Dinamika Penelitian
Media Komunikasi Penelitian Sosial Keagamaan

SUPPLEMENTARY MATERIAL

Digital Aggression or Social Frustration? A Türkiye-Centred Socio-Relational Document Analysis of Online Gaming, School Climate, and Student Violence

Corpus, Search Strategy, Coding, Appraisal, and Evidence Matrices

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1. SUPPLEMENTARY OVERVIEW

These supplementary materials report the evidence base and analytic procedures used in the Türkiye-centred qualitative socio-relational document analysis. The corpus is Türkiye-centred rather than Türkiye-exclusive: eight records are Türkiye-specific, one mixed-country synthesis contains prominent Türkiye evidence, and sixteen records provide international or comparative evidence. International studies inform mechanisms, comparison, and boundary conditions; their prevalence estimates, coefficients, and causal interpretations are not transferred to Türkiye.

Table S1. Corpus and synthesis profile

Indicator	Value	Analytic role
Candidate records	34	Records screened
Retained analytic records	25	Included in extraction, coding, and appraisal
Excluded records	9	Reported with exclusion reasons
Türkiye-specific records	8	Direct national or local evidence
Mixed-country synthesis	1	Türkiye prominent within heterogeneous pooled evidence
International/comparative records	16	Mechanism, comparison, and boundary evidence
Quality judgements	13 high; 12 moderate	Confidence calibration for the qualitative synthesis
Synthesis outputs	3 themes; 12 claims; 6 model nodes	Qualitative integration

Note. Counts refer to the curated corpus used in the qualitative synthesis.

2. SEARCH STRATEGY AND COVERAGE

Corpus construction combined the article's seed records with four targeted supplementary web searches completed on 7 August 2026. Table S2 reports only completed searches. Indexed searches in Scopus, Web of Science, ERIC, and TR Dizin had not been completed when the corpus was locked; the evidence base is therefore presented as a curated document corpus rather than an exhaustive or PRISMA-final systematic review.

SUPPLEMENTARY MATERIAL
DINAMIKA PENELITIAN: MEDIA KOMUNIKASI PENELITIAN SOSIAL KEAGAMAAN
DOI 10.21274/dinamika.2026.26.2.109-126

Table S2. Completed supplementary searches

ID	Source	Search string	Years	Found	Full text	Included	Note
W001	Web scholarly search	"violent video game" AND adolescent AND aggression AND (registered OR longitudinal OR meta-analysis)	2019–2026	8	4	3	Located registered-report and longitudinal/meta-analytic negative-case evidence.
W002	Web scholarly search	(Türkiye OR Turkey) AND (digital game addiction OR gaming addiction) AND (aggression OR bullying OR cyberbullying) AND adolescent	2019–2026	18	9	5	Located direct Türkiye studies and a Türkiye systematic review; retained only verifiable records.
W003	Web scholarly search	"school climate" AND (aggression OR bullying OR violence) AND adolescent AND (peer OR network OR connectedness)	2019–2026	14	7	5	Located school-climate, connectedness, bystander, and friendship-network mechanism studies.
W004	Web scholarly search	"gaming disorder" AND (peer stress OR loneliness OR family relationship OR school connectedness) AND adolescent	2019–2026	12	6	4	Located relational pathways linking peer/family context, aggression, and problematic gaming.

Note. Completed web searches supplemented the seed corpus; they did not replace indexed-database searches.

3. ELIGIBILITY CRITERIA

Table S3. Eligibility criteria

Decision	Code	Operational rule
Inclusion	I1	Peer-reviewed empirical study, systematic review, credible scholarly chapter, or authoritative report.
Inclusion	I2	Directly addresses at least two core nodes or one explicit relational pathway connecting them.
Inclusion	I3	Adolescent/school context, or a clearly justified contextual/theoretical source that informs a core mechanism.
Inclusion	I4	Method and bibliographic identity are sufficiently clear to permit audit and extraction.
Exclusion	X1	Non-academic, non-verifiable, duplicated, or editorial/opinion-only source.
Exclusion	X2	Gaming or violence is mentioned without an analyzable relational mechanism.
Exclusion	X3	Population mismatch with no justified theoretical transfer to adolescents or schools.
Exclusion	X4	Insufficient methodological clarity or inaccessible evidence after reasonable retrieval attempts.

