Appendix A. Search Strategy We searched the following sets of keywords:

ab(sleep\*) AND ab("self control") NOT ab(insomnia) ab(sleep\*) AND ab(impulsiv\*) NOT ab("self control") NOT ab(insomnia) ab(sleep\*) AND ab("impulse control") NOT ab(impulsiv\*) NOT ab("self control") NOT ab(insomnia) ab(sleep\*) AND ab(willpower) NOT ab("impulse control") NOT ab(impulsiv\*) NOT ab("self control") NOT ab(insomnia) ab(sleep\*) AND ab("self regulation") NOT ab(willpower) NOT ab("impulse control") NOT ab(impulsiv\*) NOT ab("self control") NOT ab(insomnia) ab(sleep\*) AND ab("self-discipline") NOT ab("self regulation") NOT ab(willpower) NOT ab("impulse control") NOT ab(impulsiv\*) NOT ab("self control") NOT ab(insomnia) ab(nap\*) AND ab("self control") NOT ab(sleep\*) NOT ab(insomnia) ab(nap\*) AND ab(impulsiv\*) NOT ab(sleep\*) NOT ab("self control") NOT ab(insomnia) ab(nap\*) AND ab("impulse control") NOT ab(impulsiv\*) NOT ab(sleep\*) NOT ab("self control") NOT ab(insomnia) ab(nap\*) AND ab(willpower) NOT ab("impulse control") NOT ab(impulsiv\*) NOT ab(sleep\*) NOT ab("self control") NOT ab(insomnia) ab(nap\*) AND ab("self regulation") NOT ab(willpower) NOT ab("impulse control") NOT ab(impulsiv\*) NOT ab(sleep\*) NOT ab("self control") NOT ab(insomnia) ab(nap\*) AND ab("self discipline") ab("self regulation") NOT ab(willpower) NOT ab("impulse control") NOT ab(impulsiv\*) NOT ab(sleep\*) NOT ab("self control") NOT ab(insomnia)

In doing so, we limited our search to the following type of documents:

Conference Papers & proceedings, Dissertations & Theses, Government & Official Publications, Reports, Scholarly Journals, Working Papers

