Supplementary table 1: Judgment of risk of bias based on criteria included in the Cochrane Collaboration’s Risk of Bias guidelines and other methodological factors of included studies

| **Supplementary material table 1A: Attentional Bias Modification (AtBM) studies and risk of bias of single studies** |
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| **Author(s), year** | **Sample characteristics** | **# of sessions /** **setting** | **Motivation assessed / included in analyses** | **Power analysis /N achieved?** | **Randomization** **bias** | **Blinding** **bias** | **Attrition bias: Initial N / N for analyses** |
| **RCT** |  |  |  |  |  |  |  |
| Clerkin et al., 2016 | AUDClinical sampleM(a) 44.3 (10.9)41% females | 8 Lab | Not assessed | No / - | Low | Low: Double-blind | Low94/ 86 |
| den Uyl, Gladwin, Lindenmeyer et al., 2018 | AUDClinical sampleM(a) 48.6 (0.9)25% females | 4Lab | Not assessed  | No / - | Low | Low: Double-blind | Low 98 / 83 |
| Rinck et al., 2018 | AUDClinical sampleM(a) 45.8 (9.5)27% females | 6Lab (clinic) | Not assessed | Yes / No | Low | High  | Low, High1405 / 1108 / 774 / 705  |
| Schoenmakers et al., 2010 | AUDClinical sampleM(a) 45.0 (9.9)23% females | 5 Lab (clinic) | Not assessed | No / - | Low | Low: Double-blind | Low43 / 35 / 31 |
|  |  |  |  |  |  |  |  |
| **ELS** |  |  |  |  |  |  |  |
| Boendermaker et al., 2016 | HD StudentsM(a) 21.2 (1.8) (range 18-28) 71 % females | 4 Lab | Short version of the Readiness to Change Questionnaire (RCQ) / Analysis of motivation change over time | No / - | Low | Unclear | Low96 / 94 / 90 |
| Cox et al., 2015 | Harmful drinkers General populationM(a) 28.8 (14.4)52% females | 4Lab  | Readiness to change Questionnaire (RCQ) / Baseline differences between groups | No / - | Unclear | High: Single-blind | Low, High148 / 117 / 74 |
| Fadardi & Cox, 2009 | SD/HZD/HFDGeneral populationM(a) 32.6 (11.1) 48% females | 0 - 4 Lab | Readiness to Change Questionnaire (RTCQ) / Analysis of motivation change over time | No / - | (no randomi-zation) | Unclear | Low221 / 200 |
| Field & Eastwood, 2005 | Heavy social drinkersGeneral populationM(a) 22.1 (3.9)50% females | 1Lab | Not assessed | No / - | Low | Unclear | Low40 / 40 |
| Field et al., 2007 | HD General populationM(a) 23.1 (8.7)66% females | 1Lab | Not assessed | No / - | Low | Low: Double-blind | Low 60 / 59 / 59 / 59 |
| Langbridge et al., 2018 | Binge drinkersGeneral populationMedian age across all groups: 22 (aged 16-50)56% females | 1Lab | Not assessed | Yes / Yes | Unclear | Unclear | Low51 / 50 |
| Lee & Lee, 2015 | Problem drinkersStudentsM(a) 22.0 (2.6) 61% females | 1Lab | Readiness to Change Questionnaire (RTCQ) / Analysis of motivation change over time. | No / - | Low | Low: Double-blind | Low48 / 43  |
| Luehring-Jones et al., 2017 | Young adult drinkersGeneral populationM(a) 22.0 (2.2)55% females | 1Lab | Not assessed | No / - | Low | High: Single-blind | Low60 / 49-52 |
| McGeary etal., 2014 | HD StudentsM(a) 19.0 (1.1)0% females | 8 Web-based (home) | Not assessed | No / - | Low | High: Single-blind | Low41 / 39 |
| Schoenmakers et al., 2007 | HDStudentsM(a) 21.4 (2.0)0% females | 1Lab | Not assessed | No / - | Low | Unclear | Low106 / 105 / 103 |
| Wiers, Houben et al., 2015 | Problem drinkersGeneral population M(a) 47.4 (no SD)42.5% females | 4Web-based (home) | Readiness to Change Questionnaire (RTCQ) / No analysis. | No / - | Low | Unclear | Low136 / 132  |

