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Cognitive Distortions Among Child Molesters and Rapists: A Meta-Analysis

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Abstract: *Cognitive distortions are considered central to the aetiology and maintenance of sexual offending. This meta-analysis quantified differences in cognitive distortions between sexual offenders (individuals who committed sexual offences against children and individuals who committed rape) and non-offending controls. Following the PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, we systematically searched Scopus, PubMed, and Web of Science. Of 191 records, 9 studies (16 independent comparisons) met the inclusion criteria. Random-effects meta-analyses, with Hedges' g as the effect size, were conducted separately for individuals who committed sexual offences against children(k = 12) and individuals who committed rape (k = 4); study quality was appraised using the adapted Newcastle–Ottawa Scale. Child molesters showed markedly higher levels of cognitive distortions than controls, with negligible heterogeneity. Rapists also exhibited significantly elevated cognitive distortions, accompanied by moderate heterogeneity; however, these estimates were derived from only two primary studies and should therefore be interpreted with caution. The combined analysis across all sexual offenders yielded a large overall effect, and publication bias appeared minimal for child-molester samples. These findings outline the robustness and magnitude of offense-supportive cognition in sexual offenders and support its central role in aetiological models, risk assessment, and treatment planning. This meta-analysis is the first to integrate explicit and implicit measures across offender subtypes within a unified analytic framework and to quantify the consistency of effects using contemporary heterogeneity and bias metrics.*

Keywords: *sexual offenders; cognitive distortions; individuals who sexually offended against children; individuals who committed rape; meta-analysis; implicit theories.*

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1. Introduction

Sexual offending represents a profound public health crisis and a criminal justice challenge with devastating consequences for victims, families, and communities worldwide (Hanson & Morton-Bourgon, 2005; Ward & Beech, 2006). The prevalence of sexual victimisation remains alarmingly high: epidemiological studies estimate that approximately 1 in 5 women and 1 in 71 men experience rape or attempted rape during their lifetime (Smith et al., 2018), while child sexual abuse affects an estimated 18% of girls and 7.6% of boys before the age of 18 (Pereda et al., 2009; Stoltenborgh et al., 2011). The psychological, physical, and economic consequences of sexual violence are substantial, with lifetime costs per victim exceeding $122,000 in the United States alone (Peterson et al., 2017). Recognizing these impacts, the World Health Organization identifies sexual violence as a major global public health problem affecting individuals across diverse cultures and socio-economic contexts (WHO, 2002).

Understanding the psychological mechanisms underlying sexual offending behaviour is essential for developing effective prevention, assessment, and treatment strategies (Ward & Beech, 2006; Marshall & Barbaree, 1990). Among the psychological factors implicated in sexual offending, cognitive distortions have been consistently identified as a key feature distinguishing sexual offenders from non-offending populations (Abel, Becker, & Cunningham-Rathner, 1984; Murphy, 1990; Bumby, 1996; Ward et al., 1997; Gannon & Polaschek, 2006). Cognitive distortions refer to beliefs, attitudes, and rationalisations that offenders use to justify, minimise, or deny sexually abusive behaviour (Abel, Becker, &Cunningham-Rathner, 1984; Abel et al, 1989; Maruna & Mann, 2006). These cognitions may facilitate offending by overcoming internal inhibitions, maintaining positive self-perceptions despite harmful behaviour, and enabling the continuation of offending patterns over time (Ward, 2000; Maletzky & Steinhauser, 2002).

1.1. Defining Sexual Offenders

Sexual offenders are individuals who commit sexual acts that violate criminal law and involve non-consensual sexual contact, exploitation, or abuse of another person (Laws & O'Donohue, 2008; Knight & Prentky, 1990). This broad category includes diverse forms of sexual offending that vary in victim characteristics, offence patterns, motivations, and developmental pathways (Robertiello & Terry, 2007; Salter et al., 2003). From a legal perspective, sexual offences include behaviours such as rape, sexual assault, child molestation, exhibitionism, voyeurism, and other forms of sexual exploitation (Marshall et al., 2006). In forensic psychology, these behaviours are understood as patterns of sexually deviant conduct that violate legal norms and the fundamental rights of victims to bodily autonomy and sexual self-determination (Ward & Siegert, 2002).

In the present article, terms such as “child molesters” and “rapists” are used to reflect terminology commonly employed in the scientific literature on sexual offending. These labels refer to individuals convicted of specific categories of sexual offences and are used for descriptive purposes only, without implying moral judgement.

1.2. Offender Subtypes: Child Molesters and Rapists

Research has shown that sexual offenders represent a heterogeneous population, leading to the development of multiple classification systems based on victim characteristics, offence patterns, and motivational factors (Robertiello & Terry, 2007; Salter et al., 2003; Seto, 2008). Among these groups, child molesters and rapists have received the greatest empirical attention.

Child molesters are individuals who engage in sexual activity with prepubescent children, typically defined as children under the age of 13 (Abel, Becker, & Cunningham-Rathner, 1984; Finkelhor, 1984). This category has been extensively studied because of the profound developmental harm associated with child sexual abuse, including post-traumatic stress disorder, depression, anxiety, and long-term interpersonal difficulties (Putnam, 2003; Maniglio, 2009; Paolucci, Genuis, & Violato, 2001; Williams & Finkelhor, 1990). Research suggests that individuals who commit child sexual abuse often endorse cognitive distortions that minimise harm, attribute

responsibility to victims, or reinterpret abusive behaviour as consensual or beneficial (Matetzky & Steinhauser, 2002; Abbey et al, 2001).