Appendix B

Measures of Sleep and Self-Control

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Author (year), [reference number] | Sleep | Self-Control | Author (year), [reference number] | Sleep | Self-Control |
| Bagley, 2012 [40] | Bedtime - Waketime | “Thing I Do” Questionnaire | Della Porta, 2013 [54] | Daily Sleep Hours | The UPPS Impulsive Behavior Scale |
| Barber et al., 2013 [41] | Daily Sleep Hours (on average) | The Brief Self-Control Scale (BSCS) | Diestel et al., 2015 [55] | The Pittsburgh Sleep Quality Index (PSQI) | Subjects’ current experiences with resource depletion and low willpower |
| Barnes et al., 2011 [42] | Pittsburg Sleep Diary | Cognitive Fatigue Scale | Diestel et al., 2015 [55] | The Pittsburgh Sleep Quality Index (PSQI) | Subjects’ current experiences with resource depletion and low willpower |
| Barnes et al., 2011 [42] | Daily Sleep Hours | Cognitive Fatigue Scale | Doan et al., 2018 [56] | The Pittsburgh Sleep Quality Index (PSQI) | The Adult Temperament Questionnaire |
| Baumeister et al., 2019 [19] | Daily Sleep Hours | A State Ego Depletion Scale | Evans and Norbury, 2021 [57] | The Pittsburgh Sleep Quality Index (PSQI) | Barratt Impulsivity Scale (BIS-11) |
| Bernier et al., 2010 [43] | The Parent Sleep Diary | Delay of Gratification | Fairborn, 2010 [58] | Daily Sleep Hours | Subjects' ability to regulate their behavior (Weekly Basis) |
| Brunet et al., 2020 [44] | Manipulation | Iowa Gambling Task (IGT) | Fallone et al., 2001 [59] | Manipulation | The Gordon System Standard Delay Task (GDS-Delay) |
| Carleton, 2017 [45] | Pittsburg Sleep Diary | Daily ego delpletion scale | Gamaldo et al., 2020 [60] | The Pittsburgh Sleep Quality Index (PSQI) | The Big Five Inventory (BFI) |
| Cheng et al., 2020 [46] | ABCD Parent Sleep Disturbance Scale for Children (ABCD Consortium) | The Parent Child Behavior Checklist Scores | Goldschmied et al., 2015 [61] | Manipulation | The State Impulsivity Questionnaire (STIMP) |
| Choshen-Hillel et al., 2021 [47] | The Pittsburgh Sleep Quality Index (PSQI) | MOXO-Continuous Performance Test (MOXO-CPT) | Gombert et al., 2018 [62] | Pittsburg Sleep Diary | Subjects' current experiences with resource depletion |
| Christian and Ellis., 2011 [48] | Daily sleep hours | The State Self Control Capacity Scale | Goodwin et al., 2017 [63] | Daily sleep hours (Monthly Average) | Barratt Impulsivity Scale (BIS-11) |
| Christian and Ellis., 2011 [48] | Manipulation | Solving simple but tedious arithmetic problems | Gruber et al, 2012 [64] | Manipulation | Conners' Global Index Scale |
| Clifford et al., 2020 [49] | Actigraph | Temperament in Middle Childhood Questionnaire | Hisler, 2019 [65] | Actigraph | A State Ego Depletion Scale |
| Clinton et al., 2020 [50] | Pittsburg Sleep Diary | A State Ego Depletion Scale | Hisler et al., 2019 [66] | Daily Sleep Hours | The State Self Control Capacity Scale |
| Conklin, 2013 [51] | The Pittsburgh Sleep Quality Index (PSQI) | International Personality Item Pool (IPIP) | Hong et al., 2020 [67] | A scale for sleep problems | The Early Adolescent Temperament Scale |
| Danböck and Werner, 2019 [52] | The Pittsburgh Sleep Quality Index (PSQI) | The Self-Regulation Scale (REG) | Jenkins, 2005 [68] | Sleep Quality Index (SQI) | The Sixteen Personality Factor Questionnaire (16PF) |
| Demos et al., 2016 [53] | Actigraph | The Go/No-Go task | Julian et al., 2019 [69] | Bedtime - Waketime | No-Touch Cookie task |
| Jusienė and Breidokienė, 2019 [70] | The Child Behavior Checklist (CBCL) | Snack Delay and Gift Wrap task | Park et al., 2020 [83] | The Pittsburgh Sleep Quality Index (PSQI) | Barratt Impulsivity Scale (BIS-11) |
| Killgore, 2007 [16] | Manipulation | The Balloon Analog Risk Task | Przepiórka et al., 2019 [84] | The Pittsburgh Sleep Quality Index (PSQI) | The Brief Self-Control Scale (BSCS) |
| Killgore et al., 2008 [71] | Manipulation | Bar-On Emotional Quotient Inventory | Schumacher et al., 2017 [85] | Actigraph | The Go/No-Go task |
| Knapp, 2015 [72] | The Pittsburgh Sleep Quality Index (PSQI) | The Brief Self-Control Scale (BSCS) | Siebert et al., 2019 [86] | The Pittsburgh Sleep Quality Index (PSQI) | The Brief Self-Control Scale (BSCS) |
| Kroese et al., 2016 [73] | Daily Sleep Hours | The Brief Self-Control Scale (BSCS) | Siebert et al., 2019 [86] | The Pittsburgh Sleep Quality Index (PSQI) | The Brief Self-Control Scale (BSCS) |
| Kühnel et al., 2016 [74] | Pittsburg Sleep Diary | Day-specific control | van Eerde and Venus, 2018 [87] | The Pittsburgh Sleep Quality Index (PSQI) | The procrastination scale |
| Kühnel et al., 2018 [75] | Daily Sleep Hours | Day-specific availability of energy and willpower after sleep | Vazsonyi et al., 2018 [88] | Bedtime - Waketime | Low Self-Control Measure |
| Liu et al., 2018 [76] | The Pittsburgh Sleep Quality Index (PSQI) | The Self-Control Scale | Wagner et al., 2012 [89] | Actigraph | Time of engaging in distraction activities |
| Liu et al., 2020 [77] | The Pittsburgh Sleep Quality Index (PSQI) | The Self-Control Scale | Weis et al., 2015 [90] | The Pittsburgh Sleep Quality Index (PSQI) | The Impulsivity Control Scale (IS) |
| Lundwall, 2011 [78] | The degree of trouble sleeping | The Self-Regulation Questionnaire (SRQ) | Welsh et al., 2018 [91] | Manipulation | A State Ego Depletion Scale |
| Massar and Chee, 2015 [79] | Manipulation | Psychomotor Vigilance Task (PVT) | Welsh et al., 2018 [91] | A scale for sleep quality | A State Ego Depletion Scale |
| Masood et al., 2020 [80] | A scale for sleep quality | A scale for failure of self-control regarding social media | Yaugher, 2017 [92] | Actigraph | Look Away Task or Antisaccade Task |
| McGowan et al., 2020 [81] | The Pittsburgh Sleep Quality Index (PSQI) | The Continuous Performance Test (CPT) | Zhu et al., 2019 [93] | The Pittsburgh Sleep Quality Index (PSQI) | The Self-Control Scale |
| Nathanson and Beyens, 2018 [82] | The Children’s Sleep Habits Questionnaire (CSHQ) | Early Childhood Behavior Questionnaire (ECB) |  |  |  |

