The vicious cycle between bullying and insomnia

A systematic review and meta-analysis on reciprocal links between bullying or victimization and sleep problems in children and adolescents

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Introduction

Bullying victimization is common among children and adolescents and it is associated with various physical and psychological issues, including sleeping difficulties (Due et al., 2005). Sleeping problems may in return affect student mental health and contribute to outcomes like depression, poor school performance, obesity, or suicidal ideation (Owens, 2014). Inadequate sleep has also been associated with irritability and anger, potentially increasing the risk of reactive aggression and thus bullying others (Master et al., 2023; Krizan & Herlache, 2016). While many studies explore the link between victimization and sleep, findings on its directionality remain inconsistent. Moreover, research on how bullying others relates to sleep problems is limited.

Study aims

(1) to identify eligible literature **exploring the association between school bullying victimization or perpetration and sleep problems** among the general population.

(2) to moderate the association by **gender, age, year of publishing, reliability, retention rate, coefficient type, primary** or **secondary goal/analysis**, and in longitudinal studies also by **attrition rate, number of waves,** and **length of the study.**

Methods

Databases searched: Scopus, Web of Science core collection (WoS), and EBSCOhost (PsycArticles, PsycInfo)
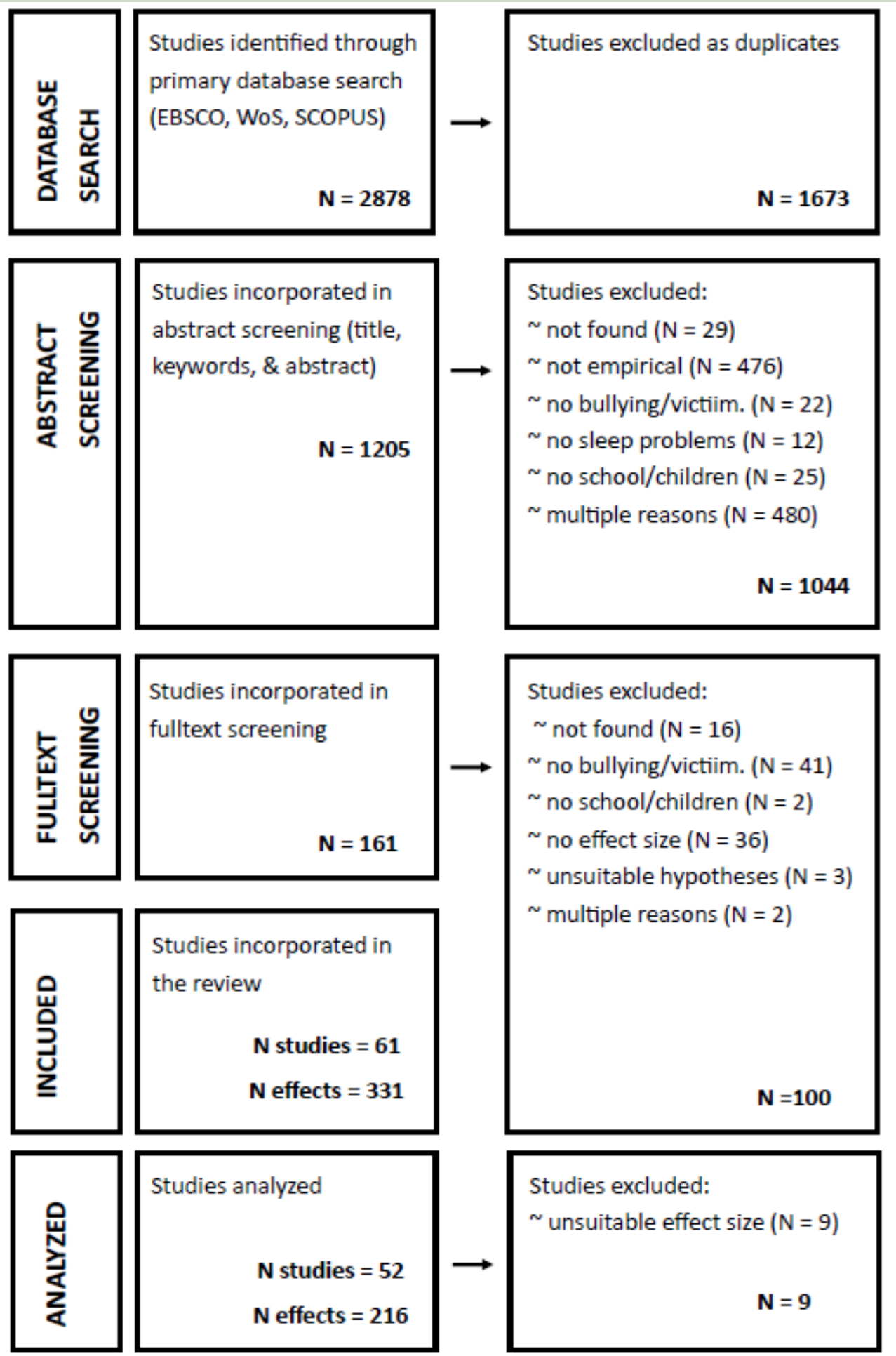
Eligibility criteria:
(1) only school bullying victimization or perpetration and sleep problems
(2) empirical studies
(3) children and adolescents (age: 6-18)
(4) English
(5) quantitative studies reporting comparable effect sizes