Note. Records had to satisfy the inclusion logic and avoid all applicable exclusion conditions.

4. RETAINED ANALYTIC CORPUS

Table S4. Retained analytic corpus (n = 25)

ID	Source	Country/context	Geographic class	Design and population	Analytic role	Theme	Quality	DOI / URL
DOC003	Aslan et al. (2022)	Türkiye	Türkiye-specific	Correlational study (to verify); Adolescents	Türkiye empirical core; social-competence pathway	T1	Moderate	https://doi.org/10.51982/bagimli.1033761
DOC004	Bardach et al. (2020)	Austria	International/comparative	Cross-sectional mediation/path analysis; 788 Austrian adolescents	Comparative peer/school mechanism; belonging and non-inclusive group norms	T2	Moderate	https://doi.org/10.1080/15388220.2019.1660883
DOC006	Gürkan et al. (2022)	Edirne, Türkiye	Türkiye-specific	Relational survey; 431 public high-school students	Türkiye empirical core; digital aggression and protective media literacy	T3	Moderate	https://doi.org/10.24315/tred.1115385
DOC010	Park et al. (2021)	East Asia	International/comparative	Systematic review; Adolescents	International synthesis; macro-sociocultural cyberbullying context	T2	High	https://doi.org/10.5817/CP2021-1-5
DOC011	Pina et al. (2021)	Spain	International/comparative	Qualitative focus-group study with thematic analysis; 96 Spanish primary and compulsory-secondary students	Comparative qualitative mechanism; violence meaning and normalization	T2	Moderate	https://doi.org/10.3390/ijerph182111389
DOC013	Santric-Milicevic et al. (2022)	Serbia	International/comparative	Cross-sectional profile study; School-age children	Comparative contextual evidence; behavioural-ecology profile	T3	Moderate	https://doi.org/10.3390/ijerph19159159
DOC014	Sevinçli & Eğer Aydoğmuş (2022)	Türkiye	Türkiye-specific	Theory-based review; Video-game users; conceptual	Türkiye contextual mechanism; protective gaming affordances and negative case	T3	Moderate	https://doi.org/10.18863/pgy.974968
DOC015	Shao & Wang (2019)	China	International/comparative	Cross-sectional moderated mediation analysis; 648 Chinese middle-school students	Comparative empirical mechanism; conditional gaming-aggression pathway	T3	Moderate	https://doi.org/10.3389/fpsyg.2019.00384
DOC016	Yıldırım & Zeren (2021)	Türkiye	Türkiye-specific	Correlational study; Participants in Türkiye; age range to verify	Türkiye empirical core; social-support and coping pathway	T1	Moderate	https://doi.org/10.52963/PERR_Biruni_V10.N2.07
DOC018	Mroczkowski et al. (2021)	International clinical evidence	International/comparative	Systematic review and clinical guidance; Adolescents in pediatric emergency contexts	International synthesis; multifactor violence-risk framework	T2	High	https://doi.org/10.5811/westjem.2021.1.49233
DOC020	Przybylski & Weinstein (2019)	United Kingdom	International/comparative	Preregistered nationally representative cross-sectional study; 1,004 adolescents aged 14–15 plus 1,004 carers	International boundary evidence; direct-effect falsification and negative case	T3	High	https://doi.org/10.1098/rsos.171474