Rapists, in contrast, commit sexual assaults against post-pubertal adolescents or adults through force, threat, or other forms of coercion that negate the victim's capacity to consent (Stemple & Meyer, 2014; Kilpatrick et al, 2007).

Although women constitute the majority of victims, male victimization has also been increasingly documented (Kilpatrick et al, 1992). Rapists frequently endorse cognitive distortions associated with rape myth acceptance, adversarial sexual beliefs, hostility towards women, and beliefs regarding male sexual entitlement (Polaschek & Ward, 2002; Gannon, Ward, & Collie, 2007).

1.3. Rationale for Focusing on Child Molesters and Rapists

Despite the diversity of sexual offending behaviours, the present meta-analysis focuses specifically on child molesters and rapists for several reasons.

First, these forms of sexual offending represent the most prevalent and harmful categories, accounting for a substantial proportion of sexual offence cases and producing severe psychological and social consequences for victims (Hanson & Morton-Bourgon, 2005; Ward & Beech, 2006; Smith et al., 2018; Pereda et al., 2009). Second, previous research suggests that these offender groups exhibit distinct patterns of cognitive distortions related to their victim selection processes and offence dynamics (Maletzky & Steinhauser, 2002; Gannon, Ward, & Collie, 2007). Third, empirical research on cognitive distortions is more extensive for these populations than for other sexual offender subtypes, allowing meaningful quantitative synthesis (Mercado, Alvarez, & Levenson, 2008). Finally, both groups represent primary targets of specialised sexual offender treatment programmes and forensic risk assessment protocols (Hanson & Morton-Bourgon, 2005; Beck, 1967).

1.4. Cognitive Distortions in Sexual Offending

Cognitive distortions are widely considered a central feature of sexual offending, serving to facilitate offending behaviour and maintain self-justification (Abel, Becker, & Cunningham-Rathner, 1984; Maletzky & Steinhauser, 2002). These distorted beliefs may operate at multiple stages of the offending process, including the justification of abusive intentions, reinterpretation of victim responses, and post-offence rationalisation (Gannon & Polaschek, 2006; Ward, 2000).

One influential framework is Ward and Keenan's implicit theories model, which proposes that cognitive distortions reflect deeper belief systems that shape how offenders interpret social information and justify behaviour (Maletzky & Steinhauser, 2002). In individuals who sexually abuse children, these implicit theories may involve beliefs about children as sexual beings, entitlement to sexual access, perceptions of the world as hostile, perceived uncontrollability of sexual urges, and denial or minimisation of harm.

Additional theoretical perspectives emphasise the role of maladaptive schemas and cognitive processing biases in sexual offending. Schema theory suggests that distorted beliefs develop through adverse developmental experiences and influence attention, interpretation, and memory processes (Mann & Beech, 2003; Gannon et al., 2007; Mihailides, Devilly, & Ward, 2004). The judgement model proposed by Maruna and Mann (2006) further distinguishes between stable offence-supportive attitudes and post-hoc justifications that reduce cognitive dissonance after offending.

More integrative theoretical accounts, such as Marshall and Barbaree's integrated theory of sexual offending, propose that cognitive distortions emerge through interactions among biological factors, developmental experiences, and socio-cultural influences (Marshall & Barbaree, 1990).

1.5. Measurement of Cognitive Distortions

Cognitive distortions in sexual offenders are typically assessed using either explicit or implicit assessment approaches.

Explicit measures rely on self-report questionnaires that directly assess beliefs and attitudes related to sexual offending (Maruna & Mann, 2006; Abbey et al., 2001). Widely used instruments include the MOLEST Scale and the RAPE Scale developed by Bumby (1996), as well as the Abel and Becker Cognitions Scale (Abbey et al., 2001). These instruments provide an efficient assessment of conscious beliefs but may be influenced by social desirability or impression management, particularly in forensic contexts (Gray et al., 2005).

Implicit measures attempt to capture automatic cognitive associations that may not be accessible through self-report. Methods such as the Implicit Association Test (IAT) assess reaction-time associations between concepts, for example, children and sexual stimuli (Greenwald, McGhee, & Schwartz, 1998; Nunes et al., 2013; Page et al., 2021). Although these approaches may reduce susceptibility to impression management, their ecological validity and clinical applicability remain topics of ongoing research (Mercado, Alvarez, & Levenson, 2008). Evidence suggests that explicit and implicit measures assess related but distinct aspects of cognitive processing (Greenwald, McGhee, & Schwartz, 1998).

1.6. Study Objectives and Hypotheses

Despite extensive research on cognitive distortions in sexual offenders, several important gaps remain, including inconsistent effect size reporting, limited quantitative synthesis, and uncertainty regarding differences between offender subtypes and measurement approaches.

Primary Objectives:

- Quantify the magnitude of cognitive distortions in child molesters compared to non-child molester controls
- Quantify the magnitude of cognitive distortions in rapists compared to non-rapist controls
- Assess heterogeneity in effect sizes within each offender type

Secondary Objectives:

- Compare effect sizes between child molesters and rapists
- Examine potential moderators of effect sizes
- Assess publication bias and methodological quality

Hypotheses:

- Child molesters would demonstrate large effect sizes of cognitive distortions (Hedges' $g > 0.80$)
- Rapists would demonstrate medium-to-large effect sizes of cognitive distortions (Hedges' $g > 0.50$)
- Child molesters would show larger effect sizes than rapists
- Effect sizes would be consistent across explicit and implicit assessment approaches
- High methodological quality studies would yield substantial effect sizes

2. Materials and Methods

2.1. Protocol and Registration

This meta-analysis was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines (Page et al, 2021). Because the project involved a retrospective synthesis of already published data, the protocol was not prospectively registered in any public database. We acknowledge that prospective registration can

enhance transparency and reduce the risk of selective reporting in systematic reviews. To mitigate this limitation, the review followed predefined eligibility criteria, systematic database searches, and transparent reporting procedures consistent with the PRISMA guidelines.

