Effectiveness of Workplace Interventions for the Prevention of Alcohol Use (#112082)

1) Have any data been collected for this study already?
It's complicated. We have already collected some data but explain in Question 8 why readers may consider this a valid pre-registration nevertheless.

2) What's the main question being asked or hypothesis being tested in this study?
Previous research has pointed to the lack of quantitative evidence of the effects of workplace interventions addressing alcohol use. Therefore, we aimed at quantifying the effectiveness of these interventions by conducting a meta-analysis while expecting them to have a positive effect on alcohol use.

3) Describe the key dependent variable(s) specifying how they will be measured.
Any alcohol-related outcome was treated as possible dependent variable (i.e., quantity of drinks, frequency of drinking, binge drinking, results from established screening instruments, physical markers of alcohol consumption). A hierarchy of outcome measures was discussed within the research group for the possibility of multiple outcomes per study so that “quantity of drinks” was determined as primary outcome, “frequency of alcohol use” as secondary outcome, followed by outcomes measuring binge drinking or results of clinical screening instruments (such as Audit, CAGE etc.).

4) How many and which conditions will participants be assigned to?
Not applicable.
We are conducting a meta-analysis and not an experimental study so that we had no impact on the conditions being implemented in the primary studies.
We can however apply this section to our inclusion criteria as we only included randomized controlled trials or cluster randomized controlled trials in our analysis.

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.
We will use the data of two measurement points (pre-post or pre-follow-up, if available). We will use the standardized mean difference proposed by Morris (2008) so that effect sizes will be calculated with means and standard deviations reported in the published studies. When multiple alcohol-related outcomes are reported, we will apply a hierarchical approach with “quantity of alcohol use” being the primary outcome, “frequency of alcohol use” as secondary outcome, followed by outcomes measuring binge drinking or results of clinical screening instruments. Type of outcome measure will be furthermore considered in moderator analyses. If there are different experimental groups (parallel groups), we will split up the control group and, in consequence, treat the studies performed as independent. We will use a random effects model to calculate the overall effect. To assess between-study variance, three common estimation parameters Cochran’s Q, tau-squared, and I-squared will be used. Mixed-effects-model will be applied for potential moderator analyses using a random effects model for within subgroup and a fixed effect model for between-study analysis. Potential publication bias will be assessed via Rosenthal’s fail-safe N, funnel plot with Egger’s test and trim and fill method, as well as p-curve analysis to detect potential p-hacking.
All calculations will be made with RStudio 4.2.0.

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.
Inclusion criteria for primary studies: Universal or selective prevention programs conducted in the workplace, alcohol-related outcome, RCT or cluster RCT, published between 1995 and 2020 in German or English. Note that literature search and decision on inclusion and exclusion of the primary studies as well as coding of the study characteristics by two raters is already finished by the time of this preregistration (see question 8).
Outlier and influence analyses will be conducted in order to assess influential cases and examine the amount of heterogeneity.

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.
In total, we will include 19 Articles in the analysis, meaning 20 studies, as we will treat two parallel experimental groups as independent studies in one article (see section 5 for further information). The total sample size is N = 4,484.

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)
To date, we already completed the systematic literature search and also decided on inclusion and exclusion of the primary studies. Furthermore, the coding of study characteristics and necessary data extraction such as means, standard deviations and sample size of each study already took place. Before conducting the meta-analysis, we now aim to pre-register our methodological procedure.