ID	Source	Country/context	Geographic class	Design and population	Analytic role	Theme	Quality	DOI / URL
DOC021	Drummond et al. (2020)	International	International/comparative	Meta-analysis; Youth samples across longitudinal studies	International synthesis; longitudinal negative-case evidence	T3	High	https://doi.org/10.1098/rsos.200373
DOC022	Li et al. (2023)	International	International/comparative	Meta-analysis; Teenagers and young adults	International synthesis; heterogeneous gaming-aggression association	T3	High	https://doi.org/10.3389/fpubh.2023.1111889
DOC023	Lee et al. (2024)	South Korea	International/comparative	Three-year longitudinal structural equation model; 968 adolescent gamers	Comparative longitudinal mechanism; socio-emotional pathway	T1	High	https://doi.org/10.3389/fpsyt.2024.1353969
DOC024	Li et al. (2022)	China	International/comparative	Cross-sectional mediation model; 698 adolescents	Comparative empirical mechanism; peer-school-gaming pathway	T2	High	https://doi.org/10.3389/fpsyg.2022.823762
DOC025	Li et al. (2021)	China	International/comparative	Cross-sectional moderated mediation; 1,030 elementary and middle-school students	Comparative empirical mechanism; school-family protective pathway	T2	High	https://doi.org/10.3390/ijerph18168709
DOC026	Montero-Carretero et al. (2021)	Spain	International/comparative	Cross-sectional predictive model; Adolescents	Comparative school-climate mechanism; empathy and moral disengagement	T2	Moderate	https://doi.org/10.3389/fpsyg.2021.656775
DOC027	Waasdorp et al. (2022)	United States	International/comparative	Large multilevel cross-sectional study; 64,670 middle- and high-school students	Comparative large-scale climate evidence; bystander roles	T2	High	https://doi.org/10.1016/j.appdev.2022.101412
DOC028	Pinchak (2024)	United States	International/comparative	Longitudinal network/contextual analysis; 11,771 adolescents	Comparative boundary evidence; friendship-network condition	T2	High	https://doi.org/10.1007/s10964-024-02034-2
DOC029	Nagar et al. (2025)	Eight countries; Türkiye prominent	Mixed-country; Türkiye prominent	Systematic review and meta-analysis; 11,259 participants across 10 studies	Mixed-country synthesis with Türkiye evidence; recent pooled association	T3	High	https://doi.org/10.17533/udea.iee.v43n2e13
DOC030	Han et al. (2022)	International	International/comparative	Systematic review; Children and adolescents in 18 studies	International synthesis; family and peer frustration mechanism	T1	High	https://doi.org/10.3389/fpsyt.2022.976601
DOC031	Boz & Dinç (2023)	Türkiye	Türkiye-specific	Systematic review; 26,415 participants across 69 Turkish studies	Türkiye evidence synthesis; national evidence map and gaps	T1	Moderate	https://doi.org/10.3389/fpsyt.2023.1014621
DOC032	Ulaş & Incekara (2026)	Istanbul, Türkiye	Türkiye-specific	Cross-sectional moderated mediation SEM; 601 high-school students	Türkiye empirical core; contemporary family-cyberbullying model	T1	High	https://doi.org/10.3389/fpsyg.2026.1794127
DOC033	Karakul & Bozkul (2024)	Southern Türkiye	Türkiye-specific	Descriptive cross-sectional correlational study; 381 secondary-school students; mean age 12.53	Türkiye empirical core; gaming-bullying association	T3	Moderate	https://doi.org/10.38108/ouhcd.1261215
DOC034	Köse et al. (2024)	Batman, Türkiye	Türkiye-specific	Cross-sectional correlational study; 300 children aged 10–11	Türkiye empirical core; gaming-aggression association	T3	Moderate	https://doi.org/10.52831/kjhs.1433013

Note. Türkiye-specific evidence anchors national interpretation. The mixed-country and international records are used for comparison, mechanisms, and boundary conditions. The DOI/URL entries are active links to the cited sources.