| **Supplementary material table 1B: Approach Bias Modification (ApBM) studies and risk of bias of single studies** |
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| **Author(s), year** | **Sample characteristics** | **# of sessions / setting** | **Motivation assessed / included in analyses** | **Power analysis /N achieved?** | **Randomization** **bias** | **Blinding** **bias** | **Attrition bias: Initial N / N for analyses** |
| **RCT** |  |  |  |  |  |  |  |
| den Uyl, Gladwin, Rinck et al., 2017 | AUD Clinical sampleM(a) 47.0 (8.8)33% females | 4Lab (clinic) | Not assessed | No / - | Low | Low: Double-blind | Low100 / 91 |
| Eberl et al., 2013  | AUD Clinical sampleM(a) 46.0 (9.0)Sex ratio not reported | 12Lab (clinic)  | Not assessed | No / - | Low | Unclear | Low509 / 499 / 475 |
| Loijen et al., 2017 | AUD with alcohol-induced neuro-cognitive disordersClinical sampleM(a) 51.9 (15.6)25% females | 6Lab (clinic) | Not assessed | No / - | Unclear | Unclear | Low106 / 85 |
| Manning et al., 2016 | AUD Clinical sampleM(a) 40.049.4% females  | 4 Lab(clinic?) | Not assessed | Yes / Yes | Low | Unclear | Low87 / 83 / 71 |
| Rinck et al., 2018 | AUDClinical sampleM(a) 45.7 (9.4) 26.6% females | 6Lab (clinic) | Not assessed | Yes / No | Low | High | Low, High 1405 / 1108 / 773 /705 |
| Wiers, Eberl et al., 2011 | AUDClinical sample M(a) 45.3 (8.0)24% females | 4 Lab (clinic) | Not assessed | No / - | Low | High | Low214 / 173 / 181 |
| Gladwin et al., 2015 (re-analysis of Wiers, Eberl et al. (2011) | AUD Clinical sampleM(a) 45.3 (8.0)24% females | 4Lab (clinic)  | Not assessed | No / - | Low | High | Low214 / 184 |
| Wiers, Stelzel et al., 2015 | AUDClinical sampleM(a) 44.0 (7.6)0% females | 6Lab  | Not assessed | No / - | Low | Low: Double-blind | Low36 / 32 |
| Wiers, Ludwig, et al., 2015 (sample of Wiers, Stelzel et al. (2015))  | AUDClinical sampleM(a) 43.90% females | 6 Lab | Not assessed | No / - | Low | Low: Double-blind | Low36 / 26 |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| **ELS** |  |  |  |  |  |  |  |
| Claus et al., 2019 | HDStudentsM(a) 24.5 (2.7)31.7% females | 4 Lab | Not assessed | Yes / No  | Low | Low: Double-blind | Low91 / 79 / 70 |
| den Uyl, Gladwin, and Wiers, 2016 | HZD StudentsM(a) 21.8 (3.2)65.4% females | 3 Lab | Readiness to change questionnaire (RTCQ) / Baseline differences between groups | No / - | Low | Low: Double-blind | Low86/ 78 |
| Di Lemma & Field, 2017 | HD General populationM(a) 20.4 (2.1)71.7% females |  1Lab | Readiness to change questionnaire (RTCQ) / Baseline differences between groups | No / - | Low | High: Single-blind | Low120/ 119 |
| Hahn et al., 2019 | High risk young adults StudentsM(a) 20.0 (1.5)Approximately 66% females | 4Lab  | Not assessed  | Yes / Yes | Low | Unclear  | Low102 / 91 / 85 |
| Leemann et al., 2018 | HDGeneral Population21 – 25 years old46.4% females | 4 Lab | Not assessed  | Yes / Yes | Low | Unclear | Low72 / 69 / 68  |
| Lindgren et al., 2015  | Study 1: social drinkersStudentsM(a) 20.5 (1.4)54.6% femalesStudy 2: At-risk drinkers StudentsM(a) 20.5 (2.1)52.1% females | 2Lab  | Not assessed | No / - | Low | Unclear | Study 1: Low295 / 224Study 2: Low288 / 236 |
| Sharbanee et al., 2014 | Social drinkersStudentsM(a) 19.4 (2.1)66.2% females | 1Lab  | Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES) / Baseline differences between groups | No / - | Unclear | Unclear | Low74 / 74 |
| Wiers, Houben et al., 2015 | Problem drinkersGeneral populationM(a) 48.3 (no SD)42.5% females |  4 Web-based (home) | Readiness to Change Questionnaire (RCQ). No analysis | No / - | Low | Unclear | High314 / 136 / 109 / 87 |
