

Exploring the conceptual structure of Spanish Experimental Psychology

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INTRODUCTION

- Recent calls to rethink the **taxonomy of Psychology** challenge its aptness for strong theory building
- Here we present an initial exploration of the current ontological space of Experimental Psychology in Spain:
 - Are we a concept-oriented Society?
 - What are the most prominent concepts?
 - Do we rely on pre-scientific terms?
 - Limitations and potential strategies

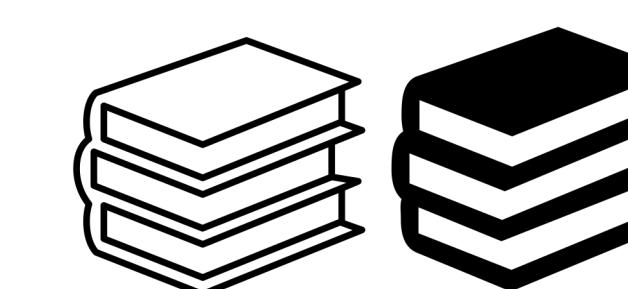
METHODS

1. Parse abstracts



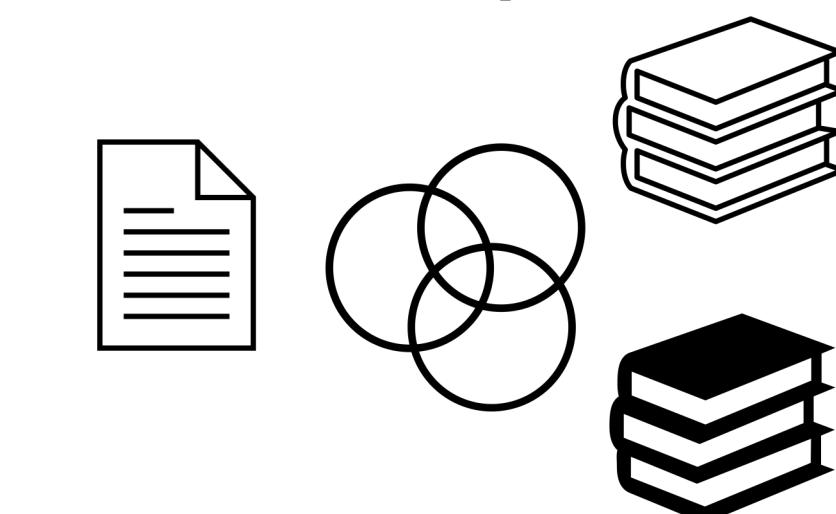
Translate to English
Remove unwanted characters
Abstracts to sentences
Sentences to words