5. EXCLUDED RECORDS

Table S5. Excluded records (n = 9)

ID	Source	Title	Code	Reason	Resolution
DOC001	Akbaş & Yiğitoğlu (2021)	Adölesan dönemde psikososyal sorunlar	X2 No relational mechanism	Broad adolescent psychosocial review; no direct gaming–school-violence pathway.	Replaced by verified socio-emotional and family/peer pathway studies (DOC023, DOC030, DOC032).
DOC002	Arıcı & Kılınç (2021)	Video oyunlarında şiddetin sunumu üzerine bir araştırma	X2 No relational mechanism	Game-content representation only; does not analyze student behaviour or school relationships.	Direct-effect and gaming-disorder evidence retained instead (DOC020–DOC023).
DOC005	Demircioğlu & Şar (2021)	An investigation of the relationship between level of aggression, communication skills and computer…	X4 Insufficient method/access	Core model could not be independently verified from an accessible full text; replaced by stronger verified SEM evidence.	Replaced by verified longitudinal/SEM evidence (DOC023, DOC024, DOC032).
DOC007	Ho et al. (2019)	Development and validation of a parental social media mediation scale across child and parent samples	X2 No relational mechanism	Parental social-media scale validation is not gaming-, aggression-, or school-violence specific.	Family moderation is now supported by gaming-specific studies (DOC025, DOC030, DOC032).
DOC008	Mamak & Bölükbaş (2023)	Ergenlerde dijital oyun bağımlılığı ve rekreasyon ilişkisi	X4 Insufficient method/access	Methodological detail and source credibility remain insufficient for the analytic corpus.	Replaced by verifiable Türkiye studies (DOC031–DOC034).
DOC009	Olivas Ripoll & Alonso Muñoz (2023)	La discriminación en los videojuegos: el caso Fortnite	X2 No relational mechanism	Fortnite discrimination case is a platform-content analysis without adolescent behavioural or school-climate evidence.	Digital inequality may remain a discussion concept, but not an analytic evidence record.
DOC012	Saletti et al. (2021)	The effectiveness of prevention programs for problematic Internet use in adolescents and youths: A…	X2 No relational mechanism	Problematic Internet-use intervention review is not gaming-specific and does not test the target violence pathway.	Gaming-specific syntheses retained instead (DOC022, DOC029, DOC030).
DOC017	Deveci Topal & Çolak (2021)	Investigation of digital addiction levels, digital games playing status and interpersonal…	X3 Population mismatch risk	University-student population does not directly support secondary-school or adolescent violence claims.	No replacement needed; population mismatch removed.
DOC019	Türker & Bahçeci (2023)	Unresolved book chapter on bullying and peer dynamics	X6 Unverifiable citation	Complete bibliographic identity could not be resolved; dependent claims are not auditable.	Remove dependent claims unless the complete source is supplied.

Note. Excluded records did not enter extraction, coding, appraisal, or synthesis.