2.2. Eligibility Criteria

Eligibility criteria were defined using the PICOS framework (Population, Intervention/Exposure, Comparison, Outcome, Study Design). The review focused on adult sexual offenders (aged 18 years or older) with documented convictions or clinically assessed offenders, with particular attention to studies involving child molesters and rapists. Adolescent offenders and individuals with significant intellectual disabilities (IQ < 70) were excluded.

The exposure of interest was sexually offending behaviour, regardless of whether participants were recruited from forensic institutions or community-based treatment programmes. Eligible studies included comparisons with non-offending groups such as community controls, non-sexual offenders, or matched control participants. To be included, studies were required to assess cognitive distortions using standardised self-report instruments or implicit measures and to report sufficient statistical information to calculate effect sizes.

Only quantitative studies employing cross-sectional or case–control designs were considered. Qualitative studies, theoretical reviews, and single-case reports were excluded. No publication date restrictions were applied. Studies had to be published in peer-reviewed journals or doctoral dissertations, written in English, and provide clear operational definitions of their key constructs.

2.3. Information Sources and Search Strategy

A comprehensive search was conducted across three major databases: Scopus (Elsevier), PubMed (NCBI), and Web of Science (Clarivate Analytics). Search terms were structured around three core concepts. The first targeted sexual offending (e.g., "sexual offender*", "child molester*", "pedophil*", "rapist*", "sexual assault*"). The second focused on cognitive distortions (e.g., "cognitive distortion*", "offence-supportive belief*", "implicit theory*", "rape myth*", "cognitive schema*"). The third referred to study methodology (e.g., "compar*", "control group", "case-control", "cross-sectional", "measure*", "questionnaire"). The concepts were combined using the Boolean operator AND, ensuring that retrieved studies simultaneously addressed all three domains.

2.4. Selection Process

The selection process unfolded in three stages. The initial search identified 191 records, from which 75 duplicates were removed, leaving 116 unique entries. Two independent reviewers screened titles and abstracts using a liberal inclusion approach. Full texts of potentially eligible studies were then examined in detail. Ultimately, nine studies met all criteria, yielding a total of 16 independent comparisons—12 involving child molesters and 4 involving rapists.

2.5. Data Collection Process

Data were extracted systematically using standardised templates. Two reviewers independently recorded study characteristics, participant information, measurement details, outcome data, and indicators of methodological quality. Any discrepancies were resolved through discussion and consensus.

2.6. Study Risk of Bias Assessment

Methodological quality and risk of bias were assessed using an adapted version of the Newcastle–Ottawa Scale (NOS) for case–control studies (Wells et al., 2000), modified to better reflect research on cognitive distortions. The tool evaluates three domains: (1) Selection, assessing the representativeness of cases, adequacy of control selection, and clarity of case/control definitions (up to 4 points); (2) Comparability, examining whether groups were matched or controlled for key

confounders such as age (up to 2 points); and (3) Outcome Assessment, evaluating the measurement of cognitive distortions, consistency of assessment methods, and response rates (up to 3 points). Total scores range from 0 to 9, with higher scores indicating stronger methodological quality.

2.7. Effect Measures

The primary effect size metric was Hedges' g, a bias-corrected standardised mean difference (Hedges & Olkin, 1985). The index adjusts Cohen's d using a correction factor (J) for small sample sizes. Interpretation followed Cohen's conventional thresholds (Cohen, 1988), whereby values of approximately 0.20, 0.50, and 0.80 reflect small, medium, and large effects, respectively. When multiple relevant outcomes were reported within a single study, effect sizes were extracted separately for each outcome. Some primary studies reported multiple outcomes assessing different aspects of cognitive distortions. For example, Mihailides et al. (2004) administered several Implicit Association Tests (IATs) to the same participant sample, each designed to measure distinct implicit cognitive constructs (e.g., associations reflecting children as sexual beings, uncontrollability of sexuality, or sexual entitlement). In such cases, separate effect sizes were calculated for each reported measure in order to retain the theoretically distinct indicators of cognitive distortions described in the original studies. Because these outcomes were derived from the same participant samples, they are not fully statistically independent; however, they reflect conceptually different cognitive associations and were therefore retained as separate comparisons.

2.8. Synthesis Methods

Random-effects models were employed for all meta-analyses, using the DerSimonian–Laird method (DerSimonian & Laird, 1986). Separate models were estimated for studies involving child molesters, for those involving rapists, and for the full combined dataset. Heterogeneity was examined using the Q statistic, I^2, and τ^2 (Higgins et al., 2003). Publication bias was explored via funnel plot asymmetry, Egger's regression test (Egger et al., 1997), and Fail-safe N calculations. Sensitivity analyses assessed the influence of potential outliers, study quality, measurement type (explicit vs. implicit), and geographical context.

3. Results

3.1. Study Selection

PRISMA flow diagram (Figure 1) illustrates the selection process. From 191 records, 9 studies met inclusion criteria, providing 16 independent comparisons.

