Author's response to reviews

Title: Spider phobia is associated with decreased left amygdala volume: a cross-sectional study

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Author's response to reviews: see over
Dear Dr. Odenwald

We thank you very much for providing us with additional insightful reviewer comments and for giving us the opportunity to submit this revised version. We considered all points rose by the reviewer 1 and have included our point-by-point responses to the reviewer’s comments. We hope that you find the revised version of the manuscript acceptable for publication in BMC Psychiatry.

Sincerely,

Melanie Fisler

Reviewer 1

We thank Reviewer 1 for her report.

Page 5: You are right that the study is not a case report, so we took this out.

Page 2/8: As the term of “within-subject factor” for the amygdala volume is a confusing terminology, it is changed it to “dependent factor”

Editor

We thank editor for the constructive comments and made the following changes:

Page x: Diagnostic Measurements

The present investigation on amygdala volume in patients with specific phobia for spider is part of a larger project evaluating the effects cortisol on the outcome of an exposure-based short-term group therapy for spider phobia. Due to possible impact of personality disorders on group therapy processes and group cohesion, all patients filled out the SKID-II to screen out possible personality accentuations. Anyhow, we did not have any hypothesis concerning personality disorders on volumetric analysis. However, this was not the case for the healthy control subjects – which was not clear in the manuscript. SCL-90-R was used as short screening to exclude Axis-I disorders in the control subjects. We did not have any hypothesis regarding personality disorders in the healthy control subjects and therefore did not assess this questionnaire. However, it is a limitation of the present study that we did not assess the same questionnaires for both groups (patients and controls). This limitation is now stated in the limitation section p 10. We further changed the section on the exclusion criteria:
Page 5: Exclusion criteria for patients were the following: any axis I other than specific phobia for spiders, axis II disorders, the manifestation of acute or chronic medical condition, neurological diseases, current drug or alcohol abuse or any contraindication to magnetic resonance imaging (metallic objects, pregnancy) or confounding factors for structural brain studies (regular medication, contraceptives, left handedness). Healthy control subjects were excluded from the study if they met any of the following exclusion criteria: axis I-disorders (measured with the SCL-90-R), the manifestation of acute or chronic medical condition, neurological diseases, current drug or alcohol abuse or any contraindication to magnetic resonance imaging (metallic objects, pregnancy) or confounding factors for structural brain studies (regular medication, contraceptives, left handedness).

Page 8: MANCOVA

It is now explicitly written that the results of amygdala volume differences were found in the MANCOVA analysis.

In the statistical section the following sentence is written: relative amygdala volume values (corrected for ICV) were used for the multifactorial ANCOVA with group as between-subject factor and left and right amygdala as the dependent factors.

In the results section the following sentence is written: Multifactorial ANCOVA of AMV, adjusted for ICV showed approximately 13% smaller AMV in patients on the left than in controls, resulting in a significant between group effect for left AMV.

Page 8: Sphericity and homogeneity of variances

The Mauchly-Test of Sphericity is now mentioned in the statistical analysis section and corrected values are reported.

Page 8: non-parametric tests

non-parametric test were used for the following variables: SPQ and STAI state pre because the equality of variance is violated. The test is reported in the statistical analysis section and the results are revised.

Page 8: regression analysis

The separate regression analyses are now mentioned explicitly in the statistical analysis section and specified in the results sections.