Reviewer's report

Title: Illicit drug use and antisocial personality traits at intake to treatment predicts cumulative retention

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Reviewer: Henning Krampe

Reviewer's report:

General remarks
After the authors performed some of the requested revisions, the paper improved considerably. However, there are still several revisions to be made. Concerning statistics, I recommend that the manuscript should definitely be reviewed by a statistician.

Major Compulsory Revisions
• Title: "Illicit drug use and antisocial personality traits at intake to treatment predicts cumulative retention"
   According to my understanding of survival analyses, it is cumulative retention probability. Maybe I am wrong; please definitely consult a statistician.

Background, page 4, paragraph 2, 3: "One potential predictor … SOC …" Sense of coherence is introduced in a quite promising way but afterwards completely dropped in the aims, methods, results. What happened?

• Background, page 4, paragraph 4: "The aim of this study …" Why are age and gender not mentioned?

• Methods, Assessments, page 7: What happened to the description of the SOC Scale?

Methods, Statistical analysis, page 9:
- It is very good to restrict the number of covariates. However, based on the literature, the selection of predictors could have been different, too, e.g. number of symptoms of avoidant PD, SOC etc. Please explain why you chose age, gender, number of drugs in urine at baseline, as well as criteria count for conduct disorder.
- Which statistical software was used for analyses?
- By the way: (1) stepwise inclusion does not have to be "statistical stepwise inclusion" One can also in a first step calculate univariate analyses, and in a second step include those covariates in the multivariate regression that exceeded in the univariate regression an a priori defined strength of association.
  (2) When I had the idea of adjusting the personality disorder counts to the maximum number of potentially reachable symptoms, I did not suggest
standardizing all predictors. There must have been a misunderstanding leading
to the worries of "meaningless comparison". As the current regression model
includes only one of the SCID-II screening modules (number of conduct disorder
symptoms) the issues seems to be solved, anyhow.

• Results, page 11, paragraph 4: "The observation period ranged from one week
to 64 months.. "

As far as I have understood survival analyses, the concept of censoring cases is
especially used in order to correct for varying follow-up times. This is why
Kaplan–Meier estimates of cumulative abstinence probabilities (or survival
probabilities) are calculated. I might be wrong. Please consult a statistical expert.

• Results, page 11, paragraph 5: Why is the effect of age not mentioned?

• Discussion, page 13, conclusion: "Patients who are not able to bring their drug
use under some degree of control before entering treatment, and patients who
experience high levels of anxiety or report many indicators of conduct disorder
before age 15 may need additional support."

To which result refers the conclusion that patients with high levels of anxiety
need additional support?

Minor Essential Revisions

• Title: "Illicit drug use and antisocial personality traits at intake to treatment
predicts cumulative retention"

Shouldn't this be "predict" instead of "predicts"?

• Abstract: "Symptoms Checklist 90 (SCL-90)": The issue is minor but still open:
correct name is 'Symptom Checklist-90-Revised (SCL-90-R)'. Please check
throughout the text.

• Methods, Assessment, page 9, SCL-90-R, AUDIT: "For the present study, only
the Global Severity Index, the mean of all scales, was used …gender-adjusted
T-scores..." This issue is also still open: Which scales are you referring to with
"all scales"? Were gender-adjusted T scores used for Cox regression analyses?
Why not using raw scores? Gender and age are analyzed as specific predictors
in this study, so why gender-adjusted T-scores should be used? The same holds
true for the AUDIT? Why using gender and age adjusted T scores when including
the variables age and gender in the analyses? For the SCID-II screening
questionnaire symptom counts, no adjustment to gender and age was performed.
Shouldn't this be consistent?

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the
statistics.
Declaration of competing interests:

I declare that I have no competing interests.