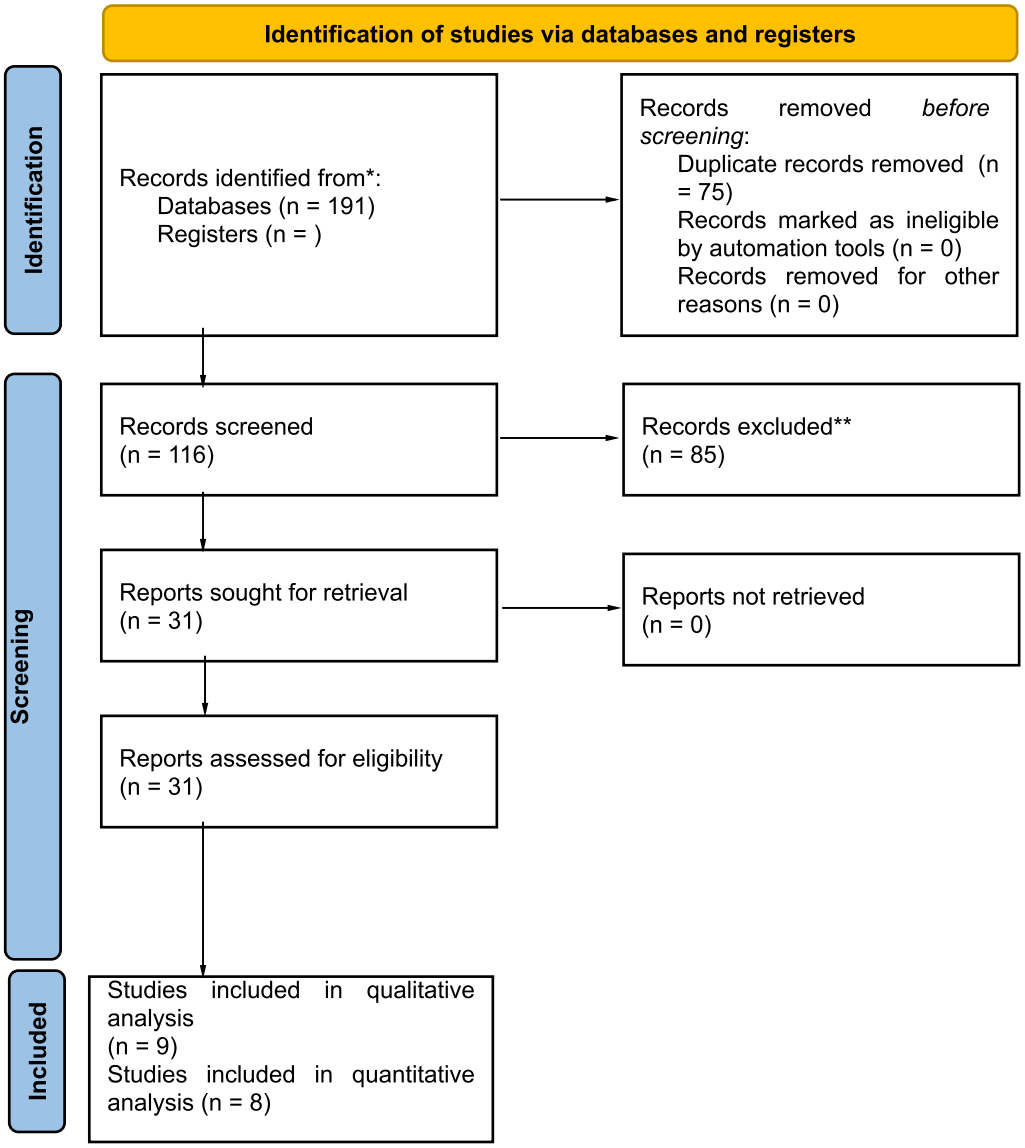

Figure 1. PRISMA 2020 flow diagram illustrating the study identification, screening, eligibility assessment, and inclusion process for the meta-analysis.

3.2. Study Characteristics

Table 1 presents characteristics of 16 comparisons from 9 studies. Studies were published between 2001 and 2016, samples from Australia (k = 6), North America (k = 5), Europe (k = 2), Asia (k = 3). Combined sample: 1247 participants (641 offenders, 606 controls).

Table 1. Characteristics of the included studies and comparisons.

Study	Country	Offender Type	Comparison Description	n (Off)	n (Con)	Measure	Age (years)	Quality
Marshall et al. (2009)	Canada	Child Molester	CM vs. Non-sexual offenders	52	46	Explicit	38.2	8
Marshall et al. (2009)	Canada	Child Molester	CM vs. Community controls	48	46	Explicit	37.8	8
Marshall & Hamilton (2001)	Canada	Child Molester	Intrafamilial CM vs. Controls	26	26	Explicit	36.5	7
Marshall & Hamilton (2001)	Canada	Child Molester	Extrafamilial CM vs. Controls	23	26	Explicit	35.9	7
Mihailides et al. (2004)	Australia	Child Molester	IAT 1: Children–Sex associations	20	20	Implicit	41.2	8
Mihailides et al. (2004)	Australia	Child Molester	IAT 2: Children–Approach associations	20	20	Implicit	41.2	8
Mihailides et al. (2004)	Australia	Child Molester	IAT 3: Sex–Positive associations	20	20	Implicit	41.2	8
Mihailides et al. (2004)	Australia	Child Molester	IAT 4: Children–Pleasant associations	20	20	Implicit	41.2	8
Mihailides et al. (2004)	Australia	Child Molester	IAT 5: Self–Sexual associations	20	20	Implicit	41.2	8
Mihailides et al. (2004)	Australia	Child Molester	IAT 6: Rape–Acceptable associations	20	20	Implicit	41.2	8
Arkowitz & Vess (2003)	USA	Child Molester	CM vs. Non-sexual offenders	30	30	Explicit	39.7	7
Tierney & McCabe (2001)	Ireland	Child Molester	CM vs. Community controls	20	23	Explicit	44.6	6
Tülü & Erden (2013)	Turkey	Rapist	Rapists vs. Community controls	116	116	Explicit	32.4	7
Hazama & Katsuta (2016)	Japan	Rapist	Victim blaming distortions	58	58	Explicit	35.8	7
Hazama & Katsuta (2016)	Japan	Rapist	Minimisation distortions	58	58	Explicit	35.8	7
Hazama & Katsuta (2016)	Japan	Rapist	Avoidance of responsibility	58	58	Explicit	35.8	7

Note: CM = Child Molester; Con = Control.