| Wiers, Rinck et al., 2010 | HZDStudentsaged 18-280% females | 1Lab  | Not assessed | No / - | Low | High: Single-blind | Low42 / 41 |

| **Supplementary material table 1C: Inhibition Training (IT) studies and risk of bias of single studies** |
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| **Author(s), year** | **Sample** **characteristics** | **# of****sessions / setting** | **Motivation assessed / included in analyses** | **Power analysis /** **N achieved?** | **Randomization** **bias** | **Blinding** **bias** | **Attrition bias: Initial N / N for analyses** |
| **ELS** |  |  |  |  |  |  |  |
| Bowley et al., 2013  | (no definition)StudentsM(a) 20.8 (2.0)23.6% females | 1Lab | Not assessed | No / - | Low | Unclear | Low 66 / 59 |
| Di Lemma & Field, 2017 | HDGeneral populationM(a) 20.3 (2.0)71.7% females | 1 (+ 2 times booster training trials)Lab | Readiness to change questionnaire (RTCQ) / Baseline differences between groups | No / - | Low  | High: Single-blind | Low120 / 119 |
| Houben et al., 2011 | HDStudents M(a) 22.4 (4.9)63.5% females | 1Lab | Not assessed | No / - | Low  | Unclear | Low52 / 51 |
| Houben et al., 2012 | HD StudentsM(a) 20.9 (1.8)42.1% females | 1Lab | Not assessed | Yes / Yes | Low | Unclear | Low57 / 56 |
| Jones & Field, 2013  | Heavy social drinkers General populationM(a) 20.8 (2.7)54.4% females | 1Lab | Not assessed | No / - | Low | Unclear | Low90 / 90 |
| Jones et al., 2018 | HDGeneral populationM(a) 41.3 (11.7)47.2% females | 8-14Web-based (home)  | Assessed at post-intervention / no analysis  | Yes / Unclear | Low | Low: Double-blind | Low, High229 / 205 / 152 / 140 / 112 |
| Kilwein et al., 2017 | HDGeneral populationM(a) 22.6 (2.1)0% females | 1Lab | Not assessed | No / - | Low | High: Single-blind | Low47 / 44 |
| Liu et al., 2019 | Regular drinkersStudentsAged 18-3065% females | 1Lab | Not assessed | No / - | Low | High: Single-blind | Low88 / 81 |
| Smith et al., 2017 | Regular drinkersGeneral populationM(a) 21.7 (0.7)36.8% females | 1 Lab | Not assessed | No / - | Low | High: Single-blind | Low114 / 110 |
| Strickland et al., 2019 | AUDGeneral populationM(a): 34.3 (9.7)51.1.% females | 14Web-based (home) | Not assessed | Unclear | Low | Unclear | Low476 / 402 |

*Notes.* Whenever possible, the risk of bias according to the Cochrane Collaboration’s Risk of Bias guidelines was judged to be high, low, or unclear, with a low risk of bias being the most optimal (last three columns). Description of columns from left to right: First author(s) and year of publication; Sample composition (e.g., student sample, general population, or clinical sample; mean age (+ standard deviation) of complete sample; sex ratio (% females)); number of intervention sessions and setting (lab or web-based (i.e., home)); if motivation to change behavior was assessed and included in analyses; if power analysis was conducted prior to study onset and if so, if calculated N was achieved; randomization bias: randomized allocation to conditions; blinding bias: blinding procedure (single- or double-blind); attrition bias (initial sample size at randomization, and sample size for (sub)analyses). Abbreviations: AUD = individuals with Alcohol Use Disorders; HD = heavy drinkers; HFD = harmful drinkers; HZD = hazardous drinkers; N = number of subjects; M(a) = mean age + standard deviation of complete sample ; SD = social drinkers.