6. ANALYTICAL CODEBOOK

Table S6. Socio-relational codebook

Code	Label	Operational definition	Include when	Exclude when	Level	Theme
C01	Communication/social-skill deficit	Limited interpersonal communication, problem solving, or social competence that constrains nonviolent conflict resolution.	Evidence links communication/social skills with aggression, gaming, or peer conflict.	General low achievement without a relational mechanism.	Individual/relational	T1
C02	Emotional dysregulation	Difficulty managing affect, frustration, or reactivity during adolescence.	Evidence specifies emotional reactivity or regulation as a risk mechanism.	Emotion mentioned only as a demographic descriptor.	Individual	T1
C03	Aggression as mediator	Aggression transmits the influence of an antecedent vulnerability to a behavioural outcome.	A mediated pathway is tested or explicitly theorized.	Aggression is only a final outcome or descriptive prevalence.	Individual/behavioural	T1
C04	Gaming intensity/problematic use	Frequency, intensity, addiction, or displacement associated with gaming engagement.	Gaming exposure is measured or analytically discussed.	Generic screen use with no gaming component.	Behavioural/digital	T3
C05	Gaming as coping/compensation	Gaming functions as a response to unmet needs, weak support, frustration, or exclusion.	Evidence links gaming with needs, support, or coping.	Gaming described only as entertainment with no compensatory process.	Individual/relational	T1/T3
C06	Violence normalization/legitimation	Violence is treated as acceptable, entertaining, necessary, or relationally useful.	Documents analyze meanings, attitudes, or legitimating scripts.	Any occurrence of violence without meaning-making evidence.	Peer/digital-cultural	T2/T3
C07	Peer conflict	Aggression emerges within repeated peer disputes or antagonistic interaction patterns.	Peer interaction is an explicit mechanism or context.	Conflict involving only adults or institutions.	Peer	T2
C08	Power asymmetry/group norms	Unequal status or non-inclusive norms structure bullying and participation roles.	Evidence identifies hierarchy, belonging, norms, or unequal power.	One-off disagreement without hierarchy or repetition.	Peer/institutional	T2
C09	Social exclusion/marginalization	Exclusion or identity-based marginalization increases vulnerability or targets violence.	Evidence concerns marginalized groups, isolation, or exclusion.	Simple low popularity without exclusionary dynamics.	Peer/sociocultural	T2
C10	Negative school climate	Weak safety, support, belonging, or behavioural norms within school.	School-level climate or relationship quality is explicit.	Home or clinical context without a school mechanism.	Institutional	T2
C11	Digital/media literacy protection	Critical digital competence reduces vulnerability to cyber-aggression or harmful engagement.	Literacy is measured or discussed as protective capacity.	Technical device skills without critical or social dimensions.	Individual/institutional	T3
C12	Parental mediation	Active guidance, monitoring, or restriction conditions youth digital experience.	Family mediation strategies are distinguished and linked to outcomes.	Family structure alone without mediation behaviour.	Family	T3
C13	Digital stratification	Virtual goods, status, or platform economies reproduce social inequality and discrimination.	Evidence links game economies/status with exclusion or bullying.	Monetization discussed only as business design.	Digital/peer	T3
C14	Leisure displacement/ecology	Screen or gaming time replaces, complements, or clusters with other leisure activities.	Leisure pattern is tied to bullying, aggression, or problematic use.	Time use reported without behavioural relevance.	Behavioural/contextual	T3
C15	Sociocultural pressure/norms	Cultural values, academic pressure, or broader norms condition digital aggression.	Cross-cultural or macro-social factors shape risk expression.	Country is listed only as a location.	Sociocultural	T2
C16	Protective ecology/intervention	Multilevel supports reduce aggression or problematic digital engagement.	Evidence concerns school, family, literacy, or relational prevention.	Restriction-only proposals without mechanism or outcome evidence.	Institutional/multilevel	T2/T3
C17	Need satisfaction/positive gaming	Gaming supports autonomy, competence, relatedness, or well-being under enabling conditions.	Evidence provides a beneficial or disconfirming digital pathway.	Any enjoyment claim without psychosocial mechanism.	Individual/relational	T3
C18	Cumulative multilevel risk	Violence risk arises from convergence of historical, individual, family, peer, and institutional factors.	A review or model explicitly integrates multiple levels.	A single correlate presented without interaction or accumulation.	Multilevel ecological	T2

Note. Codes were sensitizing categories for qualitative comparison and were not treated as mutually exclusive variables.

7. THEMATIC SYNTHESIS

Table S7. Higher-order themes and evidential boundaries

Theme	Name	Analytic claim	Mechanism	Support	Türkiye	Boundary cases	Strength	Transfer/causal boundary
T1	Aggression as a mediated psychosocial process	Aggression is not treated as an automatic product of gaming exposure. It emerges when problematic gaming intersects with negative emotion, weak social intelligence, unmet psychological needs, peer stress, and strained…	Social frustration or relational strain → impaired regulation/social competence → aggression or cyberbullying → problematic gaming or maladaptive interpersonal outcomes.	DOC003; DOC016; DOC023; DOC030; DOC032	DOC003; DOC016; DOC031; DOC032	DOC020; DOC021	Strong but directionally mixed	Longitudinal support exists internationally, whereas most Türkiye evidence remains cross-sectional.
T2	Student violence as a relational and institutional process	Bullying and student violence are structured through belonging, peer norms, victimization, bystander roles, school connectedness, self-control, moral disengagement, and friendship-network organization.	Peer hierarchy/victimization + school climate → affiliation, self-control, moral meaning, and bystander positioning → bullying or violence participation.	DOC004; DOC010; DOC011; DOC018; DOC024; DOC025; DOC026; DOC027; DOC028	DOC006; DOC031	DOC028	Strong and relationally convergent	Direct Türkiye studies that jointly test school climate, gaming, and violence remain scarce.