Appendix C

JBI Appraisal Check List for Analytical Cross-Sectional Studies

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Author, year [reference number] | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Bagley, 2012 [40] | + | + | + | . | + | + | ? | + |
| Barber et al., 2013 [41] | + | + | + | . | + | + | + | + |
| Barnes et al., 2011 [42] | + | + | + | . | + | + | + | + |
| Barnes et al., 2011 [42] | + | + | + | . | + | + | + | + |
| Baumeister et al., 2019 [19] | + | + | ? | . | + | + | + | + |
| Bernier et al., 2010 [43] | + | + | + | . | + | + | + | + |
| Carleton, 2017 [45] | ? | + | + | . | + | + | + | + |
| Cheng et al., 2020 [46] | + | + | + | . | + | + | + | + |
| Choshen-Hillel et al., 2021 [47] | + | + | + | . | + | + | + | + |
| Christian and Ellis., 2011 [48] | + | + | + | . | + | + | + | + |
| Clifford et al., 2020 [49] | + | + | + | . | + | + | + | + |
| Clinton et al., 2020 [50] | + | + | + | . | + | + | + | + |
| Conklin, 2013 [51] | + | + | + | . | + | + | + | + |
| Danböck and Werner, 2019 [52] | + | + | + | . | + | + | + | + |
| Demos et al., 2016 [53] | + | + | + | . | + | + | + | + |
| Della Porta, 2013 [54] | + | + | + | . | + | + | + | + |
| Diestel et al., 2015 [55] | + | + | + | . | + | + | + | + |
| Diestel et al., 2015 [55] | + | + | + | . | + | + | + | + |
| Doan et al., 2018 [56] | + | + | + | . | + | + | + | + |
| Evans and Norbury, 2021 [57] | + | + | + | . | + | + | + | + |
| Fairborn, 2010 [58] | + | + | ? | . | + | + | - | + |
| Gamaldo et al., 2020 [60] | + | + | + | . | + | + | + | + |
| Gombert et al., 2018 [62] | + | + | + | . | + | + | + | + |
| Goodwin et al., 2017 [63] | ? | + | + | . | + | + | + | + |
| Hisler, 2019 [65] | + | + | + | . | + | + | + | + |
| Hisler et al., 2019 [66] | + | + | + | . | + | + | + | + |
| Hong et al., 2020 [67] | + | + | + | . | + | + | + | + |
| Jenkins, 2005 [68] | + | + | ? | . | ? | ? | ? | + |
| Julian et al., 2019 [69] | + | + | + | . | + | + | + | + |
| Jusienė and Breidokienė, 2019 [70] | + | + | + | . | + | + | + | + |
| Knapp, 2015 [72] | + | + | + | . | ? | ? | + | + |
| Kroese et al., 2016 [73] | + | + | + | . | + | + | + | + |
| Kühnel et al., 2016 [74] | + | + | + | . | + | + | + | + |
| Kühnel et al., 2018 [75] | + | + | + | . | ? | ? | + | + |
| Liu et al., 2018 [76] | ? | + | + | . | + | + | + | + |
| Liu et al., 2020 [77] | + | + | + | . | ? | ? | + | + |
| Lundwall, 2011 [78] | + | + | ? | . | + | + | - | + |
| Masood et al., 2020 [80] | + | + | + | . | + | + | + | + |
| McGowan et al., 2020 [81] | + | + | + | . | + | + | + | + |
| Nathanson and Beyens, 2018 [82] | + | + | - | . | + | + | + | + |
| Park et al., 2020 [83] | + | + | + | . | ? | ? | + | + |
| Przepiórka et al., 2019 [84] | ? | + | + | . | + | + | + | + |
| Siebert et al., 2019 [86] | + | + | + | . | + | + | + | + |
| Siebert et al., 2019 [86] | + | + | + | . | + | + | + | + |
| van Eerde and Venus, 2018 [87] | ? | + | + | . | ? | ? | + | + |
| Vazsonyi et al., 2018 [88] | + | + | + | . | + | + | + | + |
| Wagner et al., 2012 [89] | + | + | + | . | + | + | + | + |
| Weis et al., 2015 [90] | ? | + | + | . | + | + | + | + |
| Welsh et al., 2018 [91] | - | + | + | . | + | + | + | + |
| Yaugher, 2017 [92] | + | + | + | . | ? | ? | + | + |
| Zhu et al., 2019 [93] | + | + | + | . | + | + | + | + |