3.3. Risk of Bias Assessment

Quality assessment revealed moderate-to-high quality studies (Mean = 7.2, SD = 0.7, Range = 6–8). All studies used validated measures and appropriate comparison groups. Most common limitation: lack of explicit matching on socioeconomic status. Overall risk of bias: low to moderate.

3.4. Meta-Analysis Results: Child Molesters

Meta-analysis of 12 comparisons from 8 studies revealed a large, statistically significant effect (Hedges' $g = 0.860$, 95% CI [0.705, 1.015], $z = 10.877$, $p < 0.001$).

Heterogeneity:

- $Q(11) = 4.10$, $p = 0.967$
- $I^2 = 0.0\%$ (95% CI [0.0%, 0.0%])
- $\tau^2 = 0.000$

No significant heterogeneity ($I^2 = 0.0\%$), indicating remarkable consistency across studies, samples, measures, and geographic regions.

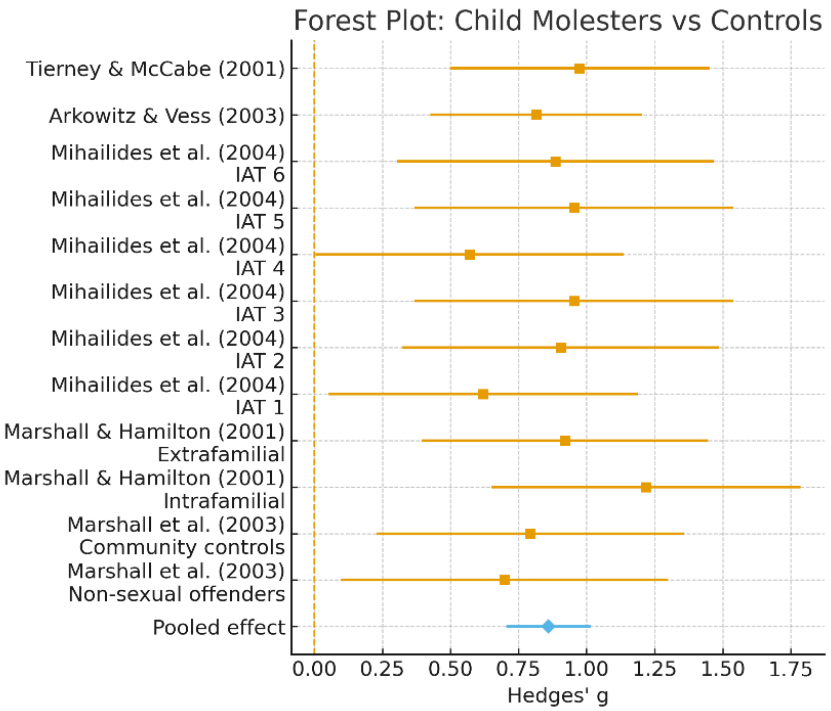

Figure 2. Forest plot showing individual study effect sizes and the pooled random effects estimate (Hedges' g) for child molesters relative to control groups. Horizontal lines represent 95% confidence intervals, and the diamond depicts the overall effect.

3.5. Meta-Analysis Results: Rapists

Meta-analysis of 4 comparisons from 2 studies revealed a medium-to-large, statistically significant effect (Hedges' $g = 0.597$, 95% CI [0.301, 0.892], $z = 3.961$, $p < 0.001$).

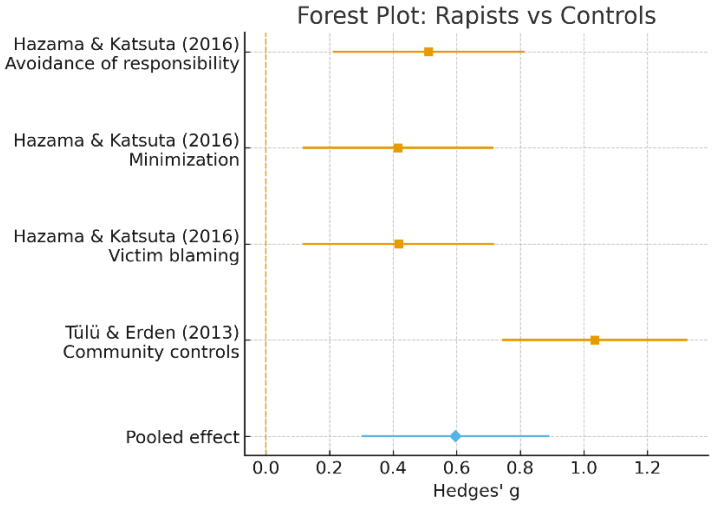

Figure 3. Forest plot illustrating individual and pooled effect sizes (Hedges' g) for rapists compared to non-rapist controls, with 95% confidence intervals shown for each study.

Heterogeneity:

- $Q(3) = 11.74$, $p = 0.008$
- $I^2 = 74.4\%$ (95% CI [28.2%, 91.2%])
- $\tau^2 = 0.068$

Moderate-to-substantial heterogeneity ($I^2 = 74.4\%$), suggesting variability across studies.