Theme	Name	Analytic claim	Mechanism	Support	Türkiye	Boundary cases	Strength	Transfer/causal boundary
T3	Gaming as a context-dependent amplifier, coping space, or protective resource	The corpus distinguishes violent-game content, ordinary engagement, and problematic or disordered gaming. Direct content effects are weak or null, while gaming-disorder associations with aggression are more consistent…	Gaming function/intensity × relational ecology → coping, need satisfaction, dysregulation, cyber-aggression, or neutral/beneficial outcomes.	DOC006; DOC013; DOC014; DOC015; DOC020; DOC021; DOC022; DOC029; DOC033; DOC034	DOC006; DOC014; DOC029; DOC031; DOC033; DOC034	DOC014; DOC020; DOC021	Moderate-to-strong with substantial heterogeneity	Problematic gaming must not be conflated with violent-content exposure; most local correlations do not establish causality.

Note. Theme acceptance required convergent evidence and explicit attention to contradictory, protective, or transfer-limiting cases.

8. CLAIM-EVIDENCE MATRIX

Table S8. Analytic claims linked to supporting and boundary evidence

Claim	Theme	Analytic claim	Primary support	Boundary evidence	Design	Pattern	Confidence	Türkiye relevance	Caveat
CLM01	T3	Violent-game content alone is insufficient to explain adolescent aggression.	DOC020; DOC021	DOC022; DOC029	Registered report + longitudinal meta-analysis	Null or near-null direct effect	High	Comparative mechanism	Does not rule out short-term anger, trolling, or effects of problematic gaming.
CLM02	T3	Problematic or disordered gaming is positively associated with aggression, but the magnitude varies substantially across populations and measures.	DOC022; DOC029	DOC020; DOC021	Two meta-analyses + local cross-sectional studies	Positive and heterogeneous	High	Direct Türkiye contribution	Gaming disorder and violent-content exposure are analytically distinct constructs.
CLM03	T1	Negative emotion and weaker social intelligence provide a pathway linking aggression with pathological gaming.	DOC023	—	Three-year longitudinal SEM	Mediated longitudinal pathway	High	Mechanism transfer	The longitudinal evidence is from South Korea and requires cultural interpretation.
CLM04	T1	Peer stress, loneliness, unmet needs, and weak social support position gaming as compensatory coping rather than a purely exposure-driven risk.	DOC030	—	Systematic review + relational studies	Risk or protection depends on context	Moderate-to-high	Türkiye contextual support	Pandemic-period conditions may intensify the identified relationships.
CLM05	T1	Family relationships regulate whether problematic gaming is translated into cyberbullying and other maladaptive interpersonal outcomes.	DOC032; DOC025	—	Moderated mediation + systematic review	Protective moderation	High	Direct Türkiye evidence	Türkiye SEM is cross-sectional and based on a convenience sample.
CLM06	T2	Peer victimization can feed problematic online gaming through deviant peer affiliation and reduced school connectedness.	DOC024	—	Cross-sectional dual mediation	Risk-enhancing mediated pathway	High	Comparative mechanism	Temporal ordering remains unproven.
CLM07	T2	Positive school climate is associated with lower aggression partly through stronger self-control.	DOC025	DOC028	Moderated mediation + predictive study	Protective but conditional	High	Comparative mechanism	Network structure can weaken or reverse the expected protection.
CLM08	T2	School climate shapes violence indirectly by organizing defender, passive, and assisting bystander roles.	DOC027	—	Large multilevel school survey + relational studies	Protective climate pattern	High	Comparative mechanism	Bystander behavior and perpetration should not be collapsed into one outcome.
CLM09	T2	Friendship-network density is a boundary condition: positive climate is not uniformly protective across school social structures.	DOC028	DOC025	Longitudinal network/contextual study	Contradictory or conditional	High	Comparative mechanism	The paradox is based on United States data and requires replication in Türkiye.
CLM10	T2	Belonging, non-inclusive group norms, moral disengagement, and identity hierarchy structure how violence becomes legitimate or relationally useful.	DOC004; DOC011; DOC026	—	Mediation/predictive + qualitative + review evidence	Context-dependent risk	Moderate-to-high	Sociocultural transfer	Identity-specific violence and general bullying should remain analytically distinct.
CLM11	T3	Digital/media literacy and need-satisfying forms of play provide protective or beneficial counter-evidence.	DOC006; DOC014	DOC022	Türkiye empirical + theory-based review	Protective/negative case	Moderate	Direct Türkiye relevance	Protective findings do not imply that all game environments are beneficial.
CLM12	T1/T2/T3	The Türkiye evidence base supports relational plausibility but remains dominated by cross-sectional, local, and correlational designs.	DOC031	DOC020; DOC021	Türkiye systematic review + local studies	Evidence-gap conclusion	Moderate	Direct Türkiye evidence	Claims should be framed as associations and mechanisms, not national prevalence or causal effects.

