchers consider the biological and evolutionary roots of human behavior. The persistence of evolutionary biases makes it advisable to tap into consumers' predisposition to be guided by ultimate motives in automatic, unconscious ways. Such evolutionary-psychological perspective emphasizes that harnessing unconscious psychological biases is most effective and scalable to produce pro-environmental behavior.  
(e.g., Vugt et al. 2014)
- ▶ This perspective conflicts with a notion of mindful consumption which is premised on consciousness in thought and behavior about consequences of consumption, and posits that mindful individuals' behaviors are carefully reflected and result from a deliberate and conscious choice.  
(e.g., Rosenberg, 2004; Sheth et al., 2011)





## Introduction: Research Question



- ▶ Can “Stone Age biases” and mindfulness be aligned to better address significant social and environmental challenges?
- ▶ The goal of the current research is to integrate evolutionary-psychological perspectives of natural/biological decision-making biases and approaches for increasing mindfulness based on the proposition that both perspectives have common grounds and may complement each other.



# Theoretical Background: Evolutionary Psychology

Vugt et al. 2014, p. 3

- ▶ An evolutionary perspective to human behavior (incl. understanding of human environmental activities) is inspired by the seminal work of Charles Darwin (1871).
- ▶ An evolutionary psychological approach asserts that humans inherit brains and minds equipped to behave in ways that are adaptive—that are fitted to the demands of the environments within which their ancestors evolved.
- ▶ In particular, the human brain is designed to solve critical, recurrent problems in the ancestral world of the Pleistocene in which humans evolved. This era is commonly referred to as the Stone Age period, which occupies 99% of human evolutionary history.
- ▶ The environment in which our ancestors evolved has changed dramatically since the agricultural revolution some 11,000 years ago, which constitutes a period of less than 1% of human evolutionary history.



# “Stone Age Biases”: Role and Reasons

Vugt et al. 2014, p. 6

- ▶ Humans are navigating the modern world with “Stone Age” minds. For instance, our brains have evolved to respond adaptively to localized environmental threats that we can see or smell, such as a fire, famine, or flood, but not to global environmental changes that we cannot appreciate with our evolved sensory mechanisms.
- ▶ People are usually not aware of the deep evolutionary causes for their behavior, and the psychological tendencies that were adaptive in ancestral environments are not always adaptive in the modern world.
- ▶ An evolutionary approach is concerned about the adaptive functions of behavior: How might a given tendency have helped our ancestors survive and reproduce?



# Evolutionary Psychology Perspective: An Example

Vugt et al. 2014, p. 3

- ▶ Strategies aimed to change behavior may fail if those strategies are mismatched with our ancestral tendencies (they do not address the ultimate causes for evolutionary developments).
- ▶ Some common strategies used to reduce meat consumption may be suboptimal, because they work against our evolved psychological tendencies. In ancestral environments, just like in many traditional societies today, meat is a highly prized, high-status food because it is fatty and calorie rich, it is difficult to obtain, and it is easily shared among many families.
- ▶ As a result, our bodies and brains evolved to get an intense feeling of pleasure from eating meat, and meat eating is a highly enjoyable social affair (=ultimate causes of behavior).

Eat Less  
Meat



No one can do everything.  
Everyone can do something.  
weaddup.com

# Evolutionary Psychology Perspective: An Example

Vugt et al. 2014, p. 3

- ▶ This means that as long as it tastes good, is reasonably affordable, does not cause immediate/visible health problems, and carries social status, people will prefer meat over healthier nonmeat options.
- ▶ People could be persuaded to try out alternatives for meat if these foods look and taste meaty, and are highly socially valued.
- ▶ These strategies are already being used by the food industry:
  - vegetarian alternatives that look and taste like burgers or sausages,
  - salad dressings that make salads taste fattier and calorie rich
  - highly prized vegetarian sushi rolls as an exotic alternative to meat.



# Key Adaptive Psychological Tendencies: “Stone Age Biases”

Vugt et al. 2014, p. 9

- ▶ (1) Self-interest: narrow self-interests often prevail against the common good of the group (social dilemmas)
- ▶ (2) Shortsightedness: preference for immediate over delayed rewards (temporal discounting)
- ▶ (3) Status: concerns about relative rather than absolute status
- ▶ (4) Social imitating: propensity to do what others are doing
- ▶ (5) Sensing: tendency to disregard impalpable consequences
- ▶ These five “Stone Age” biases have been identified as having a strong influence on human decision making as they strongly impacted the survival and reproductive interests of our human ancestors, are likely to be part of an evolved human nature, are particularly relevant for environmental behaviors, and provide opportunities for sustainability interventions.