Methodological Quality Assesment (MQA): adapted Quality of Survey Studies in Psychology checklist (Q-SSP; Protogerou & Hagger, 2020)
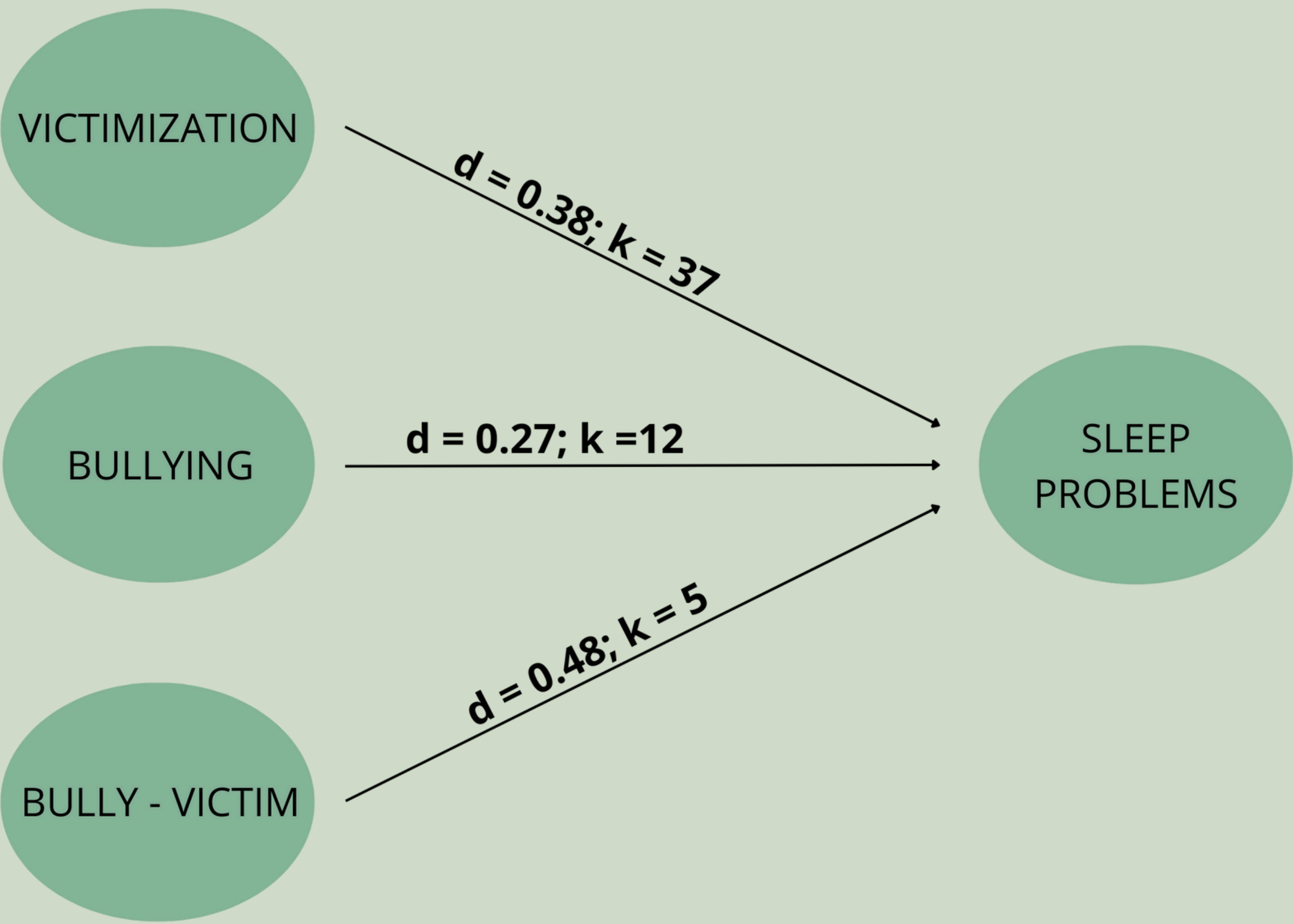
Data analysis:
- **Random-effects meta-analysis** (Borenstein et al., 2009) **using R 4.4.1** (R