1. Were the criteria for inclusion in the sample clearly defined?
2. Were the study subjects and the setting described in detail?
3. Was the exposure measured in a valid and reliable way?
4. Were objective, standard criteria used for measurement of the condition?
5. Were confounding factors identified?
6. Were strategies to deal with confounding factors stated?
7. Were the outcomes measured in a valid and reliable way?
8. Was appropriate statistical analysis used?

+ Yes (low risk of bias); - no (high risk of bias); ? unclear (uncertain risk of bias); . not applicable

Appendix D

JBI Appraisal Check List for Randomized Controlled Trials

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Author (year), [reference number] | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Brunet et al., 2020 [44] | + | ? | + | - | + | + | + | + | ? | + | + | + | + |
| Christian and Ellis., 2011 [48] | + | ? | + | - | - | + | + | + | ? | + | + | + | + |
| Killgore, 2007 [16] | + | ? | + | - | ? | + | + | + | ? | + | + | + | + |
| Fallone et al., 2001 [59] | + | ? | + | ? | ? | + | + | + | ? | + | + | + | + |
| Goldschmied et al., 2015 [61] | + | ? | + | ? | - | . | + | + | ? | + | + | + | + |
| Gruber et al, 2012 [64] | + | ? | + | ? | ? | + | + | ? | ? | + | + | + | + |
| Killgore et al., 2008 [71] | + | ? | + | - | + | + | + | + | ? | + | + | + | + |
| Massar and Chee, 2015 [79] | + | ? | + | - | + | + | + | + | ? | + | + | + | + |
| Schumacher et al., 2017 [85] | + | ? | + | - | - | + | + | + | ? | + | + | + | + |
| Welsh et al., 2018 [91] | + | + | + | - | - | . | + | + | ? | + | + | + | + |

1. Was true randomization used for assignment of participants to treatment groups?
2. Was allocation to treatment groups concealed?
3. Were treatment groups similar at the baseline?
4. Were participants blind to treatment assignment?
5. Were those delivering treatment blind to treatment assignment?
6. Were outcomes assessors blind to treatment assignment?
7. Were treatment groups treated identically other than the intervention of interest?
8. Was follow up complete and if not, were differences between groups in terms of their follow up adequately described and analyzed?
9. Were participants analyzed in the groups to which they were randomized?
10. Were outcomes measured in the same way for treatment groups?
11. Were outcomes measured in a reliable way?
12. Was appropriate statistical analysis used?
13. Was the trial design appropriate, and any deviations from the standard RCT design (individual randomization, parallel groups) accounted for in the conduct and analysis of the trial?

+ Yes (low risk of bias); - no (high risk of bias); ? unclear (uncertain risk of bias); . not applicable