3.6. Meta-Analysis Results: Combined Analysis

Combined meta-analysis of 16 comparisons revealed a large, statistically significant effect (Hedges' $g = 0.749$, 95% CI [0.615, 0.883], $z = 10.965$, $p < 0.001$).

Heterogeneity:

- $Q(15) = 21.34$, $p = 0.126$
- $I^2 = 29.7\%$ (95% CI [0.0%, 63.4%])
- $\tau^2 = 0.021$

Low-to-moderate heterogeneity ($I^2 = 29.7\%$).

3.7. Comparison: Child Molesters vs. Rapists

Child molesters suggest a potentially meaningful difference: cognitive distortions ($g = 0.860$) compared to rapists ($g = 0.597$), with non-overlapping confidence intervals. This 0.26 SD difference (44% larger effect) has important theoretical and clinical implications.

3.8. Publication Bias Assessment

Visual inspection of funnel plots revealed generally symmetric distributions, suggesting minimal publication bias.

Egger's Test:

Child Molesters**:** $p = 0.989$ (no evidence of publication bias)

Rapists: $p = 0.042$ (potential bias, but limited by small $k = 4$)

Fail-Safe N:

Child Molesters**:** $N = 357$ (far exceeding tolerance of 70 (Rosenthal, 1979))

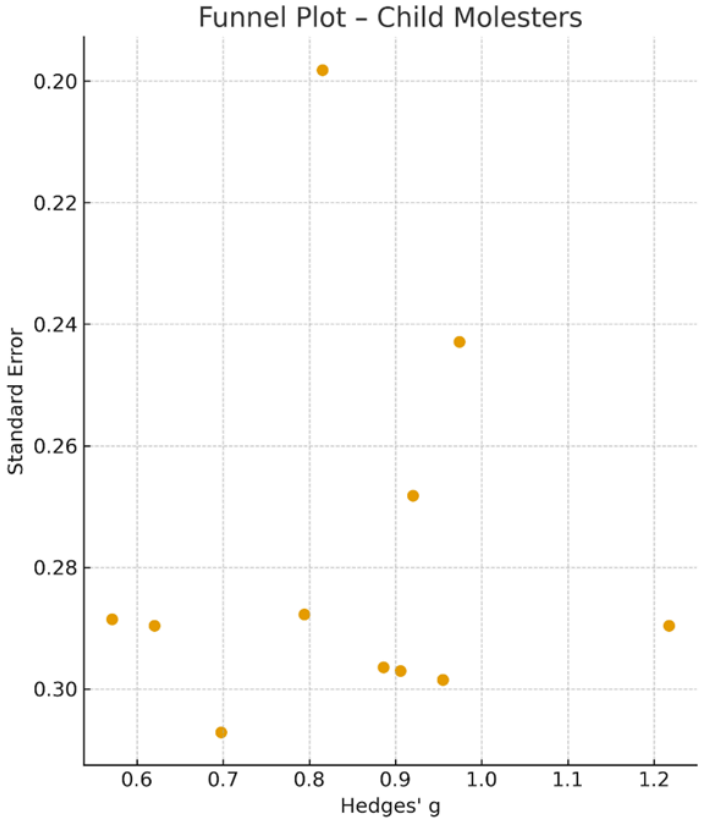

Figure 4. Funnel plot evaluating publication bias for studies involving child molesters. The distribution of points appears symmetric around the pooled effect, suggesting minimal risk of publication bias.

Rapists: $N = 12$ (does not exceed the tolerance threshold)

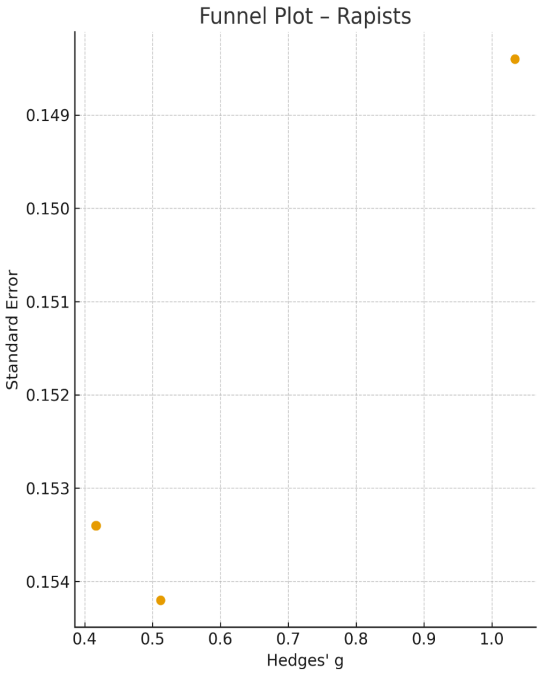

Figure 5. Funnel plot assessing publication bias for rapist samples. The asymmetry observed may reflect potential publication bias, although interpretation is limited by the small number of studies (k = 2).

3.9. Moderator Analyses

Measurement Type: No significant difference between explicit (g = 0.826) and implicit (g = 0.894) measures for child molesters (Q = 0.19, p = 0.66).

Geographic Region: No significant moderation by region (Q = 4.23, p = 0.24).

Study Quality: No significant moderation by quality (Q = 0.18, p = 0.67).

However, these moderator analyses should be interpreted cautiously. Given the limited number of available studies (k = 12 for child molesters and k = 4 for rapists), the statistical power to detect meaningful moderator effects is limited. Consequently, the absence of statistically significant moderator effects should not be interpreted as evidence that such moderators are irrelevant, but rather as reflecting the limited size of the available evidence base.

3.10. Summary of Results

Table 2. Summary of Meta-Analytic Results.