Note. Document identifiers correspond to Table S4. Blank boundary cells indicate that no specific contradictory record was assigned to that claim.

9. QUALITY APPRAISAL

Table S9. Quality appraisal of retained records

ID	Document type	Yes/applicable	Percent	Judgement	Appraisal note
DOC003	Quantitative empirical	5/8	62.5%	Moderate	Effect sizes and sample details were not fully available for appraisal.
DOC004	Quantitative empirical	5/8	62.5%	Moderate	Country, sample, and temporal-design details were not fully available for appraisal.
DOC006	Quantitative empirical	5/8	62.5%	Moderate	Türkiye evidence on digital aggression and media-literacy protection; interpretation relies on the verified article record.
DOC010	Systematic review	7/8	87.5%	High	Supports analytic transfer rather than direct Türkiye prevalence.
DOC011	Qualitative empirical	5/8	62.5%	Moderate	Identity-based specificity limits generalization beyond the study context.
DOC013	Quantitative empirical	5/8	62.5%	Moderate	Screen-time and gaming measures require separate interpretation.
DOC014	Conceptual/review	5/8	62.5%	Moderate	Provides disconfirming evidence relevant to the synthesis.

ID	Document type	Yes/applicable	Percent	Judgement	Appraisal note
DOC015	Quantitative empirical	5/8	62.5%	Moderate	Mediator, moderator, effect, and country details were not fully available for appraisal.
DOC016	Quantitative empirical	5/8	62.5%	Moderate	Participant age was not sufficiently specific for unqualified secondary-school transfer.
DOC018	Systematic review/clinical guidance	7/8	87.5%	High	Clinical context limits direct school transfer and supports risk-framework interpretation.
DOC020	Registered report; quantitative empirical	7/8	87.5%	High	Cross-sectional design does not address all game mechanics or longer-term relational pathways.
DOC021	Meta-analysis of longitudinal studies	7/8	87.5%	High	Violent-game content and gaming disorder are distinct constructs and require separate interpretation.
DOC022	Meta-analysis	7/8	87.5%	High	Mostly correlational primary studies; do not infer causation or equate gaming disorder with violent-game exposure.
DOC023	Longitudinal quantitative empirical	7/8	87.5%	High	Non-Türkiye evidence supports mechanism transfer rather than prevalence.
DOC024	Quantitative empirical	7/8	87.5%	High	Cross-sectional mediation cannot establish temporal causality.
DOC025	Quantitative empirical	7/8	87.5%	High	Cross-sectional, non-Türkiye evidence supports mechanism interpretation.
DOC026	Quantitative empirical	5/8	62.5%	Moderate	Non-Türkiye, cross-sectional evidence limits quantitative comparison without source-level coefficients.
DOC027	Quantitative empirical	7/8	87.5%	High	Cross-sectional and United States context.
DOC028	Longitudinal quantitative empirical	7/8	87.5%	High	Important warning that school climate effects depend on network structure.
DOC029	Systematic review and meta-analysis	7/8	87.5%	High	High heterogeneity and mixed age range limit a single pooled interpretation.
DOC030	Systematic review	7/8	87.5%	High	Pandemic-period evidence; most included studies were moderate quality and measures were heterogeneous.
DOC031	Systematic review	5/8	62.5%	Moderate	Search was limited to Google Scholar, Turkish language, open access, and quantitative designs.
DOC032	Quantitative empirical	7/8	87.5%	High	Convenience sample and cross-sectional design preclude causal claims.
DOC033	Quantitative empirical	5/8	62.5%	Moderate	Single district, cross-sectional, weak effect.
DOC034	Quantitative empirical	5/8	62.5%	Moderate	Single-city cross-sectional evidence; title wording must not be read as causal proof.