Core Team, 2024); one effect size per study included
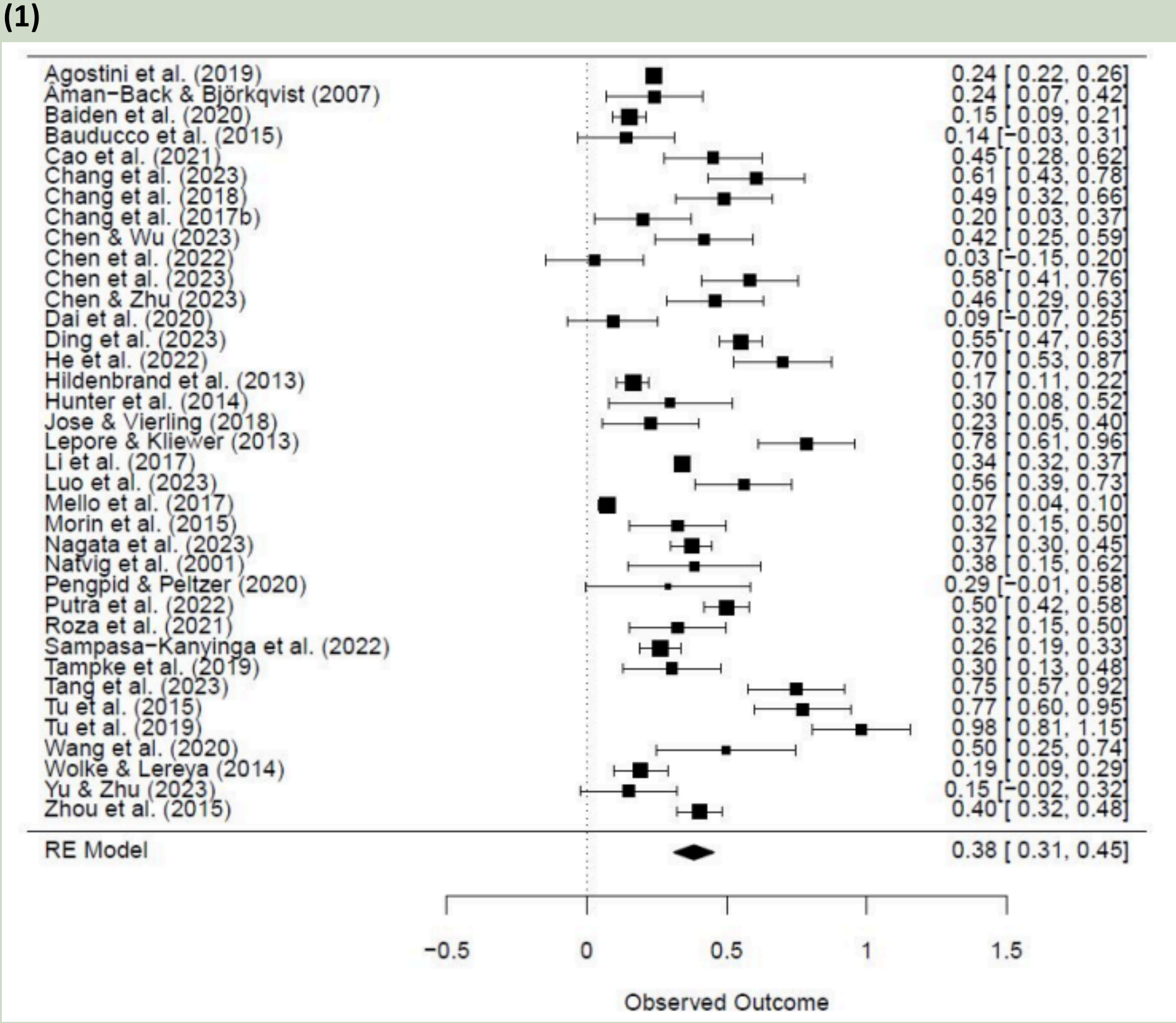
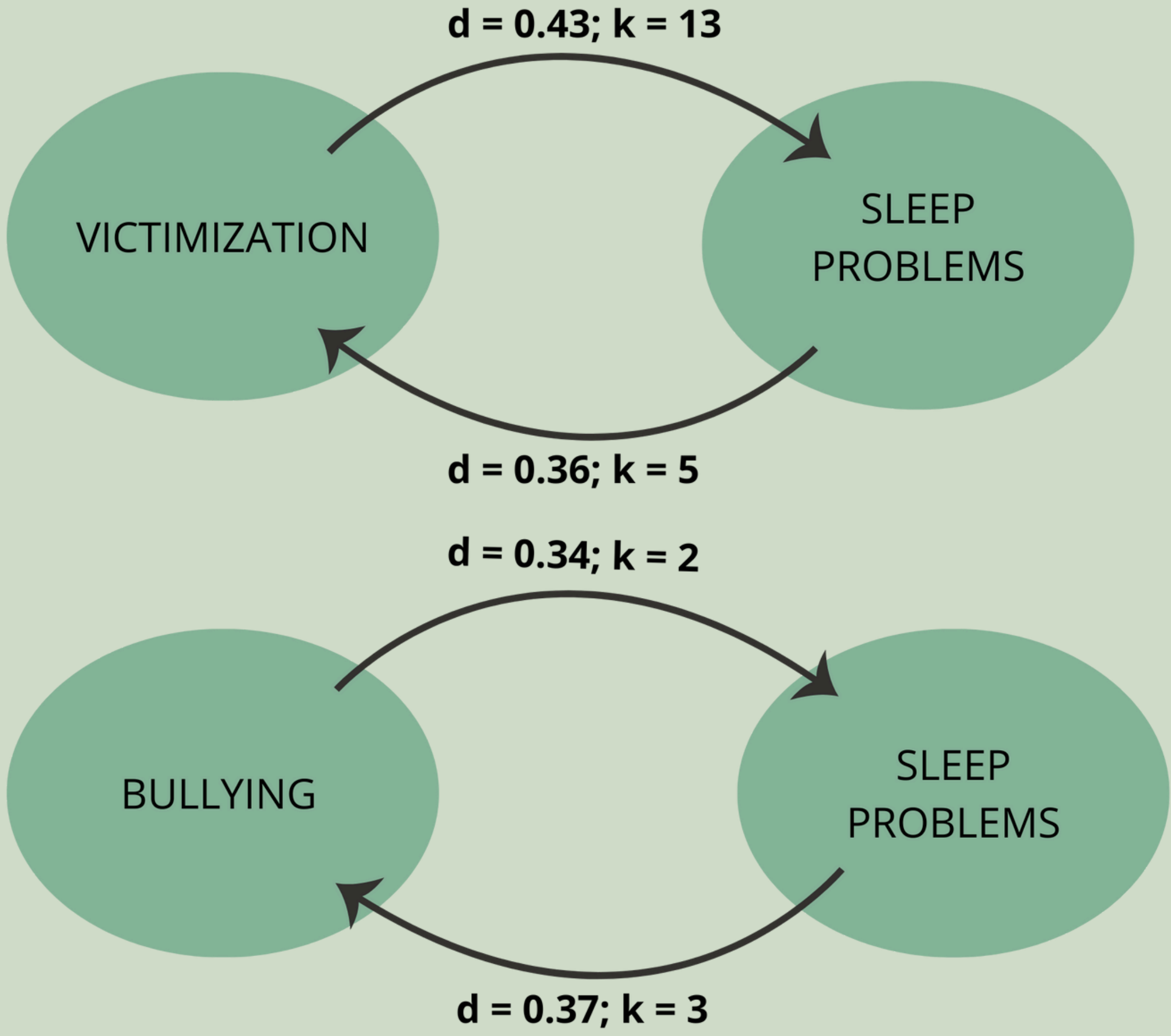