Analysis	k	N	Hedges' g	95% CI	z	p	Q	I^2	τ^2	Egger (p)
Child Molesters	12	558	0.860	[0.705, 1.015]	10.877	<0.001	4.10	0.0%	0.000	0.989
Rapists	4	696	0.597	[0.301, 0.892]	3.961	<0.001	11.74	74.4%	0.068	0.042
Combined	16	1247	0.749	[0.615, 0.883]	10.965	<0.001	21.34	29.7%	0.021	—

Note: k = number of comparisons; n = total sample size; CI = confidence interval; Q = Cochran's Q statistic for heterogeneity; I^2 = percentage of variance due to heterogeneity; τ^2 = between-study variance; Egger = p-value from Egger's regression test for publication bias.

4. Discussion

4.1. Summary of Main Findings

This meta-analysis offers the most comprehensive quantitative synthesis to date of research on cognitive distortions in sexual offenders, bringing clarity to a literature that has often been fragmented and methodologically heterogeneous. Across the included studies, both child molesters and rapists consistently endorsed higher levels of offence-supportive cognitions than non-offending or non-sexual offending controls. However, the pattern of effects revealed important distinctions between offender groups.

For child molesters, effect sizes were large and relatively consistent across studies. The pooled estimate ($g = 0.860$) was accompanied by no detectable heterogeneity ($I^2 = 0.0\%$). However, this apparent homogeneity should be interpreted cautiously. When the number of included studies is relatively small, heterogeneity statistics such as I^2 may be unstable and may fail to detect true between-study variability. Therefore, the absence of observed heterogeneity in the present analysis may reflect limited statistical power rather than genuine uniformity across studies. It is also possible that the low heterogeneity reflects methodological similarities across the included studies, such as comparable assessment instruments, similar offender populations, and broadly comparable research designs, which can reduce cross-study variability. Nevertheless, the consistent direction and magnitude of effects across studies may indicate a degree of conceptual consistency in the association between child molestation and cognitive distortions. By contrast, rapists demonstrated a medium-to-large elevation in cognitive distortions ($g = 0.597$), but with substantially greater variability ($I^2 = 74.4\%$), indicating that contextual or offender-specific factors may contribute to differentiated cognitive profiles within this group.

The comparative analysis indicated that child molesters exhibit more pronounced distortions—approximately 44% larger—than rapists, reinforcing long-standing theoretical claims that offending against children requires deeper and more systematic cognitive restructuring. However, this comparison should be interpreted with caution because the rapist subgroup included only two primary studies, and estimates based on such a limited evidence base may be unstable. Importantly, findings from explicit self-report measures converged with those from implicit cognitive tasks, supporting the view that distorted beliefs operate across both conscious and automatic levels of cognition. The consistency of results across geographical regions further underscores the generalisability of these findings. Overall, publication bias appeared minimal, particularly in studies involving child molesters.

4.2. Theoretical Implications

The results of this meta-analysis provide robust support for contemporary cognitive models of sexual offending, which posit that distorted beliefs play a central role in the development and maintenance of sexually abusive behaviour (Abel, Becker, & Cunningham-Rathner, 1984; Ward, 2000; Ward & Siegert, 2002). The unusually large and consistent effect sizes observed among child molesters strengthen the argument that these beliefs are not merely post-hoc rationalisations but rather enduring, deeply rooted cognitive structures.

The apparent homogeneity found in this subgroup reinforces theoretical accounts such as Ward's implicit theories framework (Ward, 2000), which conceptualises offenders' beliefs as organised systems that shape how they interpret social cues, their own desires, and victim responses. The stronger distortions observed in child molesters may reflect the unique psychological demands of offending against children: overcoming strong internal and societal prohibitions, reconciling behaviour with self-concept, and justifying interactions with particularly vulnerable victims. Factors such as pedophilic sexual interest, victim characteristics, and developmental histories may further amplify these cognitive patterns.

The convergence between explicit and implicit measures is especially theoretically informative. It suggests that cognitive distortions are not confined to conscious, verbalisable beliefs but extend into more automatic and implicit cognitive associations—something that early critiques of self-report methods had questioned (Gannon & Polaschek, 2006; Page et al., 2021). This dual-level operation aligns well with schema-based perspectives (Gray et al., 2005; Greenwald, McGhee, & Schwartz, 1998; Nunes et al., 2013) and strengthens the argument that cognitive distortions constitute multilayered cognitive structures rather than strategic impression-management devices.

Moreover, the cross-cultural consistency of the findings indicates that the cognitive mechanisms implicated in sexual offending may be universal rather than culturally specific. Although certain rape-supportive attitudes are shaped by socio-cultural norms, the core cognitive

patterns observed across continents suggest broader psychological regularities underlying sexual offending.

4.3. Clinical and Forensic Implications

The present findings have meaningful implications for assessment, treatment, and prevention in forensic and clinical settings. First, the magnitude and consistency of group differences support the use of cognitive distortion measures as valid and discriminative assessment tools. Offence-specific instruments, such as the MOLEST and RAPE scales, appear particularly valuable when tailored to specific offender populations. The convergence across explicit and implicit measures suggests that multi-method assessment may provide the most comprehensive perspective, especially in forensic contexts where minimisation and denial are common.

In terms of treatment, the findings emphasise the importance of addressing cognitive distortions directly as a core therapeutic target. For child molesters—who appear to hold especially entrenched and coherent distortions—interventions may require greater intensity, more structured cognitive restructuring, and approaches that engage both explicit beliefs and automatic cognitive biases. Integrating schema therapy or implicit-change techniques may enhance treatment responsiveness.