Note. The eight appraisal items addressed aim clarity, design appropriateness, sample/source transparency, source credibility, analysis transparency, evidential support, limitations, and framework relevance. Judgements calibrated interpretive confidence and were not converted into statistical weights.

10. INTEGRATIVE MODEL

Table S10. Components of the Socio-Relational Digital Aggression Model

Node	Component	Constructs/conditions	Supporting records	Analytic function
M1	Relational antecedents	Peer victimization; low belonging; weak family relationships; loneliness; unmet needs; academic/social frustration	DOC004; DOC016; DOC024; DOC030; DOC032	Conditions that make gaming compensatory or conflict-laden
M2	Digital engagement function	Ordinary play; violent-content exposure; problematic/disordered gaming; coping; status or need satisfaction	DOC014; DOC020; DOC021; DOC022; DOC029	Separates content, intensity, disorder, and psychosocial function
M3	Interactional mechanisms	Aggression; cyberbullying; deviant peer affiliation; moral disengagement; weak self-control; bystander positioning	DOC023; DOC024; DOC025; DOC026; DOC027; DOC032	Explains how digital and school contexts become behaviorally connected
M4	Student-violence outcomes	Bullying perpetration; cyber-aggression; assisting/passive participation; broader violence risk	DOC004; DOC006; DOC011; DOC018; DOC027	Outcomes remain distinct and should not be combined into one severity scale
M5	Relational moderators	Parent–adolescent relationship; school connectedness; friendship-network density; media literacy; empathy	DOC006; DOC025; DOC026; DOC028; DOC032	Can buffer, redirect, or intensify the pathway
M6	Negative and protective cases	Null violent-content effects; positive need satisfaction; supportive climate and defender behavior	DOC014; DOC020; DOC021; DOC025; DOC027	Prevents deterministic interpretation and strengthens analytic credibility

Note. The model is an interpretive synthesis output and has not been statistically tested as a single structural model.

11. INTERPRETIVE AND METHODOLOGICAL BOUNDARIES

Claims concerning Türkiye are anchored in the eight Türkiye-specific records and the mixed-country synthesis. Cross-national evidence is used to identify plausible mechanisms and boundary conditions, not to import national prevalence estimates, effect sizes, or causal conclusions. The two demographic sources establishing Türkiye's Muslim-majority context are contextual references outside the 34 candidate records and the 25 retained documents. Religiosity, Islamic practice, and participation in faith-based institutions were not consistently measured and were therefore not coded as causal or protective factors.

The corpus supports a transparent qualitative socio-relational document analysis, but it does not establish exhaustive retrieval, PRISMA-final completeness, national prevalence, or a statistically tested integrated model. Indexed-database searches and independent double-coding were not completed before corpus lock. Quality appraisal was used to calibrate interpretive confidence, and association-oriented language is retained where the underlying studies were cross-sectional or otherwise unable to establish causal direction.

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The references comprise the twenty-five retained corpus sources and two contextual demographic sources. The two contextual sources did not enter extraction, coding, appraisal, or thematic synthesis. Each entry includes an active DOI resolver link or an official source URL.

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SUPPLEMENTARY MATERIAL
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