Evolutionary vs. Modern Threats: A Systematic Review

Soheil Shapouri*, Leonard L. Martin*

*University of Georgia

INTRODUCTION

Stimuli in normative datasets like IAPS are typically categorized based on semantic content but some scientists think we are biologically prepared to detect, fear and avoid evolutionary threats (e.g., snakes and spiders) better than modern threats (e.g., guns).

Seligman(1971), LeDoux(2014), Öhman & Mineka(2001)

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METHOD

We searched for comparisons of evolutionary and modern threats…

…in PubMed…

PubMed

…and found 41 studies that used four different methods.

Fear conditioning	Illusory correlation
Attention bias	Physiological measures

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RESULTS

Behavioral experiments do not show strong support for biological preparedness (Seligman, 1971) or fear module theory (Öhman & Mineka, 2001)…

but…

four studies which used fMRI, EEG, cortisol level, and heart rate acceleration show evolutionary and modern threats might be processed by different neural networks.

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CONCLUSION

- ✓ Although researchers were concerned with innate vs. learned fears, infants were almost absent from this line of research.
- ✓ Pioneers made theories based on animal experiments with auditory stimuli, but most human experiments have used visual stimuli.
- ✓ Brain imaging researchers should be cautious: evolutionary and modern threatening stimuli might be processed by different brain networks.

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