

Neural Representation of the Relational Self from Infancy to Adulthood

What is the Manuscript Microscope Sentence Audit?

The Manuscript Microscope Sentence Audit is a research paper introspection system that parses the text of your manuscript into minimal sentence components for faster, more accurate, enhanced proofreading.

Why use a Sentence Audit to proofread your manuscript?

- **Accelerated Proofreading:** Examine long technical texts in a fraction of the usual time.
- **Superior Proofreading:** Detect subtle errors that are invisible to traditional methods.
- **Focused Proofreading:** Inspect each individual sentence component in isolation.
- **Reliable Proofreading:** Ensure every single word of your manuscript is correct.
- **Easier Proofreading:** Take the hardship out of crafting academic papers.

Bonus 1: **Improved Productivity:** Rapidly refine rough drafts to polished papers.

Bonus 2: **Improved Authorship:** Cultivate a clear, concise, consistent, writing style.

Bonus 3: **Improved Reputation:** Become known for rigorously precise publications.

Manuscript Source: <https://www.biorxiv.org/content/10.1101/2021.03.21.436295v1>

Manuscript Authors: Adi Ulmer-Yaniv, Shani Waidergoren, Ariel Shaked, Roy Salomon & Ruth Feldman

Features of the Sentence Audit:

The Sentence Audit combines two complementary proofreading approaches:

1. Each sentence of your text is parsed and displayed in isolation for focused inspection.
2. Each individual sentence is further parsed into Minimal Sentence Components for a deeper review of the clarity, composition and consistency of the language you used.

The Minimal Sentence Components shown are the smallest coherent elements of each sentence of your text as derived from it's conjunctions, prepositions and selected punctuation symbols (i.e. commas, semicolons, round and square brackets).

The combined approaches ensure easier, faster, more effective proofreading.

Comments and Caveats:

- The sentence parsing is achieved using a prototype natural language processing pipeline written in Python and may include occasional errors in sentence segmentation.
- Depending on the source of the input text, the Sentence Audit may contain occasional html artefacts that are parsed as sentences (E.g. "Download figure. Open in new tab").
- Always consult the original research paper as the true reference source for the text.

Contact Information:

To get a Manuscript Microscope Sentence Audit of any other research paper, simply forward any copy of the text to John.James@OxfordResearchServices.com.

All queries, feedback or suggestions are also very welcome.

Research Paper Sections:

The sections of the research paper input text parsed in this audit.

[illegible]

Title **Neural Representation of the Relational Self from Infancy to Adulthood**

S1 [001] Abstract

S1 [002] Investigations into the neural underpinnings of the “self” highlight its complexity and multi-dimensionality and emphasize that various aspects of the self are sustained by different neural systems.

Investigations ...
... into the neural underpinnings ...
... of the “self” ...
... highlight its complexity ...
... and multi-dimensionality ...
... and emphasize ...
... that various aspects ...
... of the self are sustained ...
... by different neural systems.

S1 [003] Here, we focused on the Relational Self, a dimension denoting the self-within-attachment-relationships that taps the continuity of attachment across individual development and affiliative bonds.

Here, ...
... we focused ...
... on the Relational Self, ...
... a dimension denoting the self-within-attachment-relationships ...
... that taps the continuity ...
... of attachment ...
... across individual development ...
... and affiliative bonds.

S1 [004] Mothers and children were followed across two decades and videotaped in naturalistic interactions at three ages: infancy (3-6 months), childhood (9-12 years), and young adulthood (18-24 years).

Mothers ...
... and children were followed ...
... across two decades ...
... and videotaped ...
... in naturalistic interactions ...
... at three ages: ...
... infancy ...
... (3-6 months), ...
... childhood ...
... (9-12 years), ...
... and young adulthood ...
... (18-24 years).

- S1 [005]** During fMRI scanning, young adults were exposed to videos of their own mother-child interactions from the three ages versus matched unfamiliar interactions.
- During fMRI scanning, ...
 - ... young adults were exposed ...
 - ... to videos ...
 - ... of their own mother-child interactions ...
 - ... from the three ages versus matched unfamiliar interactions.
- S1 [006]** Relational Self-stimuli elicited greater activations across preregistered nodes of the human caregiving network, including thalamus-to-brainstem, amygdala, hippocampus, ACC, insula, and temporal cortex.
- Relational Self-stimuli elicited greater activations ...
 - ... across preregistered nodes ...
 - ... of the human caregiving network, ...
 - ... including thalamus-to-brainstem, ...
 - ... amygdala, ...
 - ... hippocampus, ...
 - ... ACC, ...
 - ... insula, ...
 - ... and temporal cortex.
- S1 [007]** Critically, Relational Self-stimuli were age-invariant in most regions of interest despite large variability of stimuli across multiple self-related features, such as similarity, temporal distance, affect, or mentalization, and Bayesian analysis indicated strong evidence for lack of age-related differences.
- Critically, ...
 - ... Relational Self-stimuli were age-invariant ...
 - ... in most regions ...
 - ... of interest ...
 - ... despite large variability ...
 - ... of stimuli ...
 - ... across multiple self-related features, ...
 - ... such as similarity, ...
 - ... temporal distance, ...
 - ... affect, ...
 - ... or mentalization, ...
 - ... and Bayesian analysis indicated strong evidence ...
 - ... for lack ...
 - ... of age-related differences.
- S1 [008]** PPI analysis demonstrated that Relational Self-stimuli elicited tighter connectivity between the ACC and insula.
- PPI analysis demonstrated ...
 - ... that Relational Self-stimuli elicited tighter connectivity ...
 - ... between the ACC ...
 - ... and insula.