Results

Concurrent relationships

d = 0.38; k = 37

d = 0.27; k =12

d = 0.48; k = 5

VICTIMIZATION
BULLYING
BULLY - VICTIM
SLEEP PROBLEMS

Longitudinal relatipnships

d = 0.43; k = 13

d = 0.36; k = 5

VICTIMIZATION — SLEEP PROBLEMS

d = 0.34; k = 2

d = 0.37; k = 3

BULLYING — SLEEP PROBLEMS

Moderators:
- Victimization ~~ Sleep problems: **coefficient type** (k=29)
- Bullying ~~ Sleep problems: **gender distribution** (k=12); **MQA** (k=12); **internal consistency of the perpetration measure** (k=3)

Moderators:
- Victimization → Sleep problems: **mean age** of the study participants (k=12)
- Sleep problems → victimization: **overall study length** (in weeks) (k=5); **attrition rate** (k=5)

Showcase of forest plot REMM concurrent associations between bullying victimization (1); Descriptives of included studies (2)

(1)

(2)

Schools / Classes	8,588 schools; 11,841 classes
Publication Years	2001–2023 (Md= 2020)
Countries	USA (k=17), Taiwan (k=8), Brazil (k=3), Canada (k=3), UK (k=3), Norway (k=2), others (e. g. Finland, Indonesia, Lebanon, Sweden...)
Journals (Top 3)	*Sleep Health* (k=4), *Journal of Affective Disorders* (k=3), *Child Abuse & Neglect* (k=3)
Study focus	Victimization only (k=45), Perpetration only (k=2), Both (k=14)
Study design	Cross-sectional (k=41), longitudinal (k=20)
Sleep problems measurement	Self-report (k=60), parental report (k=2); teacher report (k=1); single-item measures for bedtime (k=13), single item for sleep quality (k=11); multiple-item measures created by the authors (k=3); a part of the standardized scale (k=16), the fully standardized or validated scales (k=15)
Victimization measurement	Self-report (k=56), peer report (k=1), multiple measurement (k=2); single-item measures (k=26), multiple-item measures created by the authors (k=11); a part of the standardized scale (k=15), the fully standardized or validated scales (k=7)
Perpetration measurement	Self-report (k=18), teacher report (k=1); single-item measures (k=11), multiple-item measures created by the authors (k=3); a part of the standardized scale (k=2), the fully standardized or validated scales (k=2)
MQA	M = 16.7 points (SD=3.7, Md=17; from 9 to 24 points; maximum possible value = 39)

Conclusion

- Based on cross-sectional studies, **all bullying roles** (victimization, bullying and bully-victim role) **are associated with sleep problems**
- The **strongest relationship was found between the bully-victim role and sleep problems**, suggesting that being a bully-victim may be particularly challenging
- Based on longitudinal studies, the **relationship between both bullying and victimization and sleep problems was found to be bidirectional**
- The relationship between bullying and sleep is influenced by factors such as **age, gender** and **methodological characteristics** of included studies, but this applies only to certain hypothesis
- There is a **lack of studies focusing on bully-victim role**, especially on longitudinal level

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