2. Retrieve lexicons



Concepts lexicon
Tasks lexicon
Disorders lexicon
Anatomy lexicon

3. Compare

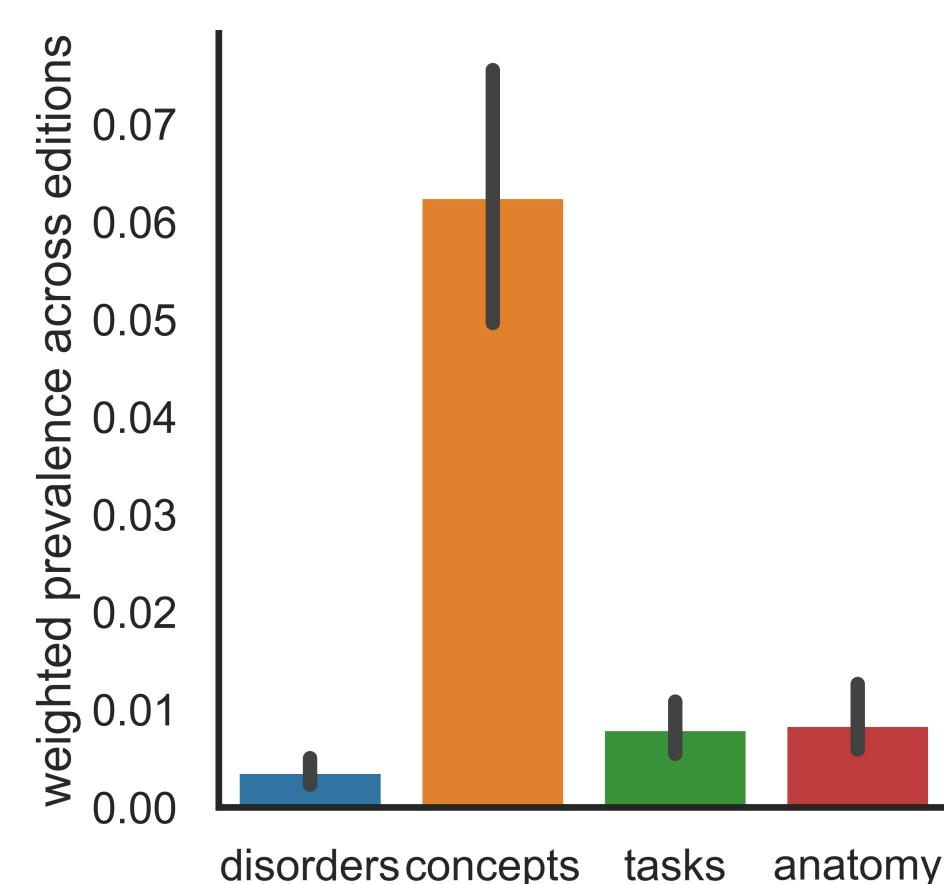


Lexicon prevalence
Concept prevalence