S1 [009] Greater child social engagement during interaction with mother correlated with higher ACC and insula response to Relational Self-stimuli.

Greater child social engagement ...
... during interaction ...
... with mother correlated ...
... with higher ACC ...
... and insula response ...
... to Relational Self-stimuli.

S1 [010] Findings highlight an important novel dimension in the neural representation of the self, suggest that the Relational Self may be sustained by a paralimbic interface integrating exteroceptive and interoceptive self-related signals, and demonstrate overlap in the attachment network of parents and children, lending support to perspectives on the continuity of attachment and self across the individual's developmental history.

Findings highlight an important novel dimension ...
... in the neural representation ...
... of the self, ...
... suggest ...
... that the Relational Self ...
... may be sustained ...
... by a paralimbic interface integrating exteroceptive ...
... and interoceptive self-related signals, ...
... and demonstrate overlap ...
... in the attachment network ...
... of parents ...
... and children, ...
... lending support ...
... to perspectives ...
... on the continuity ...
... of attachment ...
... and self ...
... across the individual's developmental history.

S1 [011] Significance Statement

Significance Statement

S1 [012] Describing the neural underpinnings of the "self" is inherently complex due to the multi-dimensionality of the construct.

Describing the neural underpinnings ...
... of the "self" ...
... is inherently complex ...
... due to the multi-dimensionality ...
... of the construct.

S1 [013] Following mothers and children from infancy to adulthood, we focused on the Relational Self, a dimension denoting the self-within-attachment-relationships, and exposed young adults to own versus unfamiliar mother-child interactions across their relational history.

Following mothers ...
... and children ...

... from infancy ...
 ... to adulthood, ...
 ... we focused ...
 ... on the Relational Self, ...
 ... a dimension denoting the self-within-attachment-relationships, ...
 ... and exposed young adults ...
 ... to own versus unfamiliar mother-child interactions ...
 ... across their relational history.

S1 [014] Relational Self stimuli triggered greater activations in the human caregiving network, including thalamus-to-brainstem, amygdala, hippocampus, ACC, insula, and temporal cortex, were age-invariant, and elicited tighter connectivity between ACC and insula, creating a paralimbic interface of interoception-exteroception sustaining the Relational Self.

Relational Self stimuli triggered greater activations ...
 ... in the human caregiving network, ...
 ... including thalamus-to-brainstem, ...
 ... amygdala, ...
 ... hippocampus, ...
 ... ACC, ...
 ... insula, ...
 ... and temporal cortex, ...
 ... were age-invariant, ...
 ... and elicited tighter connectivity ...
 ... between ACC ...
 ... and insula, ...
 ... creating a paralimbic interface ...
 ... of interoception-exteroception sustaining the Relational Self.

S1 [015] Findings highlight a novel dimension in the neural representation of the self and lend support to perspectives emphasizing the cross-generational transmission of attachment and its continuity across the individual's developmental history.

Findings highlight a novel dimension ...
 ... in the neural representation ...
 ... of the self ...
 ... and lend support ...
 ... to perspectives emphasizing the cross-generational transmission ...
 ... of attachment ...
 ... and its continuity ...
 ... across the individual's developmental history.

S2 [016] Introduction

S2 [017] Representation of the “self” is an intriguing feature of human experience that combines the bodily (Blanke, 2012; Salomon, 2017), social (Decety and Sommerville, 2003; Yeshurun et al., 2021), and narrative (Christoff et al., 2011; Peer et al., 2015) aspects of the self and its ongoing transactions with the environment into a loosely-integrated construct (Northoff et al., 2006).

End of Sample Audit

This is a truncated Manuscript Microscope Sample Audit.

To get the full audit of this text (or any other research paper),
forward a copy of the research paper to John James at
John.James@OxfordResearchServices.com
