Reviewer's report

**Title:** Psychological primitives can make sense of biopsychosocial factor complexity in psychopathology

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**Reviewer:** Kristen Lindquist

**Reviewer's report:**

This is an interesting take on psychopathology, uniting ideas from philosophy and basic psychological science. I think the approach is promising and should be pursued. That said, I have some comments to help clarify and refine the approach being offered.

The jump to theories of emotion is a bit unpredictable. The general approach being outlined has been applied to multiple areas of psychology (and biology, for that matter; this issue exists in the genome, for instance). The author might look into the cognitive ontology approach (Russ Poldrack), Michael Anderson's work on cognitive ontologies, and William Bectel's book on understanding mental mechanisms. The author also seems to be describing a particular approach—psychological constructionism or the theory of constructed emotion—and it would be useful to call that out by name for interested reviewers.

A broader point that is unclear is whether the author is specifically focusing on constructionist approaches to emotion because of their link to suicidality, or if this just happens to be a useful example of a constructionist approach in psychology.

The link to situated conceptualizations is not clear and I suspect that the naïve reader won't understand what a situated conceptualization is or where the concept came from after a broad discussion of psychological primitives. I think the broader point is that emotions can be deconstructed into constituent parts—emotions are emergent phenomena from these parts, but if we want to know how emotions develop or are altered in psychopathology, we have to study these parts, not the emergent products.

The link to suicidality is not immediately clear (except for the fact that the author studies suicidality). Why, of all the forms of psychopathology, are we focusing here on suicidality? The paper starts with a focus on psychopathology more generally. It would be helpful to have a bit more lead up to why we are focusing on this one domain.

The paragraph at the top of page 13 is really interesting and compelling—the logic that there are no small set of predictors for suicidality, that more sophisticated modeling doesn't help, that even those models, when accurate are not that accurate or reliable—really gives a sense for the complexity inherent in psychopathology. Interestingly, similar analogies exist for emotion (multivariate brain patterns can 'diagnose' emotional states, but the patterns are not super accurate nor reliable across contexts, studies, etc.). I wonder if the paper would benefit by introducing this idea first as the major stumbling block to understanding the biological basis of
suicidality. Then the author could introduce intermediate psychological primitives as a solution (relying on the parallel literature in affective science).

I was fascinated by the conclusion that suicidality is itself a situated conceptualization—but felt that this section closed too early. Is it possible for the author to give some more concrete examples of what it means for someone to make a situated conceptualization of suicide? Is there data in the literature to support this notion? Have people begun to study people's concepts of suicide, or when and how they interpret their internal states as evidence that they should commit suicide? This is a fascinating line of work but I suspect that most readers will need more grounding to really understand what is being articulated and how novel it is.

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