

UC Merced

Proceedings of the Annual Meeting of the Cognitive Science Society

Title

The paradox of trait impressions in naturalistic contexts: rich information, sparse predictive cues

Permalink

<https://escholarship.org/uc/item/3gv2d25g>

Journal

Proceedings of the Annual Meeting of the Cognitive Science Society, 47(0)

Authors

Zheng, Ruoying

Lin, Chujun

Publication Date

2025

Copyright Information

This work is made available under the terms of a Creative Commons Attribution License, available at <https://creativecommons.org/licenses/by/4.0/>

Peer reviewed

The paradox of trait impressions in naturalistic contexts: rich information, sparse predictive cues

Ruoying Zheng

University of California San Diego, San Diego, California, United States

Chujun Lin

University of California San Diego, San Diego, California, United States

Abstract

People spontaneously infer traits that shape critical decisions. Prior research identified important impression cues across channels (face, body, clothing, environment), but often studied them in isolation. These findings may not generalize to naturalistic contexts, where people rapidly form impressions from rich, multi-channel cues. We addressed this by quantifying comprehensive cues (Study 1) and manipulating individual cues (Study 2) in everyday images using computational tools. Across two large-scale, pre-registered studies ($N = 3,004$, U.S. representative), we found that despite abundant information, only a sparse set of cues predicted impressions. These cues carried either unique information beyond other cues, shared information with other cues, or both. Many cues previously theorized as important did not explain trait impressions directly but shaped how other cues influenced judgments. We confirmed for a subset of predictions manipulating the predictive cues causally changed impressions. Our findings advance understanding of how trait impressions form in complex, naturalistic environments.