## Theoretical Background: Mindfulness

- ▶ Mindfulness is a mode of consciousness capability enhanced by actively attending to and being aware of present moment reality. Mindfulness signifies “keeping one’s consciousness alive to the present reality.” (Hanh, 1976, p.11)
- ▶ It is an innate, naturally occurring capacity that is prevalent among individuals at different degrees. (Brown and Ryan, 2004)
- ▶ Mindfulness has been found to lead to beneficial outcomes for individuals:
  - learning (Langer, 1997)
  - mental and physical health (Kabat-Zinn, 1982; Grossman et al., 2004)
  - well-being (Langer, 2002; Brown and Ryan, 2003)
  - behavioral regulation (Shapiro and Schwartz, 2000; Bishop et al., 2004)



# Mindfulness in Consumption

Rosenberg, 2004

- ▶ Mindful individuals' behaviors result from a deliberate and conscious choice after considering the consequences of consumption.
- ▶ By developing mindfulness, an individual can overcome psychological issues, such as need for fulfillment and status, or alienation and non-connectedness, thus eliminating the tendency to acquire more and more possessions to find temporary fulfillment. A mindful consumer also avoids becoming susceptible to conspicuous consumption patterns that emerge out of social comparisons with others.
- ▶ Mindful consumers may be more perceptive and open to aspects around them, which ultimately may result in compassion. Compassion in people makes them connected to their environment, community and self.



## Effects of Mindfulness in Consumption

- ▶ Mindfulness correlates with low materialistic values and placing higher value on community involvement and intrinsic personal development. (Brown and Kasser, 2005)
- ▶ By cultivating mindfulness in a consumption context, the negative effects of modern consumerism may be diminished, providing a mechanism to influence temperance behavior in different consumption patterns and potentially tackle overconsumption and its detrimental effects on consumers (e.g., depression due to overspending or materialism), and the environment (e.g., resource waste, pollution). (Rosenberg, 2004; Sheth et al., 2011)

*Buy Less*  
**CHOOSE WELL.**

*-Vivonne Westwood*

## Aligning Evolutionary Psychology and Mindfulness (?)

- ▶ Designing messages that are congruent with the Stone Age biases may be particularly effective in altering specific behaviors that revolve around habits and may require “nudging” and constant reminders (e.g., water conservation practices in households, recycling).
- ▶ Cultivating mindfulness may be more effective in creating spillover-effects between different environmental behaviors (e.g., energy conservation in general; altering purchase patterns to avoid waste; pledging) as they broaden the array of thoughts and actions that come to a person’s mind.
- ▶ Cultivating mindfulness requires (costly) intervention (e.g., meditation training), thereby reaching fewer individuals.
- ▶ However, mindful individuals may motivate others to follow their example, thus creating a trickle-down effect (social imitating and prestige bias).





## Aligning Evolutionary Psychology and Mindfulness (?)

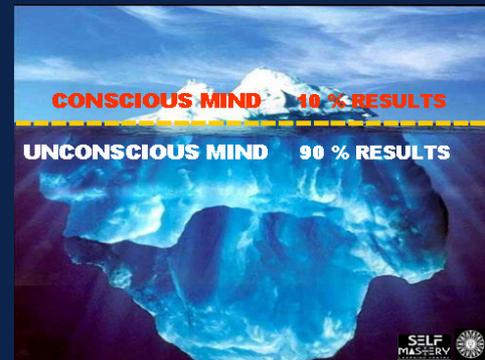


- ▶ Mindful consumers may provide good role models, have higher status within their social group, and thus be comparatively influential, leading others to imitate them.
- ▶ Research shows that generous individuals are seen as more trustworthy, are more desirable as friends, and as romantic partners; also, people who are careful in using communal resources have more social prestige than people who are wasteful. (Vugt et al., 2014; Kenrick and Griskevicius, 2013)



## Aligning Evolutionary Psychology and Mindfulness (!)

- ▶ Mindfulness is directly related to increased happiness, mental and physical wellbeing. (Carmody and Baer, 2008; Shapiro et al., 2008; Carruthers and Hood, 2011)
- ▶ From a public-policy perspective, it may be more difficult to find acceptance among policy-makers and citizens for approaches that tap the unconscious on a large scale, given wariness of manipulation and “subliminal” influence strategies.
- ▶ Also, it is important to recognize the active role of consumer-citizens in determining whether interventions based on increased mindfulness or based on unconscious biases are likely to succeed.



▲▲▲  
“Until you make the unconscious conscious, it will direct your life and  
you will call it fate.” Carl Jung  
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