Reviewer’s report

Title: The living dead? Perception of persons in the unresponsive wakefulness syndrome in Germany compared to the USA

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Reviewer: Boris Kotchoubey

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A famous study of Gray et al (2011) demonstrated that US-Americans ascribe patients in UWS (syn. "vegetative state") even less cognitive facilities than to the dead. The present authors intended to replicate or to check up this result in a European (German) population. Their main result is that Germans, in contrast to Americans, ascribe UWS patients slightly MORE cognitive facilities than to the dead. Moreover, the negative correlation between religiosity and the ascribed cognitive abilities found in the original study was not replicated here.

This observation is very important from both points of view of applied medical sociology and philosophical ethics. Also the discussion of the results is clever and ingenious. Thus I strongly argue for publication of these data. However, I find that the manuscript needs further improvement.

First of all, the authors must be highly cautious in the interpretation of the obtained USA/Germany differences. The reason is simply that there are very many different aspects of the American and German cultures are histories that might, eventually, account of the differences in the relation to UWS. Although the authors discussed many of such potential factors, there are much more. One of them is the experience of the T4 action than may have made Germans particularly reluctant to value any living condition worse than the death (this hypothesis could be tested in a comparison with another European culture having no history of national socialism, e.g. in a French population). Likewise, the fact that Germans see the UWS situation as less tragic as compared with Americans may not need any deep cultural explanation in terms of Hofstede's dimensions, but simply result from different systems of health insurance in Germany and the USA.

The data clearly contradict to the interpretation that Americans ascribe less abilities to UWS than to the dead because, being (implicit) religious dualists, they ascribe more of the mind to the separated "souls" of the deceased. If the implicit dualism is the explanation, Germans would ascribe less abilities to the died than Americans do, but this is not the case: rather, Germans ascribe more abilities to UWS patients than Americans do.

Concerning the correlation between the ascribed mind and the severity of the outcome (which is negative in the American sample but positive in the German one), both directions can be justified. On the one hand, if suffering is negative, the complete loss of the mind implies the inability to suffer, and therefore a better outcome than the partial loss with retained ability to suffer. On the other hand, the entire human existence is related to suffering. Therefore, the ability
to feel anything (including suffering) means to remain a human subject, which can be regarded as a better outcome than to lose everything that makes a human. Therefore, neither positive nor negative correlation is "paradoxical"; rather, the sign of the correlation depends on the general system of values in which the two correlated variables are embedded.

If the authors discuss the issue of possible active or passive euthanasia for UWS, p.5, they should not ignore the paradox that there are actually two main arguments pro euthanasia: (i) salvation from unnecessary suffer and (ii) a patient's free will and authonomy. Since, however, properly diagnosed UWS patients per definition (i) cannot suffer and (ii) possess no authonomy, they should be - as far as our ethical decisions are rational - the LEAST eligible group for euthanasia! This obviously absurd result builds the logical basis for the contradiction discussed by the authors that UWS patients are attributed "the right to die" although (or even because) they have no rights whatsoever!

Finally, I am convinced that no contemporary discussion about the ethical aspects of UWS can be successful without taking into account breakthrough findings of T. Yu et al (2013, 2014). They found in 2013 that the MAJORITY of UWS patients (and not a single patient, which might be attributed to a diagnostic error!) respond to other people's cries of suffering, thus revealing signs of emotional empathy. They further demonstrated that UWS patient's Wernicke and Broca areas differentially respond to correct and wrong sentences (although they admit that this may not prove that patients consciously perceive the semantic inhalt of the sentences).

Minor remarks:

p.21, line 19 "participants " => "participants' "

Discussion of the differences between medical experts and laymen might profit from the comparisons with the data from many Western countries demonstrating much more negative attitudes of doctors toward active euthanasia as compared with lay population of the same countries.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

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