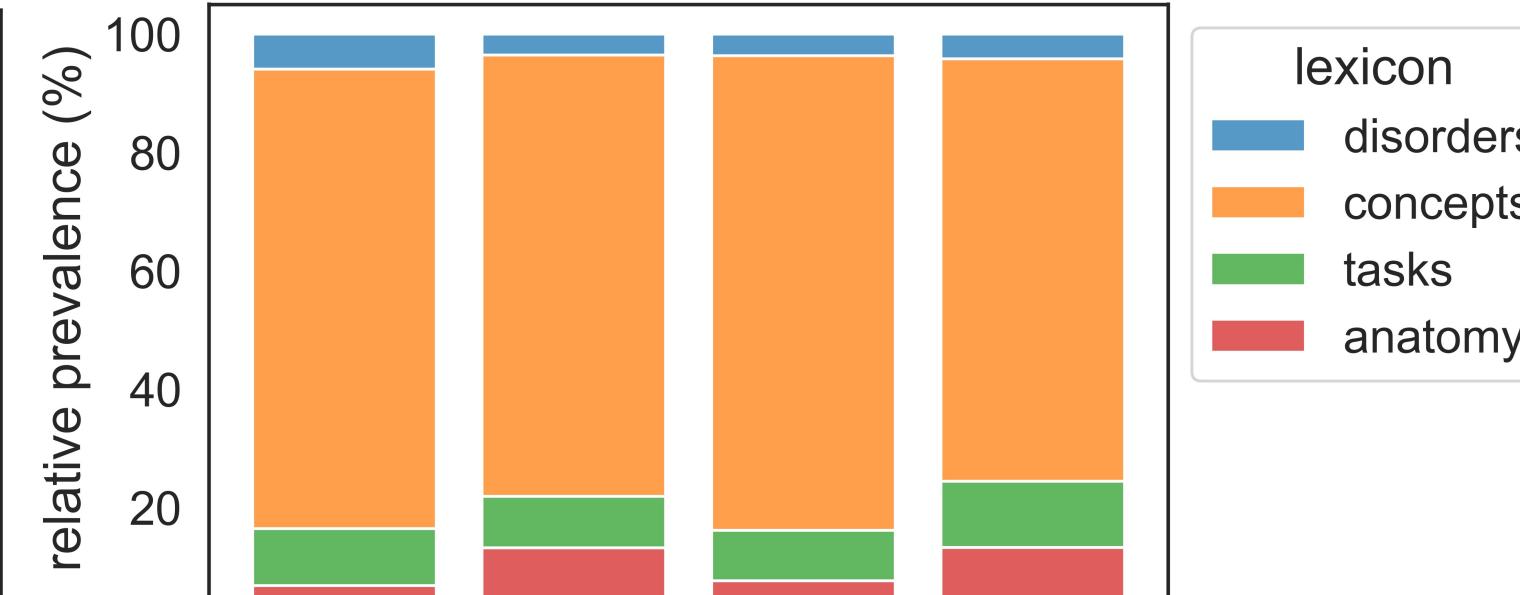
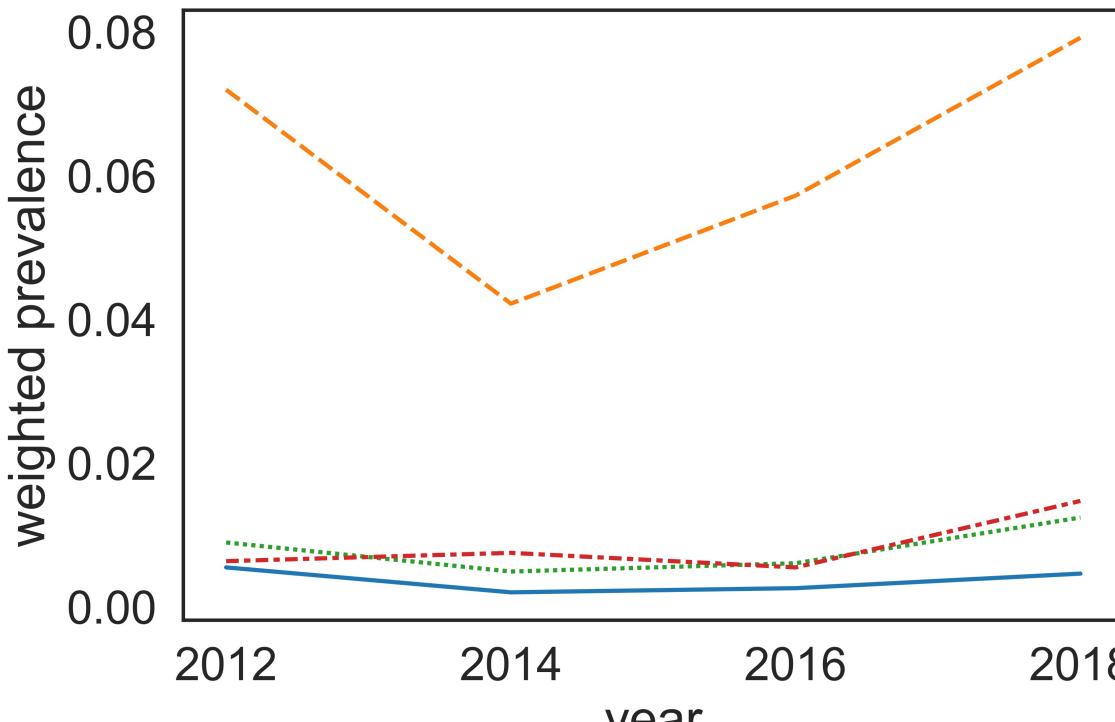
Inspired by: <http://www.russpoldrack.org/2016/04/how-folksy-is-psychology-linguistic.html>

Predominance of conceptual aspects

Prevalence across editions

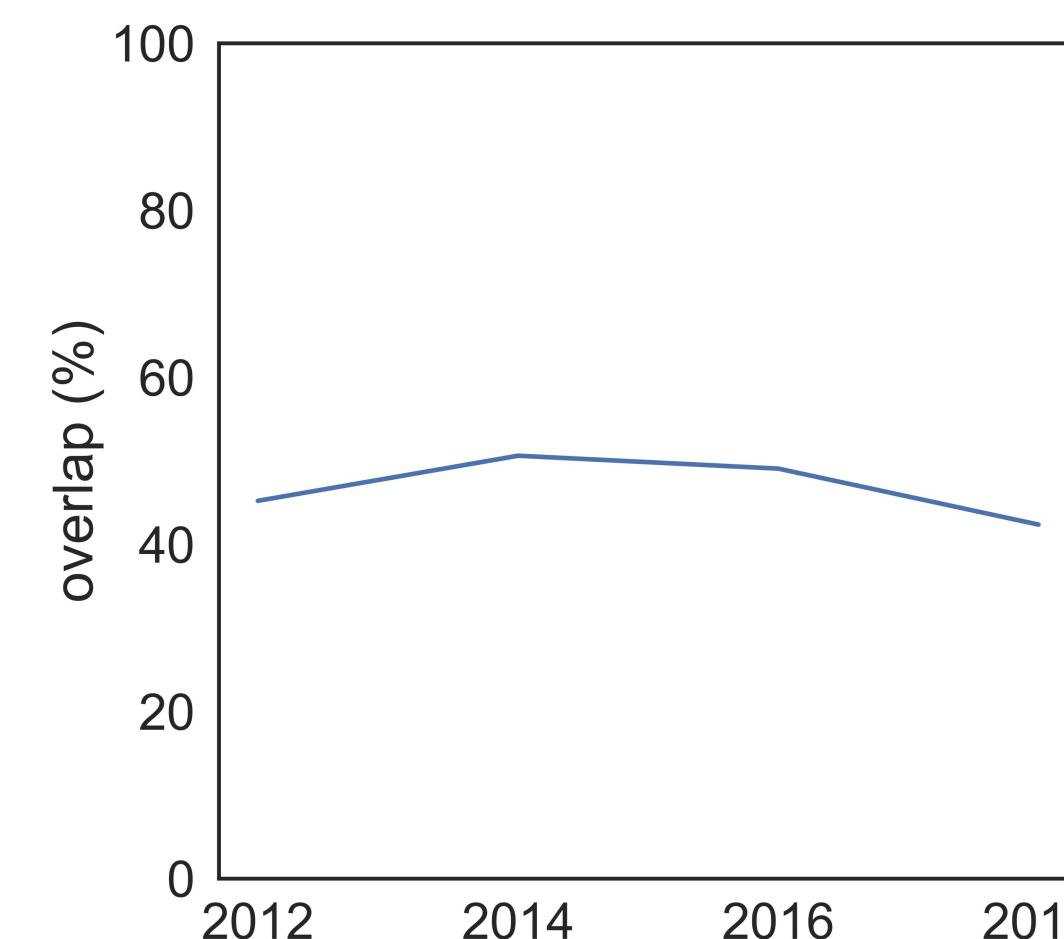


- Clear **predominance** of **cognitive concepts** over other lexicons
- Low presence** of **task, disorders** and **anatomy** concepts
- Results are not affected when considering lexicon size
- Results are overall **stable** across four editions of SEPEX meetings