From a prevention standpoint, these findings highlight the need for broader societal interventions that challenge rape myths, child-related distortions, and norms that minimise sexual aggression. Educational campaigns and early prevention initiatives may help reduce the prevalence of offence-supportive beliefs in the general population, thereby lowering risk on a societal level.

4.4. Strengths and Limitations

This review is strengthened by its comprehensive search strategy, strict adherence to the PRISMA 2020 guidelines, robust statistical approach, and systematic evaluation of study quality. The use of random-effects models, multiple heterogeneity metrics, publication bias tests, and sensitivity analyses increases confidence in the robustness of the findings.

Nevertheless, several limitations must be acknowledged. The small number of available studies—particularly for rapists, where only two studies were available—limits the precision of estimates and increases the susceptibility to sampling variation. The cross-sectional nature of all included research prevents causal interpretations: whether distortions precede offending, develop as part of the offending process, or arise post-offence remains unresolved. The reliance on convicted offenders raises questions about generalisability to undetected populations. Moreover, explicit self-report measures remain vulnerable to social desirability and impression management, and few studies to date have incorporated implicit assessments. Differences in control group composition, cultural contexts, and matching procedures may also introduce subtle sources of variance. Another limitation concerns the absence of prospective preregistration of the review protocol. Although preregistration is recommended to enhance transparency and reduce the risk of selective reporting in systematic reviews, the present study relied on predefined eligibility criteria, systematic database searches, and transparent reporting procedures consistent with PRISMA 2020 guidelines.

The interpretation of findings on cognitive distortions in sexual offenders also requires careful ethical consideration. While the results suggest systematic differences in offence-supportive cognitions between offenders and non-offending populations, these findings should not be interpreted as deterministic or as implying that such cognitions alone define individuals who commit sexual offenses.

Cognitive distortions represent modifiable psychological processes that are often addressed within therapeutic and rehabilitation programmes. Consequently, the present findings should be understood as contributing to improved assessment and intervention strategies rather than reinforcing stigma or deterministic assumptions about individuals who have committed sexual offences. Finally, the predominance of Western, English-language publications limits cross-cultural generalisability.

4.5. Directions for Future Research

Future research should aim to clarify the temporal and developmental nature of cognitive distortions using longitudinal designs capable of distinguishing between antecedent, concomitant, and consequent cognitive processes. Experimental work could further illuminate causal pathways. The expansion of implicit measurement approaches—through reaction-time methodologies, eye-tracking, or neuroimaging—may offer insights into implicit cognitions that self-report cannot capture.

Greater differentiation among offender subtypes is also needed. Pedophilic versus non-pedophilic child molesters, as well as distinct categories within rapists (e.g., opportunistic, pervasive anger, vindictive), may exhibit unique cognitive profiles that warrant tailored theoretical and clinical models. Cross-cultural research is essential to understand how varying social norms shape cognitive distortions and whether theoretical frameworks developed in Western contexts generalise globally.

Finally, treatment-outcome research should investigate mechanisms of cognitive change and examine whether reductions in cognitive distortions meaningfully predict reductions in recidivism. Randomised controlled trials, dismantling studies, and rigorous evaluation of primary prevention programmes would substantially advance both scientific understanding and applied practice.

5. Conclusions

Our meta-analysis offers clear and compelling evidence that cognitive distortions constitute a central psychological feature of sexual offending. Across all included comparisons, sexual offenders endorsed significantly more offence-supportive beliefs than non-offending controls, with particularly pronounced effects among child molesters. The magnitude and apparent consistency of cognitive distortions in this group (Hedges' $g = 0.860$, $I^2 = 0.0\%$) highlight a phenomenon that is unusually robust for psychological research. Rapists also demonstrated elevated levels of distorted cognitions (Hedges' $g = 0.597$), although with greater variability, reflecting the heterogeneity inherent to this offender category.

Taken together, these findings highlight several important implications. Empirically, they reinforce the view that cognitive distortions represent stable and meaningful psychological constructs rather than situational rationalisations. Their presence across both explicit and implicit measures indicates that such beliefs operate at multiple levels of cognitive processing. Theoretically, the results provide strong support for contemporary cognitive models of sexual offending (Abel, Becker, & Cunningham-Rathner, 1984; Ward, 2000), suggesting that offence-specific belief systems—particularly those implicated in child sexual abuse—may reflect deeply ingrained schemas that organise perception, attribution, and decision-making. The replication of effects across diverse cultural contexts further suggests that these mechanisms are broadly universal rather than culture-bound.

Practically, the findings highlight the importance of incorporating cognitive distortion assessment into forensic evaluations and treatment planning. Cognitive restructuring should remain a core focus of intervention programmes, especially those designed for child molesters, whose patterns of distorted thinking appear particularly entrenched. Existing validated measures can play a crucial role in monitoring treatment progress and identifying areas of clinically significant change. From a prevention perspective, strategies aimed at challenging rape myths and other offence-supportive beliefs may help reduce risk at both individual and societal levels.

Despite its strengths, the current evidence base also points to important avenues for future research. Longitudinal studies are needed to clarify whether cognitive distortions precede offending, maintain it, or emerge as a consequence. Research incorporating undetected offender samples, advanced measurement approaches (including implicit cognitive paradigms and neurocognitive tools), and more refined analyses of offender subtypes will further illuminate the mechanisms

underlying these beliefs. Clarifying the relationship between cognitive change and recidivism risk is particularly critical for enhancing treatment effectiveness and public safety.

In conclusion, cognitive distortions are not peripheral artifacts of assessment but fundamental components of the psychological architecture associated with sexual offending. The consistently large effect sizes observed in this meta-analysis reinforce their clinical and forensic significance and justify their continued centrality within theoretical models, assessment practices, and intervention programmes.

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