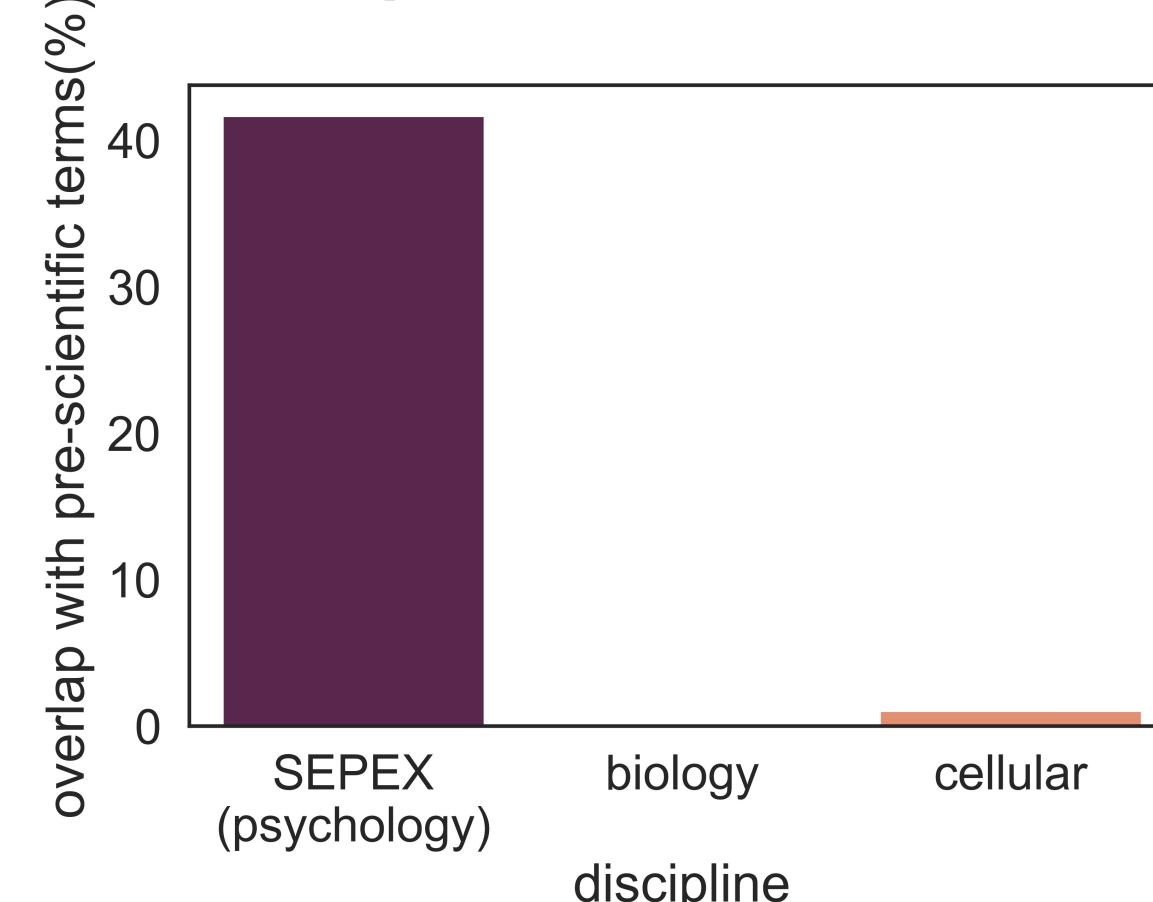


Psychological ontology relies on pre-scientific terms

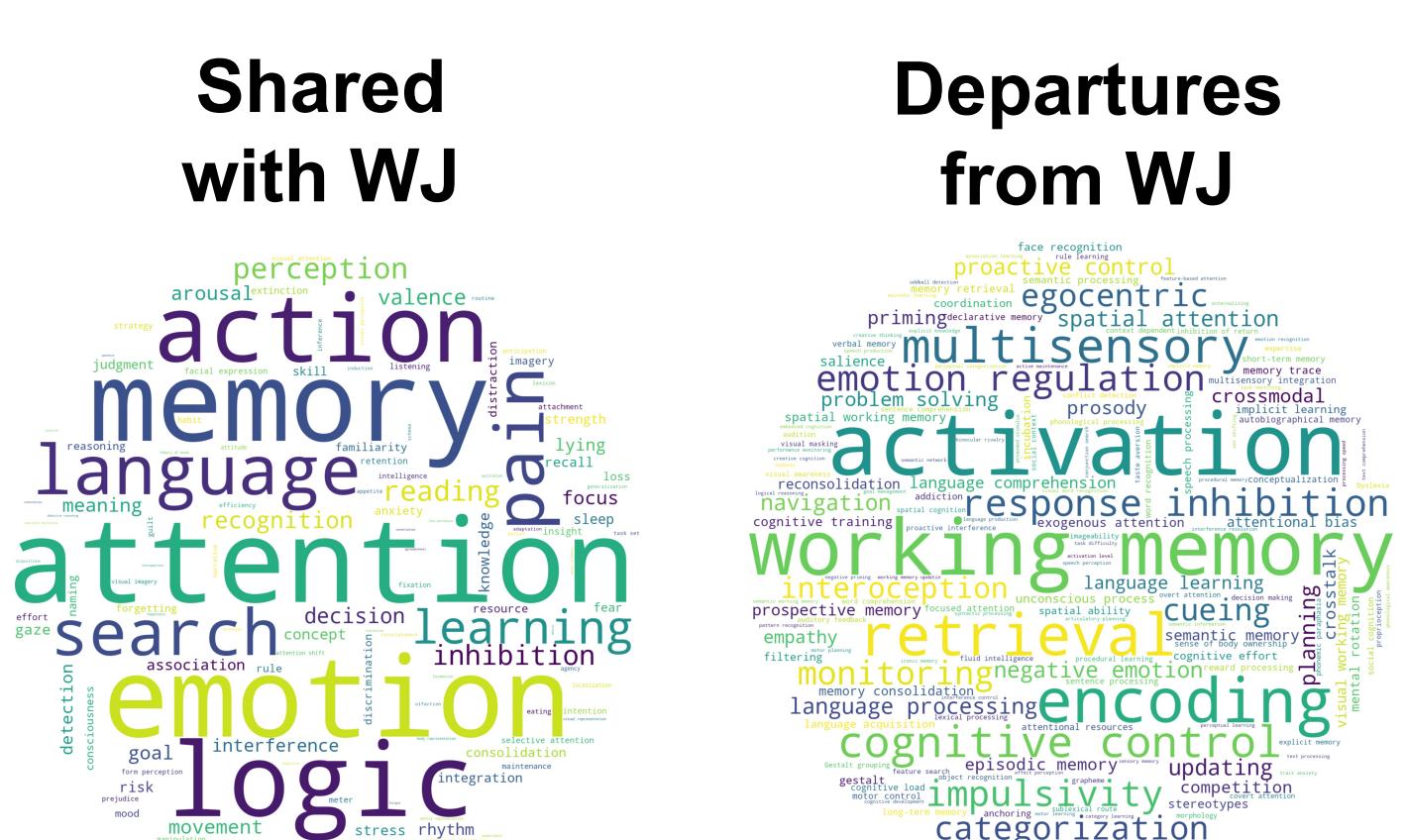
Overlap between William James and SEPEX



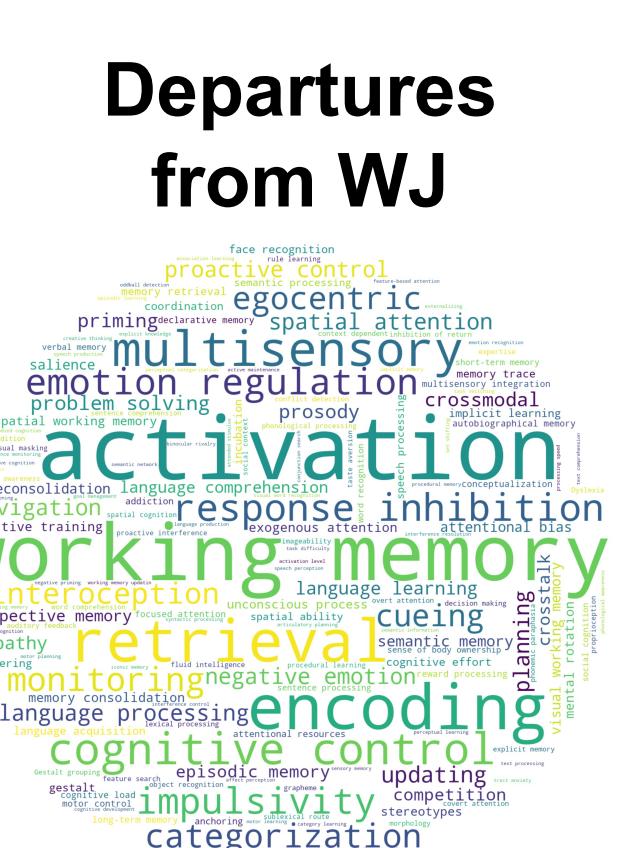
Overlap of concepts with pre-scientific texts



Shared with WJ



Departures from WJ



Feedback? Play around with the data yourself!

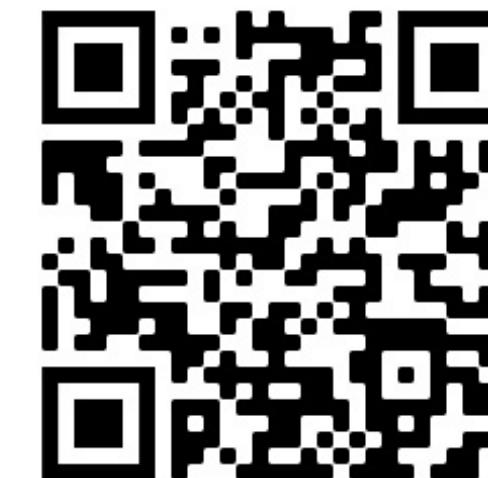
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<https://ugr.es/~cgonzalez/>

Data and code



Summary of findings

Observation	Interpretation	Potential strategies
Strong reliance on pre-scientific concepts	Lack of critical (methodological and theoretical) break-throughs	Critically examine validity of ontology
Overrepresentation of folksy terminology	Adoption of folk terminology to describe the subject of study	Operationalized definitions of constructs
Little agreement in labelling of experimental manipulations	Self-generated names biased by the researcher's own background	Adherence to community-wide conventions (http://cognitiveatlas.org/)
Little representation of concepts related to disorders and anatomy	Society focused on basic Experimental Psychology	Potentially interesting unexplored (or unexploited) research domains. New efforts